



TEMPORAL EXPERIENCE AS A COMPONENT OF SOCIAL PROBLEM SOLVING

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Abstract

Temporal experience is a psychological concept which represents a person's manner of relating to time. It reflects the person's way of using time at a behavioral and cognitive level. Thus, this concept implies the use of time management techniques and the defining of several long term personal objectives as efficient temporal experience, and procrastination and temporal pressure as inefficient temporal experience. In this study we aimed at identifying the relationship between temporal experience and social problem solving. We considered that the temporal constructs will explain much of the variance of the problem solving variables. A sample of 158 participants was used (mean age was 31.46 years). Our results showed that time management and especially long term personal orientation constitute important factors of social problem solving.

Keywords: social problem solving, time management, long term personal objectives, procrastination, temporal pressure

Introduction

In the modern life style setting efficiency is achieved by judiciously planning one's activities and skillfully using the available time. Wessman (1973) (*apud* Bond & Feather, 1988) sustains that the characteristic manner in

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which an individual experiences and utilizes time represents an important psychological variable that differentiates between individuals. Roşeanu (2009) showed that temporal experience may be represented by four distinct (however related) factors: (a) *time management* – a habit of using different strategies to manage one’s time; (b) *long term personal orientation* – implies the presence in one’s mind of several (or at least one) long term objectives that are attainable; (c) *time pressure* – the persistent impression that one does not have sufficient time for the completion of the undertaken tasks; and (d) *procrastination* – the habit of putting off the beginning or ending of important tasks.

On the issue of long term personal objectives, Grubb (2002) (*apud* Boniwell, 2005) sustains that valuing future consequences, the desire to substitute current costs for future benefits as well as delaying gratification represent indicators of maturity and self control. Thus the mentioned author considers that a large proportion of the process of maturation implies the gradual understanding by the individual of future consequences and the development of a sense of necessity to plan activities ahead.

Shmotkin and Eyal (2003) explain that at the beginning of the adult life the person will formulate a series of objectives that, along with other decisions from the present time, will orient her life in a certain direction. Thus, long term personal objectives will become an essential characteristic of one’s personal identity. Boniwell (2005) on the basis of several extensive studies concludes that one’s orientation towards the future by formulating long term personal objectives may profoundly influence human motivation and thus the performance of important life activities, such as social problem solving.

Claessenes (2004) defines time management as a set of behaviors meant to increase the efficiency of the use of time. A series of studies indicate that time management practices entail ample benefits not only at an organizational but also at an individual level, such as increased performance and satisfaction (Francis-Smythe & Robertson, 1999).

Hogan (1979) sustains that preoccupation with time may dominate human thought so much that precisely quantifying and measuring it may become a prime objective. The “tyranny of the watch” has become a reality in modern countries; the quantification of yet smaller units of time implies the necessity of filling them with activities. Human beings refer to time in a manner in which they are either “on time”, “before time” (early) or “after time” (late). A series of studies by Landy, Rastegary, Thayer, and Clovin (1991) showed

that time pressure is involved in low levels of satisfaction with life and the burnout phenomenon in different occupational domains.

Specter and Ferrari (2000) consider that procrastination represents a tendency to delay decisions and activities. Also, they point out that this phenomenon is very frequent among adults (equally for both genders) that do not suffer from psychological disturbances. Jackson, Fritch, Nagasaka, and Pope (2003) show a strong association between procrastination and low self-efficacy, hopelessness, guilt and fear of failure.

Bingaam and Power (2002) sustain that problem solving represents a general coping strategy that allows the individual to generate, select and implement efficient behaviors that will increase his/hers level of general wellbeing. Furthermore, it was shown that the efficiency of the problem resolution acts as a buffer between stress and its effects on the health of the individual.

Social problem solving is characterized by as a complex, cognitive-affective-behavioral process that consists of a number of different components, including general motivational variables and a set of specific skills (D'Zurilla & Nezu, 1992; *apud* Corcoran & Fischer, 2000). The authors point out that social problem solving implies a *problem orientation* component and a *problem solving skills* component. Problem orientation implies cognition, emotion and behavior; while problem solving skills consists of problem definition and formulation, generation of alternatives, decision making, solution implementation and verification.

Several studies (Bingaam & Power, 2002) have shown that the above mentioned components of social problem solving are involved in the experience of negative emotions and psychological distress. Thus it seems that this psychological variable may play a very important role the therapeutic process of affective disorders.

We consider that since temporal experience is such an important psychological variable, involved in a large number of psychological processes, it should also be linked to social problem solving. In this article we present the results of a study in which such an association was investigated.

Objectives

In this study we aim to investigate the relationship between the four temporal experience dimensions (time management, long term personal

orientation, time pressure and procrastination) and the two social problem solving components (problem orientation and problem solving skills). Specifically we hypothesized that the temporal experience dimensions explain much of the variance of each of the problem solving components.

