

## Intergenerational Knowledge of Ageism and Attitudes towards Age Stereotypes

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**ABSTRACT**

Not much is known about the knowledge of ageism and the attitude towards ageist stereotypes among adolescents, adults and the elderly, so we tried to find out both in the survey.

**Methods:** This voluntary two-part online survey among 384 participants aged 15 to 90 from Eastern Slovenia determined intergenerational knowledge of ageism and attitudes towards age stereotypes. Three different age groups consisted of 188 adolescent students in 2022, 47 adults and 139 elderly in 2023. An important part of the questionnaire was formed by 31 stereotypical statements about the elderly on a three-point Likert scale, divided into six categories: (I) mood, (II) traditionalism, (III) frailty, (IV) attitude towards technology, (V) wisdom and (VI) sociability.

**Results:** It turned out that the knowledge of ageism and the attitude towards age stereotypes depend most on the age of the respondents. Only 18.6% of adolescents knew ageism, only those with an older relative and 49.5 % of adults and elderly were familiar with ageism. The latter defined it like this: 41.9% as interpersonal ageism, 14.5% as self-directed ageism, and 4.8% as institutional ageism. Furthermore, 29.6 % of adults and older respondents have experienced it as interpersonal ageism, mostly (50%) it was experienced by children, youth and other people, slightly less (27.5 %) experienced it as interpersonal ageism from random passers. A minority (7.5 %) of adult and elderly respondents also described that they experienced it from the side of the closest ones, and 7.5% as institutional ageism. Representatives of all three different age groups had a mixture of positive, neutral and negative attitudes towards stereotypes about the elderly. The biggest differences between generations were regarding the perception of traditionalism of elderly ( $p=0.002$ ), the opinion of the attitude of the elderly towards technology ( $p=0.028$ ) and the opinion of sociability of older people ( $p<0.001$ ). The opinion of traditionalism was most negative among adolescents, and then improved with advanced age of respondents. Regarding the attitude towards modern technology, the most negative opinion existed among younger adolescents (15-17 years old) and adults (20-64 years old), while the opinion of older adolescents (18-19 years old) and those aged 65 and over was more positive. Regarding the sociability of the elderly, positive opinions of both groups of adolescents stood out the most, and then declined with advanced age of respondents. The differences between the positive view of the generations on the wisdom of the elders were insignificant.

**Conclusion:** The concept of ageism is more familiar among adults and the elderly than among adolescents. The negative and positive attitudes towards age stereotypes are intertwined from adolescence onwards although in adolescence, the attitude towards the elderly is most inclined to negative attitudes, which can strengthen the mechanisms of negative ageism already in early youth.

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## Keywords

Ageism, Age stereotypes, Adolescents, Adults, Elderly.

## Introduction

Due to intensive aging and longevity, Slovenia is facing an ageism similar to that in Western societies [1,2]. In 1969, Butler pointed the finger at ageism as a reflexion of stereotypes and prejudices about older people simply because of their chronological age [3]. Stereotypes (beliefs), prejudices (feelings) and discrimination (behaviors) against or in favor of people based on their chronological age are three components of ageism and deny the scientific findings that cumulative knowledge and experiential skills persist into later years [4-6]. Iversen et al. pointed out that ageism is a reflection of negative or positive stereotypes, prejudice and/or discrimination against (or to the benefit of) aging people [4]. In this study we focused on intergenerational knowledge of negative ageism and negative stereotypes about the elderly.

## Negative ageism

Negative ageism causes people to be excluded from society and its institutions, leads elderly to limit their lives, activities and aspirations, damaging their health and wellbeing [4,6-8]. It can manifest itself as interpersonal ageism, self-directed ageism and institutional ageism [9]. Interpersonal ageism takes place between individuals, self-directed ageism is when someone internalizes a negative attitude toward aging or someone's own age group, and institutional ageism is when social norms, practices, and rules are unfair to elderly, unfortunately also in health institutions [9]. Ageism and ageist attitudes, rooted in both positive and negative age stereotypes are detrimental as they cause older adults to question their own capabilities and strength and lower self-esteem [9]. On the other hand, negative and ageist attitudes of health care professionals can potentially affect how older adults are viewed in relation to digital technology in physical therapy and consequently might influence actual use and adoption of technology-based treatment [7].

The development of ageism is influenced by family, education and mass media [10-15]. In contrast to the abundance of evidence of the positive impact of family support for older adults, little attention has been given to the issue of ageism in families. In the family, ageism can also be expressed through microaggressions in interpersonal interactions so Gordon believes that clinicians could encourage older adults and family members to examine their own internalized ageism and impact of microaggressive interactions with older adults in the family [10]. Views on the aging process, age period and ageism are generated in early childhood and continue to develop throughout the entire lifespan [16-19]. Lahe and Goriup confirmed that the lack of knowledge about the aging process is significantly associated with a greater degree of ageism and fear of aging among young people [11]. The study by Ng pointed out that negative portrayals of older adults in the mass media outnumber positive ones by as much as six times, with negative portrayals mostly referring to the physical condition of the elderly and positive ones referring to their behavior [12]. Magazines

