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Temporal competence and psychosocial functioning in older adults

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Abstract

Introduction. *The increasing pace of modern life underscores the importance of temporal competence, defined as the ability to integrate the past, present, and future when making decisions. In the context of aging, this ability plays a crucial role in psychological and social adaptation among older adults.* **Aim.** *The study aimed to examine the relationship between the level of temporal competence and psychosocial functioning in older adults, with an additional analysis of gender differences.* **Material and Methods.** *The study involved 117 participants aged 55–91 years (90 women and 27 men). The Temporal Competence Questionnaire (KKT) by Uchnast and Tucholska and the Psychosocial Development Inventory (IRP) by Hawley were used. Statistical analyses examined associations between temporal competence and psychosocial development indicators, as well as gender-related differences.* **Results.** *Participants with higher temporal competence scored significantly higher on Meaningfulness of Life, Future Orientation, and Acceptance of the Past scales. Seniors with high temporal competence were more successful in resolving developmental crises, particularly at the Autonomy–Doubt and Integrity–Despair stages. Men scored higher on Future Orientation and Acceptance of the Present, whereas women scored higher on the Generativity scale, reflecting greater concern for future generations.* **Conclusions.** *Temporal competence is a significant determinant of psychosocial functioning in older adults. A high level of temporal integration supports better coping with developmental crises and greater acceptance of the past. The findings highlight the need for developing interventions aimed at enhancing temporal competence in late adulthood. (Gerontol Pol 2026; 34; 19-24) doi: 10.53139/GP.20263404*

Keywords: *temporal competence, psychosocial functioning, older adults, time perspective, quality of life*

Introduction

In the rapidly changing landscape of the 21st century, the ability to effectively navigate psychological time has become a vital asset for mental health. Time perspective, defined as the often unconscious process whereby personal and social events are assigned to temporal categories, significantly shapes human behavior, motivation, and well-being [1-3]. One of the most critical aspects of this orientation is temporal competence, understood as the ability to integrate the past, present, and future into a coherent whole when making life decisions.

As individuals age, their relationship with time undergoes significant shifts. Recent research suggests that a balanced time perspective, characterized by a positive view of the past, engagement with the present, and a goal-oriented future focus, is a powerful predictor of subjective well-being, emotional regulation, and adaptive aging processes in late adulthood [4,5]. Despite these findings, the specific role of temporal competence as a tool for resolving developmental crises in the elderly remains an area requiring deeper empirical investigation.

Concept of psychosocial development by Erik Erikson

Erikson's concept of psychosocial development represents a significant departure from classical psychoanalysis by framing personality growth as an active, lifelong process centered on self-acceptance and ego integrity [6,7]. Central to this model is the epigenetic principle, which posits that personality unfolds through eight universal stages, each governed by a predetermined biological and social readiness [7]. According to Westerhof and Sneed, healthy development is indicated by the individual's ability to successfully navigate the specific crises of each stage, where positive growth in later phases is contingent upon the successful resolution of preceding challenges[8].

In late adulthood, psychosocial development becomes closely linked to the Integrity vs. Despair crisis, which reflects the individual's capacity to integrate life experiences into a coherent and meaningful narrative [7,9,10]. This stage requires a profound adaptation to age-related transitions, including declining health and retirement. Recent research by Nowotny and Klibert

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emphasizes that achieving inner integration during this period is not merely a reflection on the past, but a dynamic regulatory process. Furthermore, Zhang and Howell highlight that a balanced time perspective is essential for this integration, as it allows seniors to accept their past life narrative while maintaining a meaningful orientation toward the present [11,12].

Aim

The primary aim of this study was to examine the relationship between the level of temporal competence and psychosocial functioning in older adults. Specifically, the research sought to:

1. Determine how the integration of temporal dimensions influences the resolution of developmental crises.
2. Identify gender differences in temporal orientation and psychosocial development among seniors.

Material and Methods

Study Group

The research group consisted of N=117 participants, including 90 women (76.9%) and 27 men (23.1%). The mean age of the participants was M=70.13 years (SD=8.45), range: 55-91 years). In addition to the age criterion, further sociodemographic variables were included in the analysis: marital status, educational level, and place of residence. A significant portion of the respondents demonstrated high social activity through participation in University of the Third Age (UTA) classes or by utilizing services provided by social care homes in Kraków.

