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A MODEL OF ALTERATION OF THE ACCELERATED SUBJECTIVE TIME PASSAGE

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Relevance of the research: the problem of the accelerated subjective flow of time in the structure of the individual's perception of time is understudied.

Results. In this paper a process of alternation of the widely spread ASTP (Accelerated subjective time passage) phenomenon within a temporal perspective was investigated by means of the STQ (Subjective time questionnaire) and supplementary questions, taking into account the AGM (Attentional gate model). An attempt was made to collect prospective estimates of the passage of subjective time on a autobiographical scale by adding a block of questions to the STQ, inviting an assessment of the future.

Conclusions. Through this approach, a model of accelerating the passage of subjective time was formed. It was found that time seems to be fastest within the subjective present up to the age of 30-39. As the estimated segments of time become more distant (in both directions from the present to the past and to the future), they begin to seem slower. Thus, the subjective passage of time does not accelerate with age significantly, but distant age intervals appear to be slower. Three significant points of change in the rate of passage of subjective time were identified: ages 20-29, 30-39, and 60-69. The structure of the experience alteration builds on the three main components explored through the STQ - Assessment of time segments - Feeling of loss of the time control - Automatic thoughts of time lack ('time pressure').

Keywords

Time perception, subjective time, accelerated subjective time passage, temporal processing, attention, consciousness

Модель зміни прискореного суб'єктивного плину часу

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Актуальність дослідження: проблема прискореного суб'єктивного плину часу у структурі сприйняття часу особистістю є малодослідженою.

Результати. У даній статті за допомогою STQ (Subjective time questionnaire) і додаткових запитань з урахуванням AGM (Attentional gate model) було вивчено процес розвитку широко розповсюдженого серед населення явища ППСЧ (прискорений плин суб'єктивного часу) у рамках часової перспективи. Було проведено спробу збору проспективних оцінок плину суб'єктивного часу в біографічному масштабі за допомогою додавання до STQ блоку запитань, що пропонують оцінити майбутнє.

Висновки. Завдяки такому підходу було сформовано модель розвитку ППСЧ. Встановлено, що найшвидшим час видається в рамках суб'єктивного теперішнього до вікового періоду 30-39 років. У міру віддалення оцінюваних відрізків у часі (в обидва напрямки від теперішнього - в минуле і в майбутнє) вони починають здаватися повільнішими. Таким чином, суб'єктивний плин часу значно не прискорюється з віком, а віддалені вікові інтервали здаються повільнішими. Було виявлено три значущі точки зміни плину швидкості суб'єктивного часу: у віці 20-29 років, 30-39 років і 60-69 років. Структура розвитку переживання будується на трьох основних складових, вивчених за допомогою STQ - Оцінювання проміжків часу - відчуття втрати контролю над часом - автоматичні думки про брак часу ("тиск часу").

Ключові слова: *сприйняття часу, суб'єктивний час, прискорений суб'єктивний плин часу, тимчасова обробка, увага, свідомість.*

Introduction

Accelerated subjective time passage (ASTP) is a widespread phenomenon. Its presence among residents of Ukraine was

established in 2021 - 64.8% of respondents, and in 2023 - 83.8%. Similar studies were conducted in Holland, where 78.7% of respondents answered that time flows "fast" or "very fast" for them (Friedman & Janssen, 2010). It is an obvious fact that time passes fast for most people. However, different periods of lifetime are evaluated differently (Draaisma, 2004; Landau, 2018; Whyman & Moos, 1967; Фресс, 1961). A study by M. Wittmann and S. Lehnhoff found that subjective time speeds up between 20 and 50 years of age (Wittmann, & Lehnhoff, 2005). ASTP is not constant and not homogeneous. In some periods subjective time tends to speed up, in other periods it tends to slow down. However, certain regularities were revealed. For example, retrospectively the recent 10 years of life are perceived faster with age, but only up to the age of 50.

Prospective time evaluation processes are associated with attention. The AGM (Attentional gate model) explains the estimation and measuring of time intervals by means of "attentional gate", which let to pass pacemaker impulses measuring time when attention shifts to time (Whyman & Moos, 1967). While attention shifts to other objects, time estimation ceases. Thus, attention to time slows its subjective passage, distraction from time - accelerates it (Sarigiannidis, 2020). Negative emotional events are thought to automatically shift attention to time (Csikszentmihalyi & Csikszentmihalyi, 2006; Droit-Volet & Meck, 2007; Droit-Volet, 2013). This occurs together with the desire to "let" the negative span of life pass by. The model explains many effects of perception and distortion of the time perception. For example, the state of "flow," which was described by M. Csikszentmihalyi (Csikszentmihalyi & Csikszentmihalyi, 2006). Subjective time in this state does not only speed up, but probably reaches its maximum of speed, at which it completely "disappears" (Фресс, 1961; Цибульський, 2022b). This effect becomes explainable due to the concentration of attention on the activity and the complete absence to markers of time both endogenous and exogenous.