contain the highest levels of ageism, followed by the spoken genre, newspapers, and fiction. In the coverage of Slovenian print and spoken media with national and regional reach, Tomanič Trivundža detected overt examples of ageism in three of the 206 analyzed contributions [13]. The cases referred to the judiciary, which does not always understand that "old" legal dilemmas today demand new considerations by the judge. The author (ibid.) suggested that the media's portrayal of aging as a positive phase of life that should be supported by society would be a welcome change in the fight against ageism [13]. Similarly, the results of the analysis of German-language news magazines by Wangler and Jansky showed that the presentation portrayals of age have a significant influence on society's perceptions and expectations of old age [14]. However, the media must not ignore the fact that the portraying the elderly as lively, productive and attractive persons can also be damaging in its own way too [14]. Namely, the elderly can misunderstand e.g. overly positive media messages that they always have to be the super vital, travel-loving, wealthy and educated »grandparents or old people«, always in the move. Furthermore, the presentation of a negative age frame led to an improvement in self-image of age, while the image of age in the public significantly worsened, and after the presentation of the positive age frame, the public image improved significantly, while the self-image decreased [14]. In another study, Wangler, et al. found that exposing older people to negative representations of older age was associated with more negative opinions of their own health at the time and more negative expectations of what their health would be like in the future [15]. On the contrary, the results of the study by Levy et al. confirmed that people with positive self-perception of aging, live 7.5 years longer than those with a less positive self-perception of aging, regardless of age, gender, socio-economic conditions, status, possible loneliness and functional health [16]. From the results of English Longitudinal Study of Ageing which comprised 3,505 men and women aged at least 60, Gale and Cooper concluded that elderly with more positive attitude to ageing are at reduced risk of becoming physically frail or pre-frail [17]. Frailty syndrome is otherwise common in the elderly and associated with a high risk of adverse health outcomes [18]. It is a medical condition when, due to many causes and factors, muscle strength, endurance and physiological functions are reduced, resulting in an increased risk of injury, disability or even death [17,18]. Age-standardized frailty in Slovenia is 15%, with the highest prevalence in the northeastern regions (over 20%) [18]. Even otherwise, research has linked ageism to poorer health outcomes and higher healthcare costs [17,19]. Chang et al. performed systematic comprehensive review of health consequences of ageism, which included over 7 million participants in five continents [19]. A literature search was performed using 14 databases with no restrictions on region, language, and publication type. The systematic search yielded 13,691 papers for screening, 638 for full review, and 422 studies for analyses. Ageism led to significantly worse health outcomes in 95.5% of the studies and 74.0% of the 1,159 ageism-health associations examined [19]. Considering that the analysis revealed that the detrimental impact of ageism on older persons' health has been occurring simultaneously at the structural and individual level in five continents, authors' (ibid.) systematic review demonstrates

the pernicious reach of ageism. Although demographic changes due to longer average life spans affect all nations differently, the reasons for the persistence of ageism on all continents are also due to technological developments including advanced treatment of diseases, lack of connections with elderly relatives and increasing information obtained from the Internet rather than from wise and experienced elders [10,20].

### Negative age stereotypes

In general, age stereotypes are overgeneralized beliefs about people who belong to a certain social group, such as people of a certain age. Although the term age stereotype was initially coined to describe young individuals' negative beliefs about older people, it can be equally used to describe negative beliefs that older individuals have about younger people [3,8,9]. In our article, we focus on negative age stereotypes about the elderly. Negative age stereotypes are often the basis for prejudice and discrimination, as in the case of ageism. Age stereotypes are not necessarily negative; many also include positive aspects. Age stereotypes are particularly ambivalent. In general, a negative age stereotype means a general and simplified negative belief about some characteristics of older people, which forms a view of their individual and specific characteristics, which in turn begin to act as general. Negative age stereotypes have their roots in childhood and can change their face over the years [21-24]. Age attitudes have been discovered in children as early as 3 years old, as age stereotypes in preschool children have been studied to a greater extent in recent decades [21,23]. Study of Flamion et al. was designed to probe old age-related views in Belgian 3- to 6-year-old children (n = 126) using both an open-ended Image-of-Aging question and Young Children's Views of Older People, based on a visual analog scale illustrated by cartoons [22]. Parental views of older people were also collected. The overall results of the study confirmed the stereotype of the elderly as having low competence and high warmth, which is also common in young adults and school-age children and was also found in parents in the current study (content model of stereotype). Furthermore, children's views did not correlate with those of their parents'. The children's responses appeared more personal and emotional, while the parents tended to adopt global stereotypes. The preschoolers' views of older people were much more positive in those who spontaneously evoked their grandparents when asked to think of an old person. The authors (ibid.) concluded that ambivalent views of older adults begin in preschool children and are influenced by child-grandparent relationships. Contrary, in a survey of 113 elementary school students, students and adults 30+ from Budapest and the surrounding area, Balazs found that young children seem to have the most negative stereotypes of the elderly [24]. The findings of Davidović et al. are the opposite, because they found a positive attitude towards the elderly among elementary school students, which suggests that ageistic attitudes are adopted after the childhood [22]. Also in accordance with Levy, stereotypes about the ageing process and elderly, become internalized across the life span in two fundamental ways: from society to individuals and from childhood to old age, and tend to eventually become self-stereotypes leading to often negative outcomes for older people [25].

Negative stereotypes internalized during childhood, adolescence and adulthood tend to eventually become self-stereotypes leading to often negative outcomes for older people [25]. But we must not forget that most of the elderly keep retain their mental abilities and learning abilities well even in old age, in particular, cumulative knowledge and experiential skills are preserved well into later age [5,26]. Nyberg et al. pointed out that genetic and lifestyle factors support brain preservation in aging, but brain preservation is not only a matter of avoiding negative effects on brain integrity, such as cerebrovascular conditions, but also a reflection of direct positive effects on brain plasticity [26]. Science therefore rejects the justification of negative age stereotypes that generally apply to older people, as scientists have found that some areas of human memory do not change over the years, but even improve. This is confirmed by the article of Luo and Craik which pointed to the fact that memory is not one single function but may be described in terms of different memory systems that show differential effects of normal aging process [27]. For example, memory for procedures, and some perceptual memory functions, show few age-related changes, whereas working memory, episodic memory, and prospective memory decline substantially in the course of normal aging. Memory for facts and knowledge (semantic memory) holds up well in older individuals provided that the information is used frequently, although the ability to retrieve highly specific information (such as names) typically declines (ibid.). Shaikh et al. concluded that greater restrictions to lifestyle activities, more negative emotion associated with memory change, and an overall greater burden of memory change on everyday living were associated with poorer objective memory performance and lower self-reported memory ability and satisfaction [28]. Irak even wrote that the elders typically feel 20% younger than their actual age because one's subjective age is shaped by metacognitive beliefs about aging [29]. Fernandez-Ballesteros et al. analyzed in detail among total 54,545 participants those over 70, comprising 7,600 participants (59.2% women, average age, 76.75, SD = 5.37) from the European Social Survey-2008 (ESS-2008) [30]. Study which contained stereotip content model about adults aged over-70 from 29 European countries showed that more friendly than competent cultural stereotypes about older people are widespread in most European countries. The elderly were thus understood as a friendly group with a low level of competencies and a high level of warmth, and for Slovenia it was concluded that younger generations express paternalistic stereotypes towards the elderly (ibid.). This finding is consistent with that of Lahe's and Goriup's opinion that completely natural aging process has become a taboo, and older people are stereotyped with ageist and paternalistic views [11]. Levy and Macdonald believe that negative cultural views of elderly could be considered as a threat to active aging, as age discrimination can negatively impact social cohesion, health, and well-being [31]. After participating in a contact program with the elderly and a simultaneous didactic 6-week program, Meshel and McGlynn have found in adolescents (11-13 years old), an improvement in the positive attitude towards the elderly compared to adolescents who did not participate in this program [32]. Elderly also showed a more positive attitude towards younger people and achieved higher results on the measure of life satisfaction (ibid.).



