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THE RELATION BETWEEN PERSONAL LEVEL OF METACOGNITIVE SELF AND ATTITUDES TOWARDS PENSION

Marcin Brycz
University of Gdańsk, Gdańsk, Poland
E-mail: marcin.brycz@ug.edu.pl
ORCID 0000-0002-9017-8915

Hanna Brycz
University of Gdańsk, Gdańsk, Poland
E-mail: hanna.brycz@ug.edu.pl
ORCID 0000-0001-7003-9793

ABSTRACT. The study (N = 294) predicts the beneficial role of metacognitive-self (MCS) for attitudes towards pension among young adults. Participants filled in two questionnaires in random order: metacognitive-self questionnaire, and attitudes towards pension questionnaire (indicating fear about the elderly in the future). According to theoretical assumptions, the higher MCS the more positive attitudes towards future pensions and less fear about the future. The explanation lies in adaptive role of self- awareness of own biases (MCS) for positive emotion regulation.

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Introduction

The main aim of the study is to investigate the relations between attitudes towards pensions and metacognitive self. Metacognitive self is a personal ability to declare ones own biases, which means high motivation to foster an accurate self-image, and adaptation to circumstances. Attitudes towards one's own pension are an indicator of personal ability to predict accurately one's own future in economic terms. We propose a positive relation between metacognitive self and components of attitudes towards pension.

The MCS reflects an individual's ability to recognize and regulate cognitive bases, which directly influences people's fairness and social policies, including pension. Higher the MCS the more rational, empathetic, and adaptive attitudes, especially towards benefits for

retirees, maternity leave, and hazardous work condition. In that picture gender should be incorporated – how woman perceive pension policies tied to number of children or maternity leave, which encompasses systematic inequalities. Understanding the interplay between MCS and gender helps explain variations in the public attitudes.

1. Metacognitive self as a special adaptive intrapersonal tool

Personal self- awareness of ego-nonthreatening biases called metacognitive self (MCS, Brycz, et all, 2019, Brycz et. al, 2025) might be understood as a tool for self- regulation of the individual (Kleka et al., 2024). Higher MCS means higher self- awareness of biases, high level of positive approach to the others and the self (Szczepanik at al., 2020). We predict MCS fosters in humans' reflective way of thinking. The fact will result in choosing adaptive attitudes towards the future pensions and lowering fear among participants with a high metacognitive self in contrast to individuals with low metacognitive self.

Metacognitive self is defined as an individual's self-awareness regarding biases (metacognitive self – MCS, as part of metacognition; Brycz & Karasiewicz, 2011). Metacognition as a broad concept means the ability to think about one's own thinking (Craig, et al, 2020). According to Efklides (2001), the monitoring function of metacognition has two aspects: metacognitive knowledge and metacognitive experiences. Metacognitive knowledge is declarative knowledge, encompassing beliefs about people (including oneself), goals, tasks, and strategies. Metacognitive experiences are feelings and evaluations related to task processing, such as the sense of difficulty or effort assessment. Thus, metacognition includes metacognitive knowledge (here: self-awareness of biases) and metacognitive experiences (here: episodic and semantic memory of own behaviors expressing biases), which are the first step towards forming metacognitive thoughts. These experiences result from the dynamics of information processing at the object level (Schwarz, 2015). Metacognitive thoughts depend on the availability of a schema and the perception of the material as easy or difficult. The metacognitive experience of ease or difficulty is often referred to as conceptual fluency (Schwarz, 2015). We assume that for some individuals, the experience of a biased self may be easy to assimilate, while for the others, it may be difficult. However, according to Efklides and her colleagues (2006), metacognitive knowledge about effort is associated with control strategies and behaviors. We suspect that through a certain form of personal intellectual humility towards oneself, the metacognitive experience of a biased self may be part of metacognitive knowledge about oneself and lead to strong self-awareness of biases. Strong self-awareness of biases, meaning high metacognitive self is positively related to agreeableness, consciousness, intellect, and emotional stability (Brycz et al., 2019). MCS seems to serve as a personal resource enabling assimilation to the new environment. MCS positively correlates with similar constructs, such as self-regulatory metacognition and other metacognitive constructs that enhance positive emotions (Szczepanik, et al, 2020). Further studies have shown negative correlations between MCS and maladaptive metacognition, such as positive beliefs about worrying, a strong tendency to ruminate, and other thoughts related to depression and various mental disorders (Brycz et al., 2019). Studies have shown that MCS plays an adaptive role and is correlated with emotional stability, agreeableness, self-efficacy, and hope (Kleka et al., 2024). Thus, a strong MCS reflects an individual's capacity to acknowledge psychological patterns, biases, and illusions, often correlated with positive dispositions and emotions. People with a high level of metacognitive self are more likely to prefer rational ways of decision-making than their less metacognitive counterparts (Smoliński & Brycz, 2024).