Attention is one of the most impotent factors of human consciousness, so on a autobiographical scale we can speak of a

close relationship between consciousness and the perception of time. This is related to the abundance of factors influencing the perception of time. These are age, sex, intelligence, level of anxiety, irritability, emotional state, etc. (Цибульський, 2022a). The connections of the time perception are the strongest with the emotional state, they were proved in the research of S. Droit-Volet (Droit-Volet & Meck, 2007; Droit-Volet, 2013). The effect of "time pressure" is one of the states linking emotions, anxiety, time perception and time estimation (Szollos, 2009). In this study, its influence is considered as a component of ASTP.

In order to establish the factors interacting with ASTP, it is necessary to collect data of subjective time estimates at different life segments, both retrospectively and prospectively, and to create a model of ASTP alteration. Considering the AGM, it has been hypothesized that seemingly accelerated time is closest to the subjective present (Poppel, 1988; Wittmann, 1999). As time estimation moves away from subjective present, it seems slow.

Research methods and sample.

Participants

Citizens of Ukraine were invited to participate in the study via social networks. The surveys were conducted twice - in 2021 and in 2023. The number of participants in 2021 was 74 people, and in 2023 - 130 people. Predominantly women (in 2021 - 89.2%, in 2023 - 94.6%). The age of respondents in 2021 ranged from 17 to 62 years old, and in 2023 from 17 to 69 years old. In 2023, among the participants, 16.9% had a secondary education (high school) (N 22), 31.5% had a specialized secondary education (college) (N 41), 47.7% had a higher education (bachelor or master) (N 62), and 3.8% had a scientific degree (N 5). Marital status: single - 24.4% (N 33), married - 50.8% (N 66), divorced - 23.8% (N 31). Presence of children: without children - 25.4% (N 33), with children - 74.6 (N 97).

Instruments

The 2021 questionnaire was developed independently by the author and contained 41 questions on various topics. Among them the main ones, which are conventionally called "Three", were asked

in order to establish indicators of the prevalence of ASTP among Ukrainians.

1. "Do you notice the change of time passage?" with variants of answers: 1. "It seems Time has slowed down", 2. "It seems Time has sped up", 3. "Didn't notice anything like that".

2. "Do the years fly too fast by?" with answer choices: 1. "Disagree", 2. "Agree", 3. "Didn't think about it".

3. "How do you feel the time?" with options: 1. "It stretches too slowly", 2. "It flies too fast", 3. "It goes on its own."

In 2023, the "Three" were retained from the last questionnaire and the following questions:

"Does the irreversibility of time scare you?" with the following answers: 1. "Time is passing, and with it, life is passing. That's scary.", 2. "Time passes, but it's natural. No one has lived forever." and 3. "I don't ask deep philosophical questions. It's easier to live that way."

"Do you often think about death?" with options: 1. "Yes," 2. "No," 3. "I try not to think about it at all."

"Does the inevitability of death scare you?" with the following answers: 1. "Yes, of course," 2. "No. Death is natural," 3. "I try not to think about death."

"Describe (briefly) the most emotionally distressing event of your life".

For more detailed study of ASTP the STQ (Subjective Time Questionnaire) of M. Wittmann and S. Lehnhoff (2005) was used. In the original, developed by the authors, it was aimed to study the past periods of life and a part of the subjective present relating to the past. In this study, an additional block of questions was added to the STQ, seeking to establish participants' attitudes toward future time (see Appendix). The original STQ also included blocks of statements whose degree of agreement defined "pressure" and "expansion" of time as well as "speed" and "slowness" as qualitative characteristics.

The decision to add a block of questions aimed at assessing the course of future time is related to the categorical distinction between retrospective and prospective parts of the temporal perspective. Memory, responsible for the past, is a mental process distinct from

predicting and planning time. Future orientation is compared to present orientation, and past orientation is considered separately (Головаха Е., Кроник, 2022, 188). By analogy with the block of questions about the past from the original questionnaire, questions were compiled that offered to assess the speed of the passage of future time.

The number of questions in the blocks of past and future for each participant varied depending on his or her age. Responses were analyzed either by mean score or summarized into three groups "Slow," "Moderate," and "Fast" passage of subjective time. The final score for all questions in the block was assigned to one of the three groups by prevalence of responses.

The 2021 survey was conducted in Russian, the 2023 survey was conducted in Ukrainian.

Procedure and data analysis

People from Ukraine were invited to participate in the study via social networks. The study was created in Google Forms in 2021 and in 2023.

SPSS Statistics and Jamovi programs were used for data analysis. Descriptive statistics, frequency analysis, Pearsons'r correlation coefficient, linear regression analysis, factor analysis were used.