Method

Participants

A sample of 158 participants was used, 76 males (mean age 32.91 years; $\sigma=11.85$) and 82 females (mean age 30.12 years; $\sigma=11.61$). All participants responded voluntarily and anonymously to the questionnaire and the inventory used to measure the variables in the study. The sample was composed of persons of different educational and socioeconomic level.

Instruments

For the measurement of the four temporal experience dimensions we used the revised Romania version of the Temporal Experience Questionnaire (Roşeanu & Răşcanu, 2008). This instrument contains 45 items for which the respondent indicates the degree of correspondence between his/hers behavior and the behavior presented in the respective item on a 7 point Likert scale (from -3: not at all, to +3: very much). The four temporal experience dimensions are: time management, long term personal orientation (personal objectives), time pressure and procrastination.

The social problem solving components were assessed with the Social Problem Solving Inventory (D’Zurilla & Nezu, 1992; *apud* Corcoran & Fischer, 2000). The inventory consists of 70 items for which the respondent indicates on a 5 point Likert scale (from 0: not at all true of me, to 5: extremely true of me) the degree to which the statement in each item is true for him/her. The two major subscales of the instrument are: problem orientation and problem solving skills.

Procedure

The participants responded to the questionnaire and the inventory in accordance with the criteria of administration of each instrument. The participants were instructed to respond as sincerely as possible and it was made clear to them that there are no “right” or “wrong” answers. Also we specified to

them that they shouldn't mark their name on the response sheet thus full anonymity may be assured. In this case we assumed that the participants will be less likely to respond in a socially desirable manner. The instruments were administered in groups in paper-pencil format. The data was analyzed with SPSS version 15.

Results and discussion

The first step of our analysis was to establish the degree of correlation between the two components of social problem solving (table 1). Our results show that there is a significant but low positive association between these two variables ($r=.28$; $p<.01$). There is a low percentage of variance shared by these two components (7.8%) thus we can consider them distinct elements.

Table 1. Correlation coefficient between the social problem solving components

	Problem solving skills	
Problem orientation	r	.280
	sig.	.000

Next we ran a correlational analysis between the temporal experience factors and the problem solving components (table 2). Since the variables were involved in successive repeated analyses the Bonferroni correction was used to adjust the significance level. The adjusted significance level was .0033.

Table 2. Correlation coefficients between the social problem solving components and the temporal experience dimensions

		Problem orientation	Problem solving skills
Time management	r	.383	.526
	sig.	.000	.000
Long term personal orientation	r	.652	.366
	sig.	.000	.000
Time pressure	r	-.368	-.139
	sig.	.000	.083
Procrastination	r	-.453	-.229
	sig.	.000	.004

Positive significant associations were observed between the problem solving components and two of the temporal experience factors, time management ($r=0.38$; $p<.003$ and $r=.52$; $p<.003$) and long term personal orientation ($r=0.65$; $p<.003$ and $r=.36$; $p<.003$). Negative associations were observed between problem orientation and the remaining temporal experience factors, time pressure ($r=-.36$; $p<.003$) and procrastination ($r=-.45$; $p<.003$). These two temporal dimensions did not show significant associations with the problem solving skills component ($r=-.13$; $p=.083$; and $r=-.22$; $p<.004$).

Based on the results of the correlational analysis we conducted an explicative hierarchical regression analysis in which the relevant temporal experience dimensions were considered predictors for the social problem solving components. For the problem orientation component the predictors were all four of the temporal dimensions (table 3). The obtained results indicate however that only two temporal experience factors (time management and long term personal orientation) are significant predictors of problem orientation.

Table 3. Model Summary for the hierarchical regression equation for problem orientation

Model	R	R ²	Adjusted R ²	Std. Error of the Estimate	Change Statistics				
					R ² Change	F Change	df1	df2	Sig. F Change
1	.380 ^a	.145	.139	15.82	.145	25.516	1	151	.000
2	.654 ^b	.428	.420	12.98	.283	74.338	1	150	.000
3	.661 ^c	.437	.425	12.92	.009	2.287	1	149	.133
4	.667 ^d	.445	.430	12.87	.009	2.346	1	148	.128

a. Predictors: (Constant), Time management

b. Predictors: (Constant), Time management, Long term personal orientation

c. Predictors: (Constant), Time management, Long term personal orientation, Time pressure

d. Predictors: (Constant), Time management, Long term personal orientation, Time pressure, Procrastination

Inspection of the coefficients table reveals that even time management is not an efficient predictor of problem orientation if long term personal orientation is held constant ($t=1.51$; $p=.13$; $r^2_{sp}=.008$) (table 4). It seems that

only long term personal orientation relates individually strong enough to problem orientation ($t=8.62$; $p<.01$; $r^2_{sp}=0.283$). This predictor variable explains 28.3% of the variance of the criterion variable.