2. Attitudes towards pensions

Attitudes towards pensions are important indicators of a young person's social adjustment. Young people (emerging adulthood 18-24, and young adults up to 35 years of age) are in the contemporary world under pressure of five major role transitions - leaving home, completing school, entering the workforce, and transitioning into or moving toward parenthood (Bonnie, Straud & Beiner, 2015). Young adults' maturity and ability to plan their own future can be observed in the way they look ahead for retirement and calculate their future pension. Attitudes towards pensions among young adults serve as a good economic indicator of future generation welfare and well-being (Brycz et al, 2024). In the same publication authors investigated pension attitude that reflects emotional judgments regarding family savings, etatism, and pension benefits. The emotional line of pension attitude relies holistically on the fairness of various life circumstances, reflecting the broad scope of health, family, and work conditions. Additional benefits for elderly people shall be observed in various fields of everyday life (López-Rodríguez et al., 2023). The price elasticity, for example, is higher among the elderly than in the workforce. Discounts for seniors are not only intended to facilitate their access to goods, but also to promote their social activity and support the cultivation of a sense of belonging to society (Magala, 2013; Swadźba et al., 2024). Demographic changes affect the pension system dramatically (Bednarczyk et al., 2023). Total fertility rate in Poland decreases systematically in comparison with the baby boomers' period (mid XX century). The young generation (Twenge, 2017), described as more tolerant but more depressed than previous generations (baby boomers, Generation X) will face severe pension difficulties. The important question of how the fertility rate may be encouraged goes unanswered. One of the economic solutions is the C2P mechanism, which is based on the allocation of a child's salary into parents' pension accounts. In that case, those who had children would have a higher pension (Giday & Szegő, S. 2018). In many countries, including Poland and other OECD member states, special pension provisions have been introduced for hazardous or arduous jobs. It is not only for justice reasons, for improving well-being while former workers become older, as health deteriorates, but also to attract workers to stay in such jobs. In other words, additional pension provisions for hazardous or arduous jobs are an important point of social agreement (OECD, 2023). On the other hand, it should be noted that not in all the EU countries pensions provisions for hazardous or arduous jobs are recognized (EU Commission, 2016). The objective for this additional compensation is i) reward for hardship ii) protecting workers from the hazard, and iii) ensuring equal distribution (Mittlaender, 2023). Pension benefits are also reflecting the emotional aspect of attitudes towards economic security, influenced by cultural contexts, family financial habits, and individual demographics (Brycz et. al., 2024). Metacognitive self as a special adaptive psychological tool shall be positively correlated with foreseeing own economic future. Thus, we predict a positive correlation between MCS and pension attitudes.

3. Methodological approach

3.1. Application of analysis

We suspect a beneficial role of metacognitive self for positive pension attitudes, reflecting optimism. Metacognitive self (MCS) is a part of self- insight into the socially desirable biases and regulates positive affect. Thus, the higher the level of metacognitive self, the more optimistic the view on future pensions. We suspect the main effect of gender on the "number of children" variable. More fear about lower pensions may be present among women,

but men. We suspect the main effect of metacognitive self (MCS) on attitudes towards pensions. The higher the MCS, the safer the attitudes towards future pensions shall be observed.

Associating the pension question with the MCS we derive a hypothesis:

H1: Individuals with a high MCS are more likely to reflect on social fairness and empathize with vulnerable members of society.

H2: People characterizing higher MCS should be more aware of the unpaid labor, seeing the fairness for adjusting pension benefits based on the number of children.

H3: People with a higher MCS would support compensatory mechanisms for people exposed to health risk at work.

3.2. Participants

Participants were recruited online via Google Forms at the University of Gdańsk, Faculty of Social Science and Faculty of Economics, along with stationary and extramural studies (students were asked to fill in a package of questionnaires during classes). Students were assured of their anonymity. They learned about the scientific goal of the study and the possibility of withdrawing their access at any stage of the study. We have 294 valid respondents, consisting of 181 women and 113 men. The average age is M = 21. 84 (SD = 1. 981) ranged from 18 to 28 years of age.