Results

The results of the correlation analysis showed a consistent relationship between the "Past," "Present," and "Future" blocks [Past-Present $r=0.541$; $p<0.001$; Past-Future $r=0.482$; $p<0.001$; Present-Future $r=0.563$; $p<0.001$].

Overall STQ results found that of all participants, 83.1% retrospectively rated the passage of subjective time as "fast" or "very fast," 14.6% as moderate, and 2.3% as slow.

Attitudes toward one's childhood before age 12 and youth from age 13 to 19 were studied separately, as there is a belief that subjective time is estimated as slowly as possible during childhood. The number of participants who believed that childhood passed fast was 40%. In relation to adolescence, it was already 50.8%. Life periods from 20 to 29 years old and from 30 to 39 years old were

also analyzed, where the number of those who rated them as having passed "fast" or "very fast" was 67.7% and 79.3%, respectively (see Figure 1).

The graph shows the frequency distribution of participants rating each age range from "Childhood" to "30-39 years old" as fast, moderate, or slow. You can see how the number of participants who rate the past as fast grows and the number who rate it as slow falls as they get older by age 30-39.

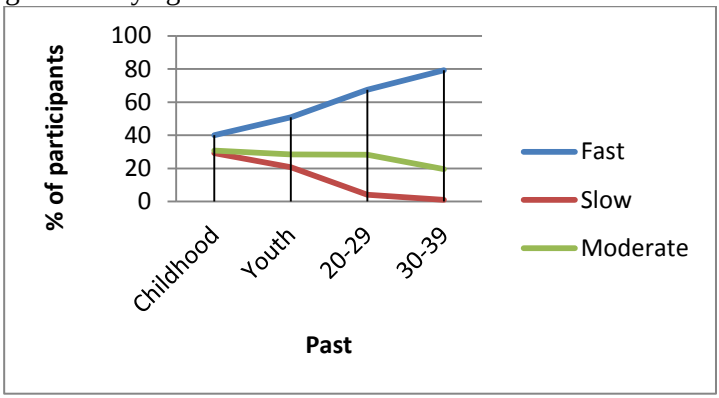


Figure 1: Frequency distribution of participants according to their scores on the "Childhood," "Youth," "20-29 years," and "30-39 years" STQ blocks

According to the results of the analysis, we can see a threshold at the level of 20 years of age, crossing which the acceleration of the estimation of subjective time occurs more quickly.

Negative correlations were noted on the factor "Age" with the blocks "Childhood" [r=-0.186; p=0.034], "Youth" [r=-0.182; p=0.038] and "20-29 years old" [r=-0.222; p=0.011], indicating a decrease in the speed of the subjective passage of time in these life segments as they mature. Thus, 65% of participants under age 30 believe that time passed quickly in childhood and 25% believe it passed slowly. Meanwhile, only 13.3% of those over 50 years of age believe the passage of time during childhood was fast, and 46.7% say it was slow. At the same time, it was noted that the neighboring age periods are the more connected with each other, the further into the

past or future they are from the age period 30-39 years. That is, "Childhood" and "Youth" are related [r=0.528; p<0.001] more than "Youth" and "20-29 years old" [r=0.431; p<0.001]. By the same token, the connections intensify as we move further into the future: age "60-69" is more related to age "50-59" [r=0.833; p<0.001] than "50-59" and "40-49" [r=0.767; p<0.001].

Prospectively, 66.2% of respondents assumed that their future would go fast, 25.4% moderately, and 8.5% slowly. According to the results of the correlation analysis, there was a significant connection between the average estimates of the future course of time and the average estimates of the course of past time (r=0,438; p<0,001). Estimates of the course of individual periods of subjective time in the future were analyzed in a similar way as in retrospect. Participants rated speed of passage of the future month, year, and decades (see Figure 2).

The graph shows the frequency distribution of participants rating each time interval from near future to "60-69 years" as fast, moderate, or slow. You can see how the number of participants who rate the past as fast decreases and the number who rate it as slow increases as they move further into the future.