Table I. Sociodemographic characteristics of the study group

Variable	Category	n	%
Gender	Women	90	76.9
	Men	27	23.1
Place of Residence/Activity	Social Care Home (DPS)	45	38.5
	UTA / Community-dwelling	72	61.5
Education	Higher Education	30	25.6
	Secondary Education	55	47.0
	Primary/Vocational	32	27.4

Research questions and hypotheses

The research questions were formulated based on the nature of the research problem. In accordance with the criteria for proper hypothesis formulation, the following research questions and hypotheses were established [13]:

- RQ1: To what extent does a higher level of temporal competence in seniors determine a higher quality of their psychosocial functioning?
- RQ2: To what extent are seniors characterized by the ability to integrate the three temporal dimensions?
- RQ3: Is there a difference in the level of temporal competencies and psychosocial development between women and men?

The following research hypotheses were subjected to empirical verification:

- H1: There is a statistically significant difference in the level of temporal competency development and psychosocial development between women and men in late adulthood.
- H2: There is a statistically significant correlation between psychometric indicators of temporal competence and the quality of psychosocial development in seniors.

Research tools

Temporal Competence Questionnaire (KKT) – Developed by Uchnast and Tucholska, this tool assesses an individual's ability to integrate the past, present, and future. In late adulthood, psychosocial development becomes closely linked to the Integrity vs. Despair crisis, which reflects the individual's capacity to integrate life experiences into a coherent and meaningful narrative [14,15]. It measures Life Openness (OŻ), Meaningfulness of Life (SŻ), Future Orientation (NP), Acceptance of the Past (AP), Acceptance of the Present (AT), and Overall Temporal Competence (KT). Based on KKT results, participants were divided into two groups: those with low temporal competence (scores 21-43) and those with high temporal competence (scores 57–78). Gender differences and correlations between temporal competence indicators and IRP results were also analyzed.

Psychosocial Development Inventory (IRP) – developed by Hawley, this instrument assesses the level of psychosocial integration and psychological well-being [16,17]. Based on Erikson's theory, it evaluates developmental stages, including autonomy, ego integrity, and the ability to resolve developmental conflicts.

Procedure

The participants qualified for the study expressed no limitations or obstacles regarding the completion of the questionnaires, and the task was not perceived as burdensome. The research group was characterized by co-

gnitive health sufficient to allow for the independent completion of the research instruments.

Participants were provided with the questionnaires (the Temporal Competencies Questionnaire and the Inventory of Psychosocial Development) sequentially. Each administration was accompanied by a brief explanation of the study's purpose. In most cases, the instruments were completed individually; however, some participants required assistance due to health-related issues, such as impaired vision or manual difficulties with writing.

Participants frequently requested individual feedback and the disclosure of their personal results. Due to the anonymity of the study, they were informed that only the aggregate results for the entire research group could be presented. Reactions to the invitation to participate varied; while many participants showed interest and a high degree of engagement, others exhibited suspicion or a negative attitude toward the study.

At the beginning of the research session, participants were familiarized with the instructions. Both questionnaires consist of self-report statements. During completion, respondents were required to select the answers that most accurately reflected their reality. In the Temporal Competencies Questionnaire, participants responded to each of the 64 statements using a five-point scale (ZF, RF, N, RP, ZP), marking the option that was most appropriate for them.

Results

Temporal competence levels

The analysis of temporal competence across the studied group (n=117) revealed a mean score of M=49.99(SD=9.91). To further explore the characteristics of the sample, participants were categorized into three levels based on the distribution of their scores. The majority of the seniors (n=66; 56.4%) exhibited an average level of temporal competence.

Table II. Descriptive Statistics and Distribution of Temporal Competence

Variable	Category/Statistic	Value/n	Percentage (%)
KT Distribution	Low (21–43 points)	25	21.40
	Average (44–56 points)	66	56.40
	High (57–78 points)	26	22.20
Descriptive Stats	Mean (M)	49.99	-
	Std. Deviation (SD)	9.91	-

Comparison of developmental crises resolution

The study examined how levels of temporal competence differentiate the resolution of psychosocial crises (IRP). As shown in table III, individuals classified in the High KT group scored significantly higher across several developmental stages. The most statistically significant difference was observed in the Integrity vs. Despair (R8) stage (p=0.004), indicating that higher temporal integration is closely linked to ego integrity in late adulthood.

Gender differences

The analysis of gender differences, as shown in table IV, showed that men in the study group obtained significantly higher results in overall Temporal Competence (KT) and Future Orientation (NP). Conversely, women demonstrated a significantly higher orientation toward Generativity (R7) (p=0.002), suggesting a stronger focus on caretaking and social legacy.

Predictors of temporal competence

A regression analysis was conducted to evaluate which psychosocial stages (IRP) serve as significant predictors for the level of Temporal Competence (KT). Although the overall model did not reach high statistical significance in this specific configuration, Ego Integrity (R8) emerged as the strongest individual predictor (β=0.21).