3.3. Procedure and measurement tools

Participants were asked to fill in a set of questionnaires. They were asserted about the anonymity and scientific goal of the study. According to Helsinki Ethical Committee everyone was allowed to withdraw her/his access at any time of the measurement process. Students filled in two questionnaires in random order. The Alpha-Cronbach for MCS was: alpha = 0,77. Students at the end of the study were thanked. No reward was proposed for attendance at the study.

Measurement tools

1. Metacognitive Self Questionnaire MCSQ-24 (Brycz, Konarski, 2016, Brycz, et al, 2019) is the 24-item self-report questionnaire Each item describes a behavioral aspect related to biases that foster self-regulatory functions and provide positive assertions about the self. An example item for positivity bias is that “I tend to assess others and myself higher than I really am”. Participants rated each item on a 6-point Likert scale ranging from 1 (strongly disagree) 2 (disagree) 3 (slightly disagree) 4 (slightly agree) 5 (agree) to 6 (strongly agree). The use of such a range of Likert scales are justified (Norman, 2010)
2. According to Brycz (et. al. 2024), we derive four items that reflect pension attitudes:
    a) Retirees should receive additional benefits, e.g., easier access to doctors and most medications for free, etc.
    b) The pension should be increased depending on the number of children raised.
    c) There should be a pension supplement if the work was performed in conditions harmful to health.
    d) A woman on maternity leave does not receive income from her employer, and pension contributions are not paid, so she does not accumulate capital in her pension account. Should the state compensate for this capital?

4. Results

Metacognitive self served as a grouping variable for each item presenting pension attitudes (dependent variables). Firstly, the MCS mean was calculated for each person. Secondly, MCS has been dichotomized by the median M = 4.43. Participants who got there a score higher than 4.34 formed a group "high MCS". Individuals who indicated a score of less than 4.34 belonged to a group "low MCS". The dependent variable parameters allowed us to proceed with the parametric test for verifying our hypothesis.

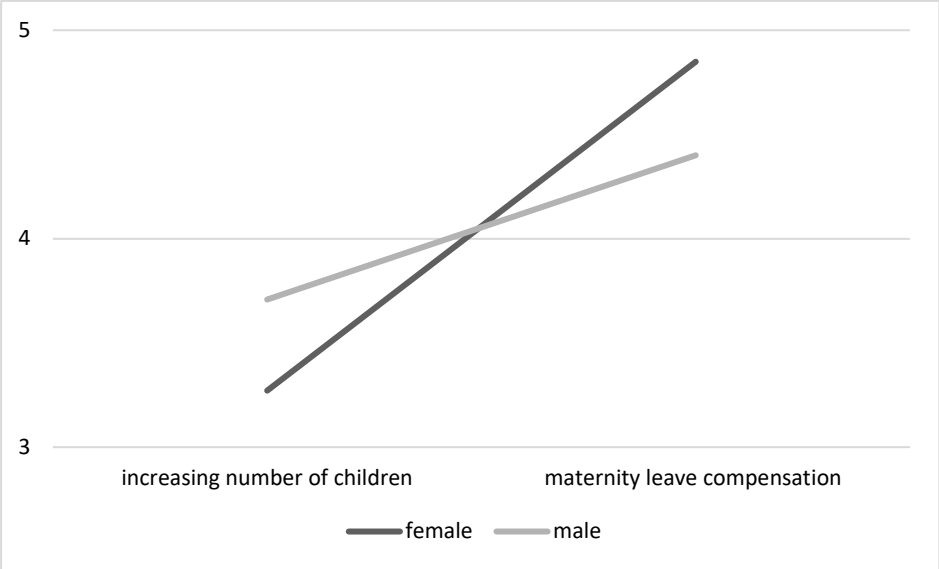
Table 1. Mean pension attitudes for MCS (high vs. low)

Dependent Variable	Mean		F-value	p-value
	Low MCS	High MCS		
Additional benefits for retirees	4.519	4.831	5.129	0.024
Maternity leave compensation	4.348	4.9	16.997	<0.001
Harmful working conditions	4.766	5.189	9.830	0.002