In addition, Teater also found in adolescents (aged 11-12 years) that their stereotypes about the elderly became more positive after socializing with the elderly [33].

Our study sought a more representative array than the groups in our initial studies [34]. Namely, North and Fiske claim that most of the research to date groups older people into one group and considers everyone over 65 as older [35]. According to them (ibid.), this approach is problematic mainly because it often fails to accurately represent the rapidly growing, diverse and healthy elderly population. In the light of this opinion, they reviewed the literature on ageism with an emphasis on the distinction between the still active "younger-elderly" and the potentially more impaired "old-elderly". They (ibid.) found that ageism researchers mostly focused on the elderly, so there is no difference in the forms of age discrimination according to subgroups of the elderly. North and Fiske believe that a precise definition of elderly by age would help society best accommodate a growing, diverse senior population [34].

According to North's and Fiske's view of the division of ageism according to the different age groups of the elderly the purpose of the present study was to determine to what extent the adolescents, adults and elderly in the two eastern Slovenian regions know and experience ageism and their attitude towards age stereotypes in different age periods also in the period of younger adolescents/elderly and older adolescents/elderly [35]. In our research, age stereotypes refer exclusively to the elderly. It was hypothesized that (1) ageism is more familiar among adults and the elderly than among adolescents and that (2) positive and negative attitudes towards stereotypes about the elderly are intertwined from adolescence onwards.

## Methodology

### Participants

Participants were from eastern Slovenia, which, according to the Nomenclature of Territorial Units for Statistics (NUTS) which, among others, also includes Savinja and Mura Statistical Regions [36]. The basic sample in 2022 was represented by 188 students of the Secondary Vocational and Professional School of the Šentjur School Center and students of the Celje-Center Gymnasium, both in the Savinja Statistical Region. The basic sample in 2023 consisted of 139 older university participants of the University for the Third Life Period in the Savinja Statistical Region and of the 47 adult members of the Murska Sobota Lions Club in the Mura Statistical Region.

### Procedure

#### Ethical Consideration

On March 16, 2022, application no. 0120-610/2021/10 for the assessment of the ethical adequacy of the research on high school students, the Commission of the Republic of Slovenia for Medical Ethics assessed the research as ethically acceptable and issued consent for the conduct of the research.

## Data Collection method

We collected data in the period from 31/03/2022 to 27/05/2022 among adolescents and from 02/06/2023 to 21/07/2023 among adults and the elderly. The survey instrument was the voluntary anonymous online survey questionnaire with eight closed-ended questions, the eighth question of which consisted of 31 statements about stereotypes related to the elderly, evaluated on a three-point Likert scale ("disagree", "neither agree nor I agree", "I agree") and two open-ended questions. At the end of the questionnaire, participants answered four general demographic questions. We prepared the questionnaire based on the example of the questionnaire Development and Initial Validation of the Adolescents' Ageism Toward Older Adults Scale, which was developed by Marchetti et al. [23].

The results were presented in the form of frequencies and percentages, in the bivariate analysis we used only non-parametric tests (Mann-Whitney U test, chi-square test, Spearman's rank correlation coefficient), because the distribution of the variables deviates from the normal. When the assumptions for performing the chi-square test are not fulfilled, we used the Kullback 2 $\hat{I}$ -test (Likelihood ratio) instead of the chi square statistic. Using discriminant analysis, we additionally searched for the biggest differences in the perception of stereotypes between different generations. Before processing, the open-ended answers were classified into fewer content-related categories (so-called answer coding). We compiled the common variables by dimensions in such a way that we summed up the individual statements of the set, and in the event that there are negative and positive statements in the set, we recoded the positive statements before summing. SPSS (version 23.0) was used for statistical analysis. Differences with  $p \leq 0.05$  were considered statistically significant.

In order to assess whether the questionnaire is sufficiently reliable in samples A and B, we calculated. The calculation showed that the alpha coefficients in all sets was relatively high, which indicates a good internal consistency of the questionnaire in both samples. The lowest reliability was recorded for the assessment of the physical fragility of the elderly among adolescents (Cronbach's alpha coefficient = 0.714), and the highest for the assessment of the wisdom of older people among adults and the elderly (Cronbach's alpha coefficient = 0.873).

## Results

The basic sample consisted of  $N = 374$  participants, who were divided into groups according to the years of research and their age. The first group from year 2022 consisted of  $N = 188$  high school students (78.2 % from rural areas; 89.4 % female; aged between 15 and 19 years;  $M = 16.9$ ;  $SD = 1.37$ ). The second group from year 2023 consisted of  $N = 186$  adults and elderly (48.1 % from rural areas; 82.2 % female; 24 – 90 years;  $M = 68.0$ ;  $SD = 9.0$ ). 47 adults were 20 to 64 years old, 104 elderly were 65 to 74 years old, and 35 were 75 years or older. They completed the following level of education: 1.6% primary school, 29% high school, 34.9% college, 27.4% university, 4.3% master's degree,

2.7% PhD. Basic data on the samples are shown in Table 1, from which similarities in gender structure are evident.