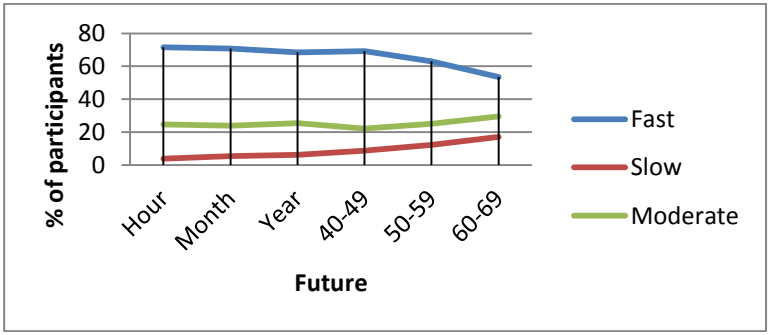


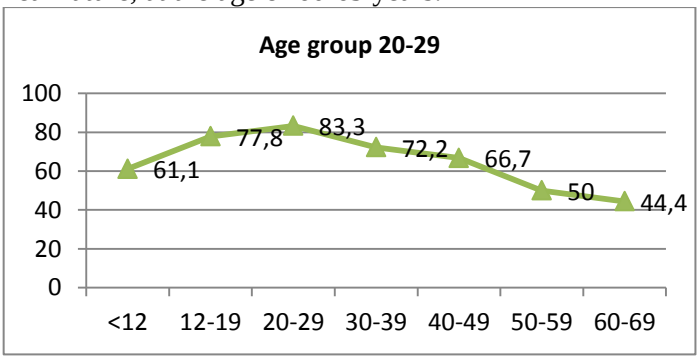
Figure 2: Frequency distribution of participants' scores of the STQ blocks: Immediate future: hour, month, year, "40-49 years", "50-59 years", and "60-69 years".

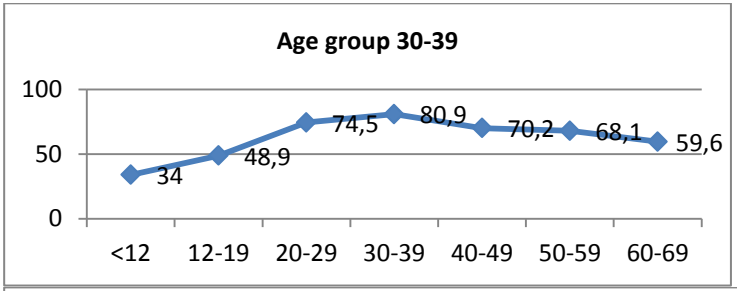
The results of the study show that the speed of the subjective passage of time decreases with distance from the present to the

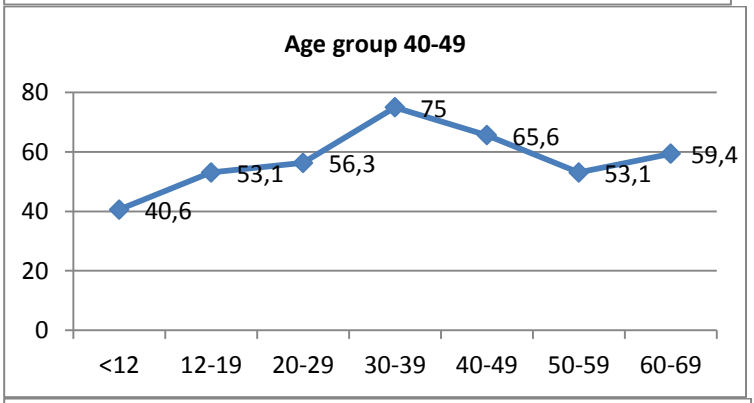
future. The farther into the future, the less respondents estimate the speed of their subjective time as fast in favor of moderate and slow.

Correlation analysis was conducted for individual questions in the "Future" block. It showed significant correlations for the 40-49 years [r=0.221; p=0.024] and 50-59 years [r=0.223; p=0.013] segments.

A frequency analysis for the age groups 20-29, 30-39, 40-49, and 50-59 years revealed the following results: the greatest number of participants assessing the passage of time in childhood and adolescence as fast was in the 20-29 years age group (61.1%). The greatest number of participants evaluating time as fast in their age interval was in the 20-29 age group (83.3%) (see Fig. 3). In the 30-39 age group, the number of participants evaluating age intervals of past as fast decreased, and the highest number of participants evaluating time as fast was again in their subjective present, age 30-39 years. However, for the 40-49 and 50-59 age groups, point of the highest number of participants evaluating time as fast remained in the 30-39 age range. Also after the age of 50, the number of those evaluating childhood and adolescence as having passed quickly decreased again. Also it may be noted, that in the age groups of 30-39 and 40-49 years assessing the passage of time in childhood and old age (60-69 years) is approximately the same, but after 50 years reduces the number not only estimating time in childhood as fast, but also in their near future, at the age of 60-69 years.







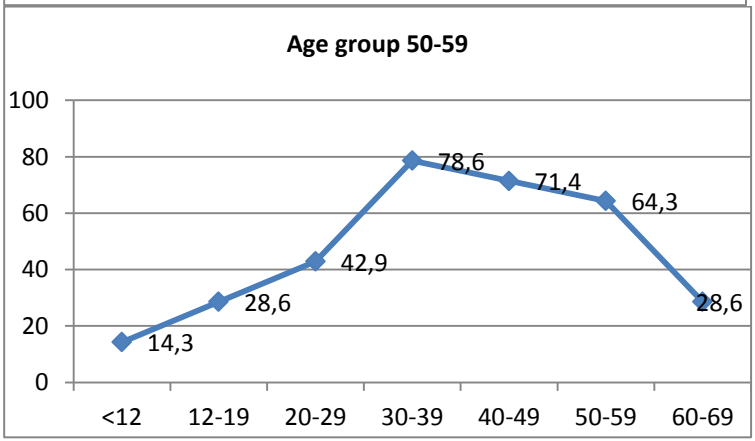


Figure 3: Frequency distribution of assessing age intervals as fast for each age group.