Source: *own compilation*

The model of ANOVA consisted of grouping variables: MCS (high vs. low), and Gender (Woman vs. Male). In the Levene's test null hypothesis that the error variance of the dependent variable is equal across groups, were not rejected for all of the predictors except the one reflecting woman maternity leave. So for inference of this we come with caution. Multivariate tests (Pillai's Trace, Wilks' Lambda, Hotelling's Trace, Roy's Largest Root) indicated significant group differences across multiple dependent variables simultaneously. In the table 1 are pictured mean pension attitudes, that testing: H1, H2, and H3. The main effect of the additional benefits for the retirees was $F(1, 6.6477) = 5.129$, $p = 0.024$, and for woman's maternity leave was $F(1, 20.176) = 16.997$, $p < 0.001$. Moreover main effect for the harmful condition additional pension is connected to the MCS as well. Young people with higher MCS are more likely to grant extra retirement in such condition $F(1, 11.864) = 9.830$, $p = 0.002$. This indicates that the strongest metacognition effect could be observed for additional benefits for elderly people. Among participants with lower MCS mean attitude for pension benefits accounted for 4.519 vs. 4.831 for higher MCS. On the other hand maternity leave-related decrease of pension was also recognized more by the individuals with higher MCS (4.9 vs. 4.348). Mean attitude for extra pension, when a person worked in a harmful condition for high MCS is 5.189 vs. 4.766 for low MCS.

The gender difference effect is seen for the extra pension with increasing number of children. The main effects is $F(1, 12.686) = 5.989$, $p = 0.015$, The mean attitude for the increase pension in line with number of children raised is lower among women than man (3.271 vs. 3.708). The gender effect is observed for maternity leave compensation as well – $F(1, 13.381) = 11.272$, $p<0.01$ (mean attitudes female vs. male are: 4.849 vs. 4.4).



Graph 1. Pension attitudes (female vs. male)
Source: *own data*

The above outcome (Graph 1) indicates a relation between gender and pension-related attitudes. Women showed fear about their elderly life and future pension when they raised many children, in contrast to men. On the other hand woman are supportive for maternity leave compensation, as that issue is strictly connected to woman equal chance for retirement well being.

MCS can be seen as a reflective tool, that enables individuals to recognize biases, reflect on fairness, and regulate their thinking. That helps people evaluate social policies including pensions. Individuals with high MCS tend to support pension solutions that reflect effort, vulnerability, and social contribution such as: extra benefits for elderly people, compensation for harmful working conditions, and addressing maternity leave gaps. On the other hand, women support child-based pension increases, possible to the critical reflection on the gender roles. Women more strongly recognize the unfairness of maternity leave gaps with an increased number of children, suggesting a shared sensitivity to systemic inequality.

Conclusion

The results fulfil our expectances. Fear among young adult participants focused on future elderly life (pension attitudes) relates to low metacognitive self. The higher MCS the more positive attitude towards aspects of pension, like maternity (benefits connected with absence at work due to maternity leave), extra money connected with harmful workplace, and facilities for elderly people. Psychological literature support beneficial effect of positive metacognition on many attitudes and overall well- being (Beer & Moneta, 2010). Metacognition is essential for learning, and training metacognitive skills has been repeatedly shown to increase academic achievement (e.g., Flavell, 1979). Furthermore, therapies grounded in metacognition have been successful in treating those with mental health conditions (Wells, 2011). High metacognitive-self allows a person to enhance beneficial emotional regulation, enjoy positive emotions and feelings much more than low metacognitive- self counter partners (Szczepanik et al., 2020). Character strengths, particularly self-awareness and practical wisdom, demonstrate significant positive impacts on life satisfaction and emotional well-being,

suggesting that individual psychological traits influence various aspects of personal decision-making and life planning attitudes (Leelakulthanit, 2021).

Previous research showed beneficial role of MCS for positive affect regulation and no effect of MCS on negative emotions regulation (Brycz et al., 2025).

The main effect of gender for the item "number of children" indicates increased fear among women than men. Betron and colleagues (2018) have conducted a meta-analysis on gender differences and economic benefits at the workplace. The authors highlighted that gender inequality is a determinant of mistreatment during childbirth. Stereotypically, women are more engaged in children's care than men. Having many children, women lose chances for their development at the workplace, in contrast to men. Women are generally more worried about their pensions if they have many children. This result seems obvious.

Findings about the relation between a higher level of metacognitive self and more positive subscales of attitudes towards pensions are in line with previous results. Young participants who elaborated deeper self-insight in optimistic biases look at a significantly more positive manner for the future and pensions. They are not undermined by fear of political injustice or economic unfairness in their country.

All the hypotheses were positively verified. The higher the level of metacognitive self, the more adaptive the approach to elderly life and pensions.

Limitations of the study

The study is based on the item inference. Future research could improve the inference from the constructs.

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