**Table 1:** Basic data on the sample of surveys from 2022 and 2023.

		Adolescents in 2022 (n=188)		Adults and elderly in 2023 (n=183-186)	
		f	f %	f	f %
Gender	Male	20	10,6 %	33	18,0 %
	Female	168	89,4 %	150	82,0 %
Age (Years)	15	40	21,3 %		
	16	40	21,3 %		
	17	29	15,4 %		
	18	55	29,3 %		
	19	24	12,8 %		
	20 - 64			47	25,3 %
	65 - 74			104	55,9 %
Level of education	75+			35	18,8 %
	Primary school			3	1,6 %
	Secondary school			54	29,0 %
	College/High school			65	34,9 %
	Faculty			51	27,4 %
	Master's degree			8	4,3 %
Place of residence	Doctorate			5	2,7 %
	Rural area	147	78,2 %	89	48,1 %
	Urban area	41	21,8 %	96	51,9 %

Knowledge and perception of ageism

Both groups of respondents, the adolescents v.s. the adults and elderly (93.6% v. s 93.5% %), expressed the opinion that an elderly counts 65+ years. Although adolescents observed negative attitudes towards the elderly to a greater extent (77.7% v.s. 57.9%;  $p < 0.001$ ), only 18.6% of adolescents knew the concept of ageism and among them only those with an elderly relative ( $p=0.039$ ). Similarly, knowledge of the concept of ageism was noticeably borderline higher ( $p=0.052$ ) among adolescents who lived in a joint household with an elderly person (26.7%) than among those who didn't live in such a household (14.8%). 31.4 % adolescents learned about ageism during school lessons, 5% through the media and 4% from parents and grandparents. Furthermore, 82 respondents (43.6%) wanted to learn more about ageism, while others either stated that they don't want to learn more or skipped the question.

Compared to adolescents, fewer adults and the elderly perceived a negative attitude towards the elderly (77.7% vs. 57.9%;  $p<0.001$ ), among them women ( $p=0.017$ ) and the highly educated respondents ( $p=0.023$ ) predominated. On the other hand, almost half of the adults and elderly respondents (49.5 %;  $N = 91$ ) knew the term ageism. Among them, women were more familiar with the term ageism than men ( $p=0.025$ ) and those adults and elderly who lived in a joint household with grandchild between the ages of 15 and 19 ( $p=0.040$ ) .

Table 2 shows that only 29.6% of adults and elderly who were familiar with ageism had actually experienced it. To the open-ended question from whom they experienced ageism, some adult and older respondents gave several answers. Half of them (50.0%)

experienced it from children, adolescents or younger people and people they encountered by chance. A good quarter of them (27.5%) experienced ageism through random contacts with e.g. in the store, on the road, etc. Some of them (7.5%) also described that they experienced it from the side of the closest ones, a tenth of them (10.0%) from colleagues or superiors at work, some of them (7.5%) through contact with official persons also in a medical facility, and good tenth of them (12.5%) did not give an answer.

**Table 2:** From whom did adults and older respondents experience ageism.

		f	f %
Have you experienced ageism yourself? (n=91)	Yes	26	29,6 %
	No	56	61,5 %
	No answer	9	9,9 %
From whom did you experience ageism? (open answers - several answers are possible). n=40**	Children, adolescents, youth	20	50,0 %
	Close relatives (partner, children, parents)	3	7,5 %
	Official contacts (doctor, seller, repairman, etc.)	3	7,5 %
	Work environment (colleagues, superiors)	4	10,0 %
	Informal contacts, passers-by (in a store, on the road, etc.)	11	27,5 %
	No answer	5	12,5 %

\* Only those who know the term ageism. / \*\* Only those who have experienced ageism themselves.

Table 3 shows the coded answers to the question of how the adults and elderly would briefly describe ageism themselves. The question was answered only by adult and elder respondents who had previously answered that they had already heard of the term ageism.

**Table 3:** Understanding the term ageism among adults and the elderly.

		f	f %
How would you briefly describe ageism? Coded open answers - multiple answers are possible. (n=91)*	Prejudice and derogatory view of the elderly in general interpersonal relationships	78	41,9%
	Ageism in institutions (healthcare, media, parliament)	9	4,8%
	Personal perspective of the elderly on aging - negative perception (changes, limitations)	27	14,5%
	Elderly's personal view on aging - neutral or positive	23	12,4%
	I don't know, without answer	54	29,0%

\* Only those who know the term ageism.

Attitudes towards stereotypes about the elderly

In the second part, we present essential findings on the comparison of attitudes towards stereotypes about the elderly among groups of adolescents, of adults and the elderly. Table 4 shows that we grouped 31 stereotypical statements about the elderly into six substantive groups of stereotypical statements about the elderly, namely: to the first four groups of mostly negative stereotypical statements (mood, traditionalism, frailty, attitude towards technology) and the last two groups of mostly positive stereotypical statements (wisdom, socialability).

**Table 4:** Grouping of stereotypes about the elderly in six groups according to content.

Contents groups of stereotypical statements about elderly	Sequence of stereotypical statement in the group	A stereotypical description of the elderly
I. Mood	1	They are irritable.
	2	They keep complaining.
	3	They are strenuous and fluid.
	4	They get angry quickly.
II. Traditionalism	1	They cannot accept change.
	2	They don't think big.
	3	They don't understand young people.
	4	They interfere in the lives of young people.
	5	They like to criticize.
	6	They are not interested in the entertainment and cultural life of young people.
	7	They don't trust young people.
	8	They are too connected to the past.
	9	They understand modern life.
	10	They keep up with the times.
	11	They accept innovations.
III. Frailty	1	They are hard of hearing.
	2	They have a hard time remembering
	3	They get damaged quickly.
IV. Attitude towards technology	1	They are averse to digital media.
	2	They refuse to use digital media.
	3	They disapprove of the use of digital media by young people.
	4	They use digital media and social networks.
V. Wisdom	1	They are an important source of experience and wisdom for young people.
	2	Young people can learn a lot from their elders.
	3	They pass on basic life values to young people.
VI. Sociability	1	They are cute and funny.
	2	They are understanding.
	3	They are generous.
	4	They are kind.
	5	They are empathetic.
	6	They are actively involved in society.