Table 4. Coefficients for the regression model for problem orientation

Model nr. 2	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations		
	B	Std. Error	Beta			Zero-order	Partial	Part
(Constant)	25.480	6.294		4.048	.000			
Time management	.127	.084	.105	1.513	.132	.380	.123	.093
Long term personal orientation	.644	.075	.599	8.622	.000	.648	.576	.532

On the basis of these findings we ran a mediation analysis using the Sobel procedure (Preacher & Hayes, 2004). We considered that long term personal orientation mediated the relationship between time management and problem orientation.

Table 5. Results of direct and total effects for the mediation analysis

	Coefficient	Std. error	t	Sig.
b(YX)	.4808	.0934	5.1502	.0000
b(MX)	.5320	.0806	6.6026	.0000
b(YM.X)	.6675	.0766	8.7188	.0000
b(YX.M)	.1257	.0867	1.4494	.1493

Y = problem orientation

X = time management

M = long term orientation

Our results indicate that indeed long term personal orientation constitutes a mediating variable between the above mentioned variables. It seems that a person will employ time management techniques in problem orientation only if she has some degree of long term personal objectives.

These findings are not surprising at all. Deciding upon a personal direction in the future is somewhat like solving a problem. In this case the problematic situation is what direction to take, towards what goals to strive. This is one of the most important problems that an individual has to solve in his/her lifetime. Thus, if a person has decided upon a direction in life, even if it

entails only a few months or years (and not the whole lifetime) she has solved this difficult problem and has shown that she does have the cognitive, emotional and behavioral abilities to do so; problem orientation for this person is then a matter of fact. Also, having long term objectives constitutes an important source of motivation for overcoming obstacles (problems).

For the problem solving skills component the predictors were only time management and long term personal orientation. Both these variables were shown to be significant predictors for the criterion variable (table 6).

Table 6. Model Summary for the hierarchical regression equation for problem solving skills

Model	R	R ²	Adjusted R ²	Std. Error of the Estimate	Change Statistics				
					R ² Change	F Change	df1	df2	Sig. F Change
1	.540 ^a	.292	.287	17.54390	.292	63.494	1	154	.000
2	.564 ^b	.318	.310	17.26880	.026	5.946	1	153	.016

a. Predictors: (Constant), Time management

b. Predictors: (Constant), Time management, Long term personal orientation

The coefficients table also reveals that each of the predictor variables in the model individually associates significantly with the criterion variable even if the other predictor variable is controlled statistically (table 7). Time management individually explains 17.2% ($t=6.21$; $p<.01$; $r^2_{sp}=0.172$) of the variance of problem solving skills and long term personal orientation individually explains 2.6% ($t=2.43$; $p<.01$; $r^2_{sp}=0.026$) of this criterion variable. In this case however the variance explained is low thus relatively small in importance despite the statistically significant result. It seems that only time management is sufficiently important for problem solving skills.

Table 7. Coefficients for the regression model for problem solving skills

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations		
	B	Std. Error	Beta			Zero-order	Partial	Part
(Constant)	13.812	8.330		1.658	.099			
Time management	.679	.109	.461	6.213	.000	.540	.449	.415
Long term personal orientation	.235	.097	.181	2.438	.016	.383	.193	.163

Since both time management and problem solving skills are of procedural nature it is not surprising that they share so much variance. Managing one's time is somewhat like solving a problem and it seems that individuals who employ time management techniques also have good problem solving skills in general. Actually, to make use of time management strategies is in fact a way to solve the time allocation problem skillfully. Having these strategies at hand really means that an individual has the necessary skills to solve this problem. Since time is such a valuable resource, using it efficiently implies that the individual is a good allocator of resources and thus a good problem solver in general (at least at a procedural level).

The results of our study imply that long term personal orientation (objectives) and time management as dimensions of temporal experience play a significant role in the person's ability to solve social problems. We consider that this may open some possibilities for the practitioner psychologist. Since problem solving (and especially social problem solving) has been considered a buffer between stress and its effects on the organism, new strategies for improving problem solving may be developed based on the two temporal factors. Thus, to improve a person's problem orientation her personal long term objectives may be addressed and to improve problem solving skills she may acquire certain time management strategies.

Conclusions

In this study we investigated the relationship between temporal experience and social problem solving. From the four temporal factors only two of them, long term personal orientation and time management, showed a significant relationship with the two problem solving components, problem orientation and problem solving skills.

Long term personal orientation explains much of the variance of problem orientation and also mediates the relationship between time management and problem orientation. It seems that solving the problem of which direction to take in life represents an important factor in general orientation towards social problems.

Time management explains much of the variance of problem solving skills. It seems that skills necessary to manage one's time represent an important portion of problem solving skills in general.

In conclusion the relationship between the two temporal factors and the two problem solving factors may be used in practice. Several strategies may be developed to increase problem orientation by addressing personal long term objectives and problem solving skills may be enhanced by acquiring time management strategies.

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