The results of the second part of the STQ allowed us to collect data on qualitative assessments of the subjective passage of time. As expected, "time pressure" significantly correlated with "speed" as a qualitative assessment (r=0,485; p<0,001), and "expansion" with "slowness" (r=0,204; r=0,020). It is important to note that the blocks of questions about the speed and slowness of time, made up of metaphors, reflect a sense of control of time at the subconscious level. Its consequences at the conscious level through the degree of agreement with the statements are assessed in the "pressure" and "expansion" blocks. The proposal to assess the degree of agreement with metaphors like "Time is a speeding train" is not aimed at assessing directly the speed of the train, but the unstoppability of its movement. Thus, agreement with the metaphor indicates a loss of control over time.

Regarding age intervals, "pressure" and "speed" are positively related to evaluations of the past. With "childhood" and "youth" no significant connections were found, but from the age of 20 years they appear and strengthen ("20-29 years" r=0.273; p=0.003 and "30-39 years" r=0.446; p<0.001). With the block "speed" significant correlations appear already from the period "youth" (r=0.236; p=0.007) and also strengthened.

As for the correlations of "pressure" and "speed" of time with the intervals of the block "future", we can note how the coefficient r decreases from the present. It can be seen that the directions of the "Speed" block are similar to the directions of the assessments of the passage of time by the past and future intervals (see Figures 4 and 5).

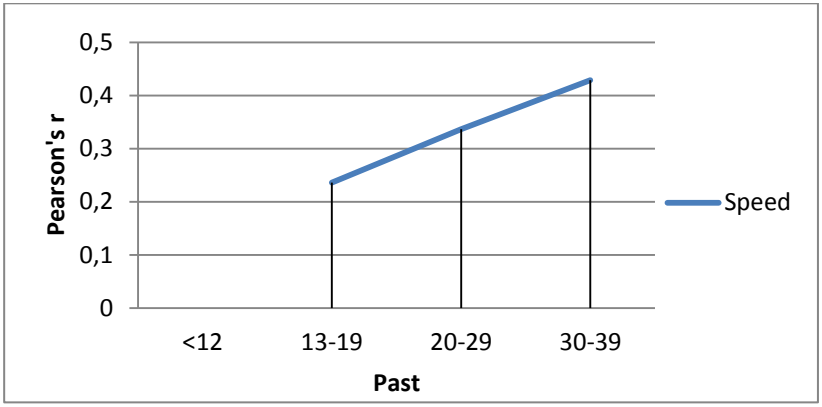


Figure 4. Results of correlation analysis between the estimates of the block "speed" and life periods "past"

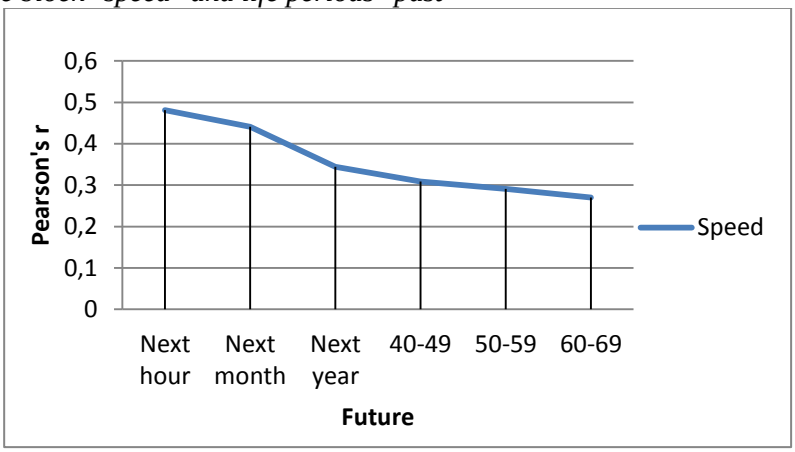


Figure 5. Results of the correlation analysis between the estimates of the block "speed" and the life periods "future"

Despite the strong correlation of "pressure" of time and "speed" (r=0,485; p<0,001), pressure of time already less often shows significant correlations in relation to the periods of the past and the future, i.e. has weaker connections. Nevertheless, an important aspect for understanding the causal relationship is the severity of the connections: Evaluating the passage of time causes negative subconscious experiences, which can be described as "loss of time

control", which in turn cause the "time pressure" effect, reflected by thoughts similar to the STQ statements: "I haven't enough time to complete my tasks." On average, across all age segments, the strongest connections are found between the "past" block and the "speed" blocks [r=0.590; p<0.001] and "pressure" [r=0.580; p<0.001].