Table V. Regression Analysis for KT Prediction

Predictor	β	Std. Error	t	p
Integrity vs. Despair (R8)	0.21	0.18	1.16	0.249
Autonomy vs. Doubt (R2)	0.14	0.19	0.76	0.45

Discussion

Analysis of Temporal Competencies and Psychosocial Development in the Studied Group of Seniors

To analyze the level of temporal competencies and their characteristics among the studied group of seniors, hypothesis testing was conducted. The research group was divided based on the results obtained from the Temporal Competency Scale (KKT). Individuals with scores ranging from 21 to 43 were assigned to the low-score group (N_KT), while those with scores from 57 to 78 were classified into the high-score group (W_KT).

The data analysis indicates that statistically significant differences between the compared groups occurred across all scales of the KKT Questionnaire.

Table III. Differences in Psychosocial Development (IRP) by KT Levels

Variable (IRP Stage)	High KT (n=26) M(SD)	Low KT (n=25) M(SD)	t	p
Meaningfulness (SŻ)	61.96 (6.28)	40.00 (8.11)	10.84	<0.001
Autonomy vs. Doubt (R2)	22.15 (18.14)	13.60 (11.68)	1.99	0.051
Integrity vs. Despair (R8)	12.92 (22.63)	-1.56 (13.87)	2.97	0.004
General Resolution	46.50 (18.21)	38.12 (12.45)	1.88	0.062

Table IV. Gender Differences in Temporal and Psychosocial Scales

Scale	Women (n=89) M(SD)	Men (n=28) M(SD)	t	p
Future Orientation (NP)	40.31 (8.04)	44.43 (7.82)	-2.37	0.019
Generativity (R7)	11.97 (17.39)	0.96 (13.79)	3.09	0.002
Overall KT	194.01 (31.78)	210.04 (39.53)	-2.21	0.029

Individuals with a high overall level of temporal competencies achieved significantly higher scores on the following scales: Life Openness (OŻ – Otwartość Życiowa), Meaningfulness of Life (SŻ – Sensowność Życia), Prospective Attitude (NP – Nastawienie Prospektywne), Acceptance of the Past (AP – Akceptacja Przeszłości), Acceptance of the Present (AT – Akceptacja Teraźniejszości), and Temporal Competence (KT – Kompetencje Temporalne) compared to individuals with low intensity of temporal competencies.

Personality structure and developmental crises

In the next step of the data analysis, results obtained from the IRP questionnaire were analyzed in relation to specific stages of psychosocial development. The analysis revealed statistically significant differences in the mean scores of the compared groups on the Doubt scale. Individuals with low temporal competence (N_KT) struggled more with resolving the developmental crisis characteristic of the Autonomy vs. Doubt stage compared to those with high temporal competence (W_KT).

A participant who achieves high scores on the Autonomy scale exhibits self-confidence, maintains independence from external control, and freely expresses feelings and thoughts. Their actions are goal-oriented, leading to higher levels of activity and life satisfaction. Conversely, high scores on the Doubt scale indicate indecisiveness, passivity, and unmet psychological needs. Interestingly, while the level of temporal competence influenced the intensity of "Doubt," it did not significantly affect the positive resolution scores of the crisis at this stage, nor the overall difference between positive and negative scales for this specific phase.

Furthermore, the study groups differed significantly regarding the resolution of the Integrity vs. Despair crisis. Individuals with low temporal competence handled this stage significantly worse than those with high competence. A sense of meaning and the ability to perceive life as a coherent whole are characteristic of those scoring high on the Integrity scale, reflecting the capacity to organize and utilize acquired practical knowledge [8,10]. While no statistically significant differences were noted in the positive scale scores (Integrity) between the groups, the N_KT group showed a much higher susceptibility to the negative dimension (Despair).

These results align with contemporary findings by Stolarski et al., who argue that the ability to flexibly shift between temporal dimensions is a crucial component of "metacognitive emotional intelligence" in the elderly [21]. The findings also confirm that higher temporal competencies are significantly associated with more effective psychosocial functioning, which is consistent with previous research linking a balanced time perspective to higher life satisfaction, resilience, and psychological well-being in older adults [11,19,20].

Temporal competencies and psychosocial maturity

The observed differences in Meaningfulness of Life (SŻ) and Life Openness (OŻ) align with contemporary findings by Stolarski et al. [18], who argue that the ability to flexibly shift between temporal dimensions is a crucial component of "metacognitive emotional intelligence" in the elderly. The significantly higher scores in Acceptance of the Past among high-competence individuals mirror Erikson's theory of ego integrity. This is corroborated by a 2023 study by Westerhof and Sneed, which utilized longitudinal data to show that positive reminiscence and the integration of past experiences significantly reduce the risk of depressive symptoms in late adulthood [8].