Regarding the mood of older people, it was a variable with the sum of the four assessed stereotypical statements that had a range of values from 4 to 12, with a higher score indicating a more negative attitude towards the mood of the elderly. The traditionalism of the elderly was measured with 11 stereotypical statements, so the total variable had a range of values from 11 to 33, with a higher

score indicating a more negative assessment of the traditionalism of the elderly. The frailty was measured with three stereotypical statements, so the variable had values from 3 to 9, with a higher score indicating a more negative assessment of the body frailty of the elderly. Regarding the assessment of the attitude of the elderly towards technology, we obtained a new common variable with the sum of the four assessed stereotypical statements, which had a range of values from 4 to 12, where a higher assessment meant a more negative assessment. Regarding the assessment of the attitude towards the wisdom of the elderly, we used 3 positive stereotypical statements, the common variable had a range of values between 3 and 9, where a higher score meant a more positive attitude. Also in the assessment of the attitude towards the sociability of the elderly, we first summed up all 6 evaluated stereotypical statements into a common variable, which had a range of values from 6 to 18, whereby a higher score meant a more positive attitude, as the stereotypical statements in this group were also positively oriented.

Table 5 shows that detailed analysis by age groups and subgroups revealed the biggest statistically significant differences between generations regarding the perception of traditionalism of elderly ( $p=0.002$ ), regarding their attitude to technology ( $p<0.001$ ) and regarding their sociability ( $p<0.001$ ). The opinion of traditionalism was most negative among older adolescents, and then declined with the older age of the respondents. Regarding the attitude of the elderly towards technology, we detected the most negative opinion among younger adolescents (15-17 years old), and with the older age of the respondents, the opinion became less negative. As for the sociability of the elderly, positive opinions of both groups of adolescents stood out the most, and it gradually decreased with the higher age of the respondents. Respondents' opinions did not differ significantly when assessing stereotypes about the mood, physical fragility and wisdom of the elderly.

From the graphic comparison (Graph 1) of the ratings by groups, we can see that there were some similarities in terms of generations, namely the opinions of the both age groups of adolescents were fairly similar, and on the other hand, the opinions of the both age groups of the elderly. In between were the opinions of adults. An additional detailed analysis average grades of stereotypical statements about elderly by age groups showed that there were the biggest differences between generations regarding the perception of traditionalism of older people ( $p=0.002$ ), regarding the opinion of older people's attitude to technology ( $p<0.001$ ) and regarding the sociability of older people ( $p<0.001$ ). The opinion about traditionalism was most negative among adolescents, and then it declined with the age of individuals. Regarding the attitude towards technology, we perceive the most negative opinion among younger adolescents (15-17 years old) and adults (20-64 years old), while the opinion of older adolescents (18-19 years old) and those aged 65+ years was more positive. Regarding the assessment of the sociability of the elderly, the positive opinions of both groups of adolescents stood out the most, and there is a gradual trend of decreasing positive opinion up to and including the oldest respondents.

**Table 5:** Comparison of average grades of groups of content stereotypes about elderly according to the generations of adolescents, adults and the elderly.

Groups of content stereotypes about elderly		n	Minimum	Maximum	Average	Standard deviation	Kruskal-Wallis test Chi-square (p value)
Mood	Younger adolescent (15-17 years)	109	4	12	7,30	1,93	8,997 (0,061)
	Older adolescent (18-19 years)	79	4	12	7,57	2,26	
	Adult (20 – 64 years)	46	4	12	6,74	2,22	
	Younger elderly (65 – 74 years)	101	4	11	6,68	1,83	
	Older elderly (75 years and over)	34	4	12	7,09	1,85	
Traditionalism*	Younger adolescent (15-17 years)	109	11	33	<b>22,42</b>	4,78	16,767 (0,002)
	Older adolescent (18-19 years)	79	11	33	<b>22,91</b>	5,10	
	Adult (20 – 64 years)	46	13	32	21,67	4,95	
	Younger elderly (65 – 74 years)	96	11	31	20,72	4,27	
	Older elderly (75years and over)	32	12	26	20,00	3,57	
Frailty	Younger adolescent (15-17 years)	109	3	9	6,88	1,60	7,937 (0,094)
	Older adolescent (18-19 years)	79	3	9	7,11	1,48	
	Adult (20 – 64 years)	45	3	9	6,63	1,73	
	Younger elderly (65 – 74 years)	103	3	9	6,43	1,57	
	Older elderly (75years and over)	34	3	9	6,65	1,97	
Attitude towards technology*	Younger adolescent (15-17 years)	109	4	12	<b>8,78</b>	2,10	29,773 (<0,001)
	Older adolescent (18-19 years)	79	4	12	<b>8,14</b>	2,02	
	Adult (20 – 64 years)	45	6	12	7,87	2,15	
	Younger elderly (65 – 74 years)	103	5	12	7,24	2,25	
	Older elderly (75years and over)	35	5	12	7,11	2,35	
Wisdom	Younger adolescent (15-17 years)	109	4	9	8,24	1,24	7,100 (0,131)
	Older adolescent (18-19 years)	79	3	9	7,97	1,48	
	Adult (20 – 64 years)	46	3	9	8,26	1,37	
	Younger elderly (65 – 74 years)	102	3	9	7,76	1,69	
	Older elderly (75years and over)	35	3	9	7,94	1,58	
Sociability*	Younger adolescent (15-17 years)	109	7	18	<b>15,17</b>	2,28	26,662 (<0,001)
	Older adolescent (18-19 years)	79	6	18	<b>14,96</b>	2,63	
	Adult (20 – 64 years)	47	6	18	13,98	2,53	
	Younger elderly (65 – 74 years)	102	7	18	13,75	2,60	
	Older elderly (75years and over)	33	8	18	13,54	2,32	

**Table 6:** Classification results based on a linear classification function.

			Announced group affiliation*			Total
			Adolescents (15 - 19 years)	Adults (20 - 64 years)	65+ years	
Actual group membership	Number	Adolescents (15 - 19 years)	158	0	30	188
		Adults (20 - 64 years)	35	0	12	47
		65+ years	69	1	69	139
	%	Adolescents (15 - 19 years)	84,0	0,0	16,0	100,0
		Adults (20 - 64 years)	74,5	0,0	25,5	100,0
		65+ years	49,6	0,7	49,6	100,0

\*60.7% of units are correctly classified.