The "expansion" statement block was expected to be significantly correlated with the "slowness" block [r=0.204; p=0.020]. Regarding age range estimates, "expansion" was negatively correlated with "present" [r=-0.177; p=0.045] and "future" [r=-0.183; p=0.039]. Links with "slowness" were not established.

Significant correlations of subjective passage of time with the level of education of the participants were established. It interacted negatively with the block "expansion" of time [r= -0.381; <0.001] and less with "slowness" [r= -0.223; p=0.011].

Discussion

Thanks to the STQ it was possible to study the subjective passage of time of the respondents at different age segments of both the past and the future. It was found that in the present time seems fast to the maximum number of respondents, while in the distant past (childhood and adolescence) time seems slow or moderate to half of the respondents. When considering the results of frequency analysis by age group, we note that in the age groups of 20-29 years the passage of time in childhood and adolescence seemed fast (61.1% and 77.8%, respectively). Although the distant future (age period 60-69 years) seemed fast to a smaller number of respondents (44.4%). In addition, the age period of 20-29 years old saw a threshold increase in the number of respondents noting ASTP. At the same time, the maximum number of participants at this age recognized this period as the fastest (83.3%). Probably, it is linked with the transition period, the period of entry into independent life, the beginning of labor activity, taking care of oneself and setting long-term goals, which increases anxiety indicators and accelerates the subjective passage of time (Sarigiannidis, 2020). However, it can also be related to the need to get married and have children (Wittmann, &

Mella, 2021). In both cases, it is likely that social stereotypes increase the level of anxiety (Нестик, 2014).

However, not only the distant past seems slower to the survey participants, but also the future. As one moves further away from the present, the average percentage of those evaluating age intervals as "fast" and "very fast" decreases. As a result, by the age of 60-69, nearly half of the participants believe that their subjective time will flow moderately or slowly. In addition, it was noted that as one moves further into the past or future from the 30-39 years old age period, the connections between adjacent age periods become stronger. This may suggest that the temporal perspective is dissipating. Both memory and the representation of the future become less detailed, vague. At the same time, age intervals become shorter, as if we are looking at an object distant in space, which may be rich in detail, but for us they are erased. The perception of movement of such an object in space seems slower than it would seem up close. In the same way, time ceases to seem fast. Continuing with the example of a distant object, it is also worth mentioning the anxiety that arises when observing a potentially dangerous object: the farther it is, the less anxious it is. Thus, the farther away time is, the less anxiety is, the less it seems accelerated is. This dynamic can be traced across all time intervals and is confirmed by qualitative assessments of subjective time by survey participants. The graphs of the development of the emotional experience of time (Figures 4 and 5) are similar to the graphs of the speed of the subjective passage of time (Figures 1 and 2). Emotional estimation of time is a link between the assessment of age intervals and anxiety, and, in fact, outlines the boundaries of the subjective present.

The age period of 30-39 years was also noted as the period up to which the subjective present seems fastest to most respondents, but after which the past begins to seem fastest to most participants, that is, people over this age still believe that time passed most quickly during this period. In this case, the 30-39 age segment can be called retrospectively the fastest on a autobiographical scale.

The age group from 50 to 59 years demonstrates a significant decrease in participants assessing the period 60-69 years as fast

(28.6%), although 64.3% of participants still assess their own age period as fast-passing. It can be assumed that the age period is also a transition period, accompanied by cardinal psychological changes, reduction of anxiety. Perhaps this is related to the expectation of retirement age in women (of which there is an absolute majority in this study) (In Ukraine, 54 years old). However, at the same time, there is reason to believe that it is related with the maturing of children and the beginning of their independent life, and with the separation of parents from children. According to M. Wittmann's investigation, the having children causes ASTP of parents between the ages of 20 and 59 (Wittmann, & Mella, 2021), exactly in the boundaries in which the acceleration of the passage of time was noted in this study.

Interesting correlations were found for the factor "Education". The higher was the level of education of the participants, the lower was the degree of agreement with the blocks "Expansion" and "Slowness" of time among them. It might seem that people with higher levels of education are more concerned with achieving some goals, but this is not the case. In fact, they do not have a higher degree of agreement with the "Speed" block. Moreover, it was found that with an increase in the level of education, irritability and trait anxiety decreases.

It can be assumed that the level of education affects a person's temporal organization. The more educated a person is, the more effectively he is able to fill his time, organize goals and meanings without losing time control, without succumbing to the effect of "time pressure". The ability to organize one's time in the present and expand the time perspective is associated with a decrease in the level of anxiety and irritability (Фресс, 1961). In this case, we can talk rather about the relationship between intelligence and the perception of time, which has been established in scientific research (Бушов, Светлик, 2014).

In addition, a higher level of education is undoubtedly associated with the place of work activity. Due to the fact that two transitional periods were noted among the age segments, which may be associated with the beginning and end of the work activity, it can

be assumed that the decrease in the indicators of "expansion" and "slowness" are also associated with it. However, this question needs to be further investigated, since the ASTP may also be influenced by the social stereotypes associated with these periods or even with having children.