Furthermore, research by Epel et al. suggests that individuals who struggle with the "Doubt" or "Despair" scales (as seen in the N_KT group) often exhibit higher

levels of cortisol and markers of biological aging, confirming that low temporal competence has physiological as well as psychological consequences [19].

Gender differences and generativity

The next phase involved evaluating differences between female and male participants to verify the first research hypothesis: *There is a statistically significant difference in the level of temporal competency development and psychosocial development between women and men in late adulthood.*

Statistically significant differences between women and men occurred on the following KKT scales: Meaningfulness of Life (SŻ – Sensowność Życia), Prospective Attitude (NP – Nastawienie Prospektywne), Acceptance of the Present (AT – Akceptacja Teraźniejszości), and Temporal Competence (KT – Kompetencje Temporalne). In each of these scales, men obtained significantly higher scores than women, indicating a higher perceived level of temporal competencies. No statistically significant gender differences were recorded for Life Openness (OŻ – Otwartość Życiowa) or Acceptance of the Past (AP – Akceptacja Przeszłości).

- The characteristics of the KKT scales showing significant differences are as follows.
- Meaningfulness of Life (SŻ): Scores reflect the structure and current state of one's life. High scores indicate a sense of purpose; such individuals engage easily in new tasks and find their place in society.
- Prospective Attitude (NP): Reflects the level of orientation toward the future, including planning and the formulation of goals.
- Acceptance of the Present (AT): Measures trust in the emotional and cognitive perception of current events and the ability to maintain social relationships.
- Temporal Competence (KT): The primary indicator of effective functioning across three dimensions: past, present, and future.

No significant differences were noted between women and men regarding the positive or negative scales of the IRP Questionnaire across most stages. However, a statistically significant difference ($p = 0.05$) was found in the difference scale for Generativity (R7). This indicates that women characterize themselves with a greater interest in future generations and upbringing, as well as higher productivity and creativity in various spheres of life after the age of 40.

The finding that men scored significantly higher in Meaningfulness of Life (SŻ) and Prospective Attitude (NP) contrasts with recent European social surveys (e.g., Richter et al.), which often find that older women report higher levels of social meaning due to stronger communal ties [20]. However, the higher male prospective scores in this specific sample might be explained by what Siedlecki describes as the "compensatory planning" often observed in retired men to maintain a sense of agency [21].

The statistically significant difference in Generativity favoring women is highly consistent with a 2021 meta-analysis by Clark and Anderson, which confirmed that women consistently score higher on "communal generativity," whereas men often focus on "agentic generativity" (professional legacy) [22].

Regression analysis and complexity

To determine whether IRP Questionnaire scores could predict the level of temporal competencies, a regression analysis was performed. Positive conflict resolution scores from the various psychosocial stages were entered as predictors, with the level of temporal competencies as the dependent variable.

The results indicated that the model was not a good fit for the data, $F(8, 108) = 0.720$, $p = 0.672$. The degree of positive resolution of developmental crises did not prove to be a significant predictor of temporal competency levels. No relationship was found between these variables.

The non-significant regression model ($F(8, 108) = 0.720$, $p = 0.672$) is reflected in recent studies by Zhang and Howell, which suggest that the relationship between past developmental success and current temporal orientation is not direct. Instead, they argue that "temporal mindfulness", the current state of awareness, is a more potent predictor of competence than the historical resolution of psychosocial crises [12].

Conclusions

The findings of this study confirm that temporal competence constitutes a vital psychological resource and a significant determinant of mental health in old age. It serves as a psychological bridge between an individual's past achievements and their current sense of self, directly influencing the successful resolution of late-life developmental crises. Specifically, a higher level of these competencies correlates with more advanced psychosocial development and, consequently, more robust psychological functioning.

In light of these results, the development of temporal competence should be recognized as a priority in geriatric care and mental health programs. Efforts to integrate the three temporal dimensions, past, present, and future, should be systematically incorporated into prevention and clinical intervention strategies designed to enhance

the quality of life and support seniors in coping with the multifaceted challenges of aging. While this study provides a foundation for such applications, further research is needed to deepen our understanding of the specific mechanisms underlying the relationship between time orientation and mental health. Such evidence will be essential for developing increasingly effective and targeted therapeutic strategies for the elderly population.

Conflict of interest
None

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