In the continuation of statistical processing, we used discriminant analysis to find the dimension of the data that best explains the differences between the groups. It can be seen from table 6 that only a total of 60% of all age units are correctly classified, of which 84.0% are adolescents, 0.0% are adults and 49.6% are elderly. So the results are acceptable for the groups of adolescents and elderly, and not for the adults, which was otherwise the smallest group in our sample.

The conclusion of this first step of the analysis is that the biggest

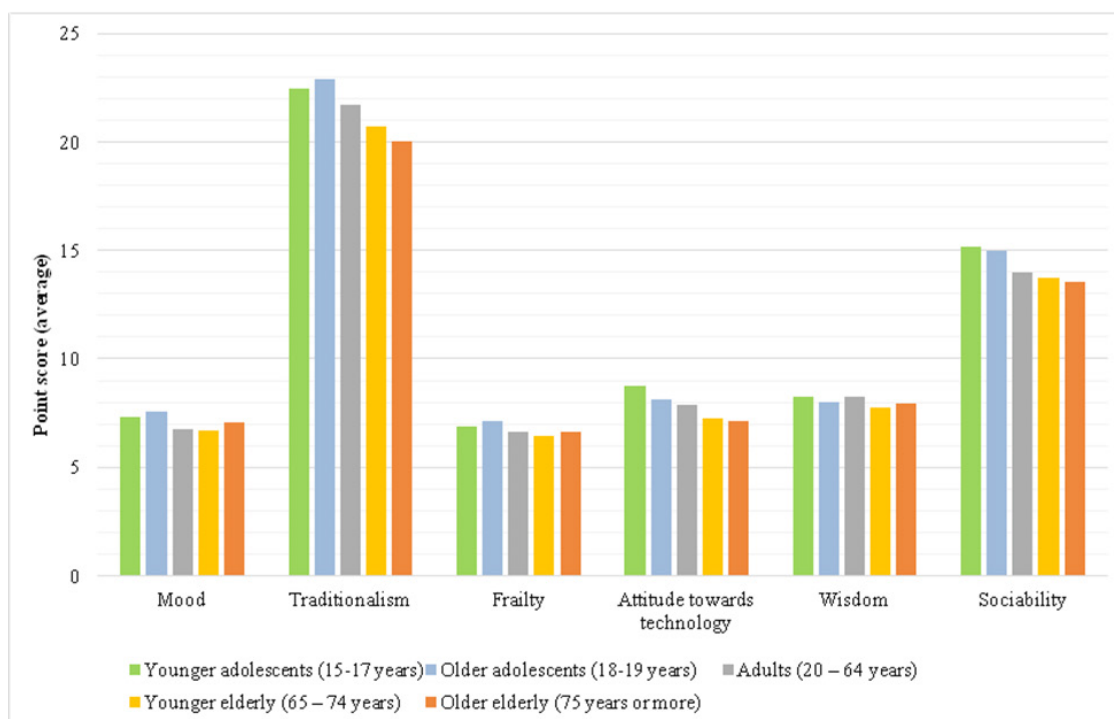
difference between age groups was created by the opinion about the sociability of older people and by the idea of adolescents about their dismissive attitude towards technology and excessive traditional attitude, for the difference between generations the opinion about the wisdom of the elderly and their mood was less important or rather it didn't create much difference.

Since the greatest difference was always evident between the groups of adolescents (15-19 years) and the elderly (65 + years), we repeated the discriminant analysis with these two groups at the



**Table 7:** Test of the equality of mean values between the groups of adolescents (15-19 years) and the elderly (65 + years).

Content groups of stereotypes about elderly	Stereotypical statements about the elderly	Wilks' Lambda	F	df1	df2	Sig.
Mood	They are irritable.	0,920	26,856	1,000	309,000	0,000
	They keep complaining.	0,973	8,580	1,000	309,000	0,004
Traditionalism	They cannot accept change.	0,987	4,105	1,000	309,000	0,044
	They don't thing big.	0,974	8,159	1,000	309,000	0,005
	They don't understand young people.	0,893	37,033	1,000	309,000	0,000
	They interfere in the lives of young people.	0,976	7,485	1,000	309,000	0,007
	They like to criticize.	0,990	3,180	1,000	309,000	0,076
	They aren't interested in the entertainment and cultural life of young people.	0,986	4,236	1,000	309,000	0,040
	They don't trust young people.	0,989	3,515	1,000	309,000	0,062
	They are too connected to the past.	0,991	2,909	1,000	309,000	0,089
	They understand modern life.	0,950	16,394	1,000	309,000	0,000
	They get damaged quickly.	0,945	18,006	1,000	309,000	0,000
Frailty	They are averse to digital media.	0,966	11,021	1,000	309,000	0,001
Attitude towards technology	They refuse to use digital media.	0,958	13,659	1,000	309,000	0,000
	They disapprove of use of digital media by young people.	0,977	7,366	1,000	309,000	0,007
	They use digital media and social networks.	0,901	34,021	1,000	309,000	0,000
Wisdom	Young people can learn a lot from the elders.	0,972	8,961	1,000	309,000	0,003
	They pass on basis life values to young people.	0,981	5,964	1,000	309,000	0,015
Sociability	They are cute and funny.	0,897	35,541	1,000	309,000	0,000
	They are understanding.	0,979	6,593	1,000	309,000	0,011
	They are generous.	0,889	38,414	1,000	309,000	0,000
	They are cute.	0,918	27,695	1,000	309,000	0,000
	They are empathetic.	0,977	7,248	1,000	309,000	0,007