To summarize, it is possible to outline the process of ATSP alteration as follows (see Figure 6): the retrospective assessment of distant periods of time on a autobiographical scale as having passed quickly (see fig.6 "Assessment"), causes a subconscious feeling of the irreversibility of time, loss of time control (see fig.6 "Time speed"), which in turn creates a feeling of "time pressure", in the form of (probably regular automatic) thoughts about the lack of time (see fig.6 "Time pressure").

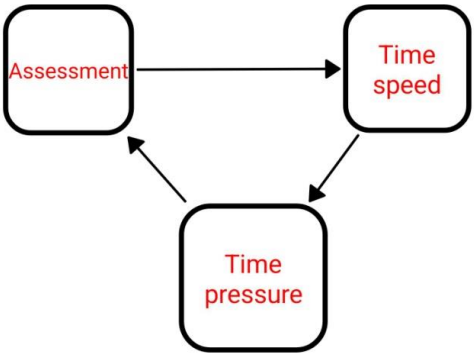


Figure 6: Model of ASTP alteration with age. The correlation of the components is established on the basis of the severity of the correlations of different age areas in relation to the present.

However, it should be taken into consideration that other factors may also be involved in the scheme. For example, in L.I. Mikeladze's dissertation study it was found that "negative past" (according to Zimbardo questionnaire (Zimbardo &Boyd, 2014) is associated with an increased level of state anxiety, and "positive past" - with a low level. In addition, it was noted that an increase in the level of anxiety (when free time is available) causes ASTP (Микеладзе, 2016).

Similar observations were made in the 2021 survey: having a significant negative event on the participants' questionnaire (such as, death of a loved one, divorce, or failed pregnancy) showed significant correlations with the "How do you feel the time?" [r=0.281; p=0.017] and "Do you notice changes in time passage?" [r=0.265; p=0.025]. That is, with questions more reflective of the subjective present. Thus, there may be another factor between the assessment of time segments of the past and the affective perception of time - anxiety (Eysenck, 2007; Hancock, 1989; Zakay, 1995).

Defense mechanism against the growth of ASTP

Significant correlations with the question "Does the irreversibility of time scare you?" (and the answers "Time passes, and life passes with it. That's scary.", "Time passes, but it's natural. No one has lived forever." and "I don't ask deep philosophical questions. It's easier to live that way.") showed all of the "Three's" questions [1. r=0.346; p=0.003; 2. r=0.330; p=0.004; 3. r=0.259; p=0.026].

Responses to the questions "Do you often think about death?" [r=0.327; p=0.005] and "Does the inevitability of death scare you?" [r=0.231; p=0.049] were related to age. At the same time, the question "Does the irreversibility of time scare you?", which showed a weak tendency of increasing results with age (r=0.199; p=0.094), correlated with "Do you often think about death?" (r=0.347; p=0.003). The results of the analysis were surprising: as people get older, they tend to think less and less about death and its inevitability.

The same conclusion extends to the ASTP. Despite the fact that respondents believe that time flows too quickly and that the years fly by just as quickly, they also believe that "it is natural, and no one has lived forever". Such thinking is probably a defense mechanism against the fear of one's own death, the desensitization of the remainder of life, the reduction of vigor and effectiveness of activity.

People who accept the irreversibility of time calmly have also been found to tend to answer the questions: "Does the inevitability of death scare you?"-"No, death is natural", and "Do you often think about death?" - "No".

The histogram (see Fig. 7) clearly shows the change of attitude towards death with age: with the increase of age the share of people who try not to think about death also increases.

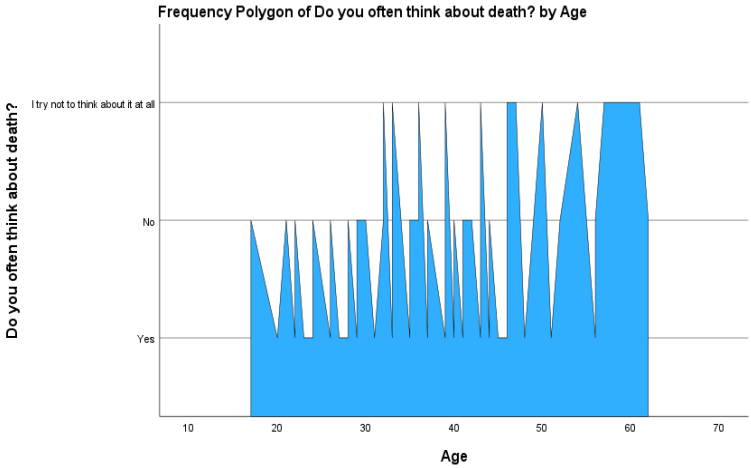


Figure 7. Histograms showing the distribution of answers to the question "Do you often think about death?" according to age

Thus, people at an earlier age tend to be more anxious about death and the finitude of life, although their potential life resource is higher. This is consistent with the ASTP indicators: in the age interval of 20-29 years, its maximum prevalence is noted, and in the same interval people most often think about death. A further decrease in the prevalence of ASTP with age is consistent with an increase in the number of respondents who do not think about death.

Conclusions

Among the results of this study, we can distinguish three main points of ASTP alteration: the first point is related to the age period of 20-29 years, when there is a growth of the participants noting the experience. The second point is related to the age period of 30-39 years, which is retrospectively evaluated as the fastest. The third point refers to the period of 50-59 years of age. Participants of this age noticeably change their assessments of the speed of the passage

of time in childhood and the immediate age period of 60-69 years in favor of "slow" and "moderate."

A model of the ASTP alteration was formed (Fig. 6). It based on the significance of the correlations of each of the STQ blocks shows that evaluating the speed of segments of the past or future as fast causes the feeling of loss of time control, which is reflected by the effect of "time pressure", due to the awareness of the finiteness of time. It is likely that the experience of ASTP would have to be constantly intensified if the individual tends to be anxious about the past or the future. In this case, a person who systematically evaluates past and future segments of time to the detriment of the present moment (Landau, 2018; Zakay, 1995) misses markers of time and thus loses even more control over it, which increases the level of anxiety. Anxiety is known to be closely related to late-life depression (Микеладзе, 2016). Thus, the constant increase of anxiety caused by the awareness of the irreversibility of time and the inevitability of death is likely to lead to depression (Sévigny, Everett, Grondin, 2003) loss of life meanings and decrease in the efficiency of human activity. Since this does not happen in the norm, there must be a protective mechanism of psyche, which will not allow loss of meanings of existence, cessation of goal-setting and, accordingly, decrease of activity efficiency. As such mechanism was considered the process of displacement of thoughts about death and irreversibility of time with age. The research data show that this process develops most actively between the ages of 30-39 and beyond.

The hypothesis put forward in this study that subjective time seems to pass as quickly as possible in the present period, and slows down as one moves away from the present to the past or future, has been partially confirmed. Up to the age period of 30-39 years, indeed, the subjective passage of time in the present seems to be fastest, but after passing this threshold, it begins to slow down, and the age period of 30-39 years continues to seem fastest. Distant from the present age segments of the past and the future seem passed more slowly than in the present.

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Appendix

Subjective Time Questionnaire (STQ)
Опитувальник суб'єктивного часу (ОСЧ)

Block "Present"
Як швидко для вас зазвичай минає час?
Як швидко, на вашу думку, мине наступна година?
Block "Past"
Як швидко минув для вас попередній тиждень?
Як швидко минув для вас попередній місяць?
Як швидко минув для вас минулий рік?
Як швидко минули для вас попередні 10 років?
Як швидко минуло ваше дитинство (до 12 років)?
Як швидко минула ваша молодість (13-19 років)?
Як швидко минуло ваше доросле життя між 20 і 29 роками?
Як швидко минуло ваше доросле життя між 30 і 39 роками?
Block "Future"
Як швидко, на вашу думку, мине наступний місяць вашого життя?
Як швидко мине майбутній рік?
Як швидко пройдуть наступні 10 років вашого життя?
Як швидко мине, на вашу думку, ваше доросле життя між 40 і 49 роками?
Як швидко мине, на вашу думку, ваше доросле життя між 50 і 59 роками?
Як швидко мине, на вашу думку, ваше доросле життя між 60 і 69 роками?

Questions about age intervals were asked in the following form:

"Як швидко минуло (чи мине, на вашу думку, якщо це майбутнє) ваше доросле життя між 30 і 39 роками?"

And distributed into blocks "Past" and "Future" depending on age.

Rating on anchors

Дуже повільно (-2), повільно (-1), ні повільно, ні швидко (0), швидко (1), дуже швидко (2).

Block "Time Pressure"

У мене не вистачає часу для виконання моїх завдань.

Я часто відчуваю брак часу.

Мені часто не вистачає часу, щоб присвятити себе важливим речам.

Мені часто здається, що час минає.

Я маю розставляти пріоритети, бо не встигаю робити все, що хотів би зробити.

Block "Time Expansion"

Мій час здається порожнім.

Я часто думаю, що час просто не хоче йти.

Мені часто буває нудно.

У мене багато часу.

Я часто проводжу час, нічого не роблячи.

Block "Time Speed"

Час - це поїзд, що мчить.

Час - це кінь, що скаче.

Час - це водоспад, що падає.

Block "Time Slowness"

Час - це величезний простір неба.

Час - тихе, нерухоме море.

Час - втомлива пісня.

Rating on anchors

Впевнене ні (0), скоріше ні (1), нейтральне (2), скоріше так (3), впевнене так (4)

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