**Graph 1:** Comparison of average ratings of stereotypes about elderly by generation of adolescents, adults and the elderly.



level of indicators. We included statements where we detected statistically significant differences between groups, and since this time there were only two groups in the analysis, i.e. adolescents and the elderly, without adults, the result of the discriminant analysis was only one function. In this way, we were able to identify in more detail the areas of stereotypes that are most important for distinguishing between these two groups in creating prejudices about the elderly. First, we looked at which areas of stereotypes the difference between the groups are statistically significant or in other words, how statistically significant these factors are in distinguishing between different age groups of respondents. If we considered the characteristic level at  $p \leq 0.05$ , almost all stereotypes that we included in the analysis turned out to be statistically significant in distinguishing between groups, with the exception of the statements "They like to criticize" and "They are too connected to the past" (table 7).

The adolescents achieved higher average scores for all the statements studied, while the lowest average scores were recorded for the elderly, which suggests that their opinions are less pronounced respectively prejudices are not expressed to such a large extent. This applies to both negative and positive stereotypes. Because we reduced the number of groups to two (adolescents and elderly), as a result of the discriminant analysis we got only one discriminant function, which explains 100% of the differences between the groups (% of variance). The resulting function had an appropriate eigenvalue of 0.581 and the appropriate canonical correlation coefficient of 0.606.

On the basis of Wilks' Lambda (0.633), chi-square (136.228) and degree of characteristic, we therefore concluded that the discriminant function enables good and statistically significant differentiation between groups at a low level of risk ( $p < 0.001$ ) (table 8). The variables that we entered into the analysis therefore affect the distinction between adolescents and the elderly.

**Table 8:** Wilks Lambda.

Test of Function(s)	Wilks' Lambda	Chi-square	df	Sig.
1	0,633	136,228	23	0,000

From the structural matrix (table 9), we understood which variables are most important in forming the discriminant function. In our case, these were "generosity of the elderly", "misunderstanding of young people", "likeability and funnyness", "reluctance to use digital media and social networks", "kindness", "irritability", "proneness to injuries" and "absence of understanding of modern life". As we have already established, it is a mix of positive and negative stereotypes, the most prominent opinions have emerged about the sociability of the elderly and ideas that the elderly refuse to use modern technologies, fluctuate in mood, are prone to injuries and have less decency to understand the modern world or their traditionalism stands out. Once again, it appears that the wisdom of the elders is less prominent.

**Table 9:** Structural matrix.

	Function
	1
They are generous.	0,463
They don't understand young people.	0,454
They are cute and funny.	0,445
They refuse to use digital media social networks.	0,435
They are kind.	0,393
They are irritable.	0,387
They get damaged quickly.	0,317
They don't understand modern life.	0,302
They refuse to using digital media.	0,276
They are averse to digital media.	0,248
Young people can learn a lot from the elderly.	0,223
They keep complaining.	0,219
They don't think big.	0,213
They interfere in the lives of young people.	0,204
They disapprove of the use of digital media.	0,203
They are empathetic.	0,201
They are understanding.	0,192
They pass on basic life values to young people.	0,182
They are not interested in the entertainment and cultural life of young people.	0,154
They cannot accept change.	0,151
They don't trust young people.	0,140
They like to criticize.	0,133
They are too connected to the past.	0,127

The value of the centroids showed a significant absolute difference between the position of the adolescents (0.614) and the elderly (-0.939) within the generated discriminant function .As we have already mentioned, the position of adolescents was more pronounced in terms of their opinions, because they expressed above-average agreement with both negative and positive stereotypes, while the position of the elderly was below average.

Finally, the table 10 shows the results of classifying the units into individual groups. From the table, we can see that a total of 78.0% of all units are correctly classified, of which 86.2% are adolescents and 66.9% are elderly.

**Table 10:** Classification results based on a linear classification function.

			Announced group affiliation *		Total number
			Adolescents (15 - 19 years)	Elderly (65+ years)	
Actual group membership	Number	Adolescents (15 - 19 years)	162	26	188
		Elderly (65+ years)	46	93	139
	%	Adolescents (15 - 19 years)	86,2	13,8	100,0
		Elderly (65+ years)	33,1	66,9	100,0

\*78.0% of units are correctly classified.

## Discussion

This article presents the findings of the Slovene pilot study about

the knowledge of ageism and attitudes towards age stereotypes on a sample of people of different ages, from adolescence to older age. In general we can say that awareness of ageism increases with age, beliefs that reflect negative stereotypes about aging are most widespread among adolescents, and the old elderly are the least likely to agree with negative age stereotypes. When setting up hypotheses, we relied to a greater extent on the findings of European and American authors [4,6,8-11,21-24]. It was hypothesized that (1) the concept of ageism is more familiar among adults and the elderly than among adolescents; and that (2) positive and negative attitudes towards age stereotypes are intertwined from adolescence onwards.

The present research covered respondents from 15 to 90 years old, therefore, before presenting the findings of the research, we state the basic characteristics of the generations that participated in the present study [37,38]. The adolescents belonged to the Z generation, i.e., they were between 15 and 19 years old at the time of the investigation, the adults belonged to the babyboomers and generations X and Y, i.e., they were between 20 and 64 years old at the time of the investigation, while elderly belonged traditional generation and babyboomers, they were between 65 and 90 years old at the time of the investigation [39-43]. The traditional generation are people who were born between 1900 and 1943; i.e., they value tradition, work, order and rules, they have acquired vast knowledge and extensive experience and are retired now. Babyboomers are people born between 1944 and 1960; their priority is education and career; they are workaholics and like short-term planning. People born between 1961 and 1980 belong to Generation X – they are technically-minded, flexible and adapt to change easily. Generation Y were born between 1981 and 1994 – they grew up with the Internet and other information technologies; they are highly educated and have a lot of knowledge. Members of generation Z were born between 1995 and 2012; they are excellent at information technology, but have weak communication skills and poor concentration; they are spending more time on electronic devices and less time on social contacts [38-40]. This means that compared to the elderly, both adolescents and adults as mostly digital generations adapt and use new digital devices and software more easily [39-42].

### Knowledge of ageism

The first hypothesis that the concept of ageism is more familiar among adults and the elderly than among adolescents, was confirmed. The importance of ageism is still underestimated, although there are occasional studies of ageism occurring at both the structural level (in which societal institutions reinforce systematic bias against older persons) and individual level (in which the elderly take on a negative view of aging and the elderly specific to their culture) [8,9,19]. In accordance with the findings of various studies, the participants of our research also reflected a lack of knowledge of ageism, as only slightly more than half of adults and the elderly (57.9%) and just under a fifth of adolescents (18.6 %) were familiar with ageism. Additionally, it also turned out that although almost half of the adolescent respondents learned

about ageism during school lessons, through the media and from their parents and grandparents, only those adolescents with an older relative knew the ageism. Our findings are thus partially consistent with the findings of Lahe and Goriup that only one-fifth of Slovenian secondary school students aged 15 to 19 years has good knowledge of aging [11]. Consequently, the authors (ibid.) stressed the importance of including gerontological content in all levels of education. In present study, 43.6 % of adolescent respondents wanted to obtain information about ageism and the process of aging from the mass media, that's why high school students could watch shows suitable for them and discuss them with a mentor educated on ageism. In this way, educational institutions could make greater use of the options supported by Wangler and Jansky that a moderately positive portrayal of aging and the elderly is an appropriate presentation in mass media [14]. Because ageism will not disappear on its own, it is important that all generations, especially adolescents, recognize it [44-49]. In the present research the adolescents belonged to Generation Z whose members have proverbially insufficient social contacts [8,32]. Negative attitudes towards the elderly could be improved by the activities mentioned by Meschel and McGlynn that younger adolescents had more positive attitudes towards elderly after participating in positively-focused intergenerational educational activities, which included one-hour meetings for six weeks that focused on sharing stories, school experiences, hobbies, and music, participating in painting activities, and planning a talent show to be preformed the six weeks [32].

In the present study, 57.9 % of adults and elderly respondents knew the term ageism. On socio-demographic comparisons, the percentage of those who have already seen ageistic attitude towards the elderly was higher among women, and among the most highly educated adults and elderly. More worrying is the fact that 50% of the adults and elderly experienced ageism from children, adolescents and young people. This is consistent with the findings of European authors that ageism appears already in three-year-old children [22,24]. Therefore, it is really appropriate to implement teaching about aging and the prevention of ageism in school programs as early as possible, as suggested by Goriup and Lahe [11]. Further, Marques et al. identified a total of 14 determinants as robustly associated with ageism. Of these, 13 have an effect on other-directed ageism, and one on self-directed ageism [44]. The quality of contact with older people and the positive or negative presentation of older people to others emerged as the most robust determinants of other-directed ageism; self-directed ageism is mostly determined by older adults' health status [44,49]. Our research grouped the participants by age and not by a wider age-limited generational affiliation, so that we could get accurate data whether the participants belonged to the adolescent, adult or elderly group. Nevertheless, we were able to evaluate the data also in agreement with the finding of Weiss and Zhang which is based on the knowledge that older generations are perceived consistently more positive, whereas older age groups were perceived as less positive [50]. That's how we perceived that only one adult respondent perceived ageism in medical institutions, which is still not negligible. Lešnik and

Tomažič also confirmed the existence of ageism in Slovenian clinical settings [51]. Consequently the authors (ibid.) propose to implement basic methods of communication with the elderly in education programs of all healthcare programs. Also Dahlke et al. state that in Canada, ageism extends through many organizations and institutions, including healthcare [52]. Work with the elderly often contains ageist elements, which are not sufficiently addressed in nursing education programs despite the standardized anti-ageist educational content of gerontological nursing. (ibid.). To properly raise awareness about aging in Canada, a test study with three innovative e-learning modules (gamification, videos and simulations) was conducted among nursing students. The aim was to provide accurate general information about the elderly and ageism, and as a result, eliminate negative stereotypes about the elderly [53]. Devkota et al. published that e-learning modules significantly improved knowledge and reduce ageist attitudes among nursing students, and may assist students in acquiring fundamental gerontological knowledge [53].

In our research, as many as 14.5% of adults and older participants experienced ageism as self ageism, which is in line with Bodner's observation that the reasons for ageism among older and younger adults vary [54]. He concluded that in the case of the elderly, this is a negative own ageistic view of themselves, and in the case of the younger, it is their unconscious defense strategy against the fear of death [54]. Authors also recommend improving self-worth in the elderly by encouraging social contacts in which the elderly enrich younger people and prepare middle-aged adults for a healthy life even in old age [1,54]. Since most of the participants in our research, especially adolescents, did not know ageism, we support the suggestions of Witman et al. in order to enable better social integration of older adults in their neighborhoods and to develop additional quality intergenerational programs to reduce ageism [55]. When introducing adolescents to the basics of ageism, we must not forget that they quickly lose concentration, so the lectures should be short and concise with a lot of contact with the elderly [42].

The attitude towards age stereotypes from adolescence to the elderly

Research on stereotypes regarding older persons have revealed the existence of multiple positive and negative stereotypes [32,56]. The attitude towards the elderly is often based on stereotypes about age, and negative age stereotypes can have detrimental effects on individuals' self-perceptions as well as on their wellbeing, cognitive performance, physical functioning, health, and longevity [6,56].

In the present study, positive and negative attitudes towards age stereotypes intertwined from adolescence onwards, so we confirmed the second hypothesis. 18 out of 31 stereotypical statements about the elderly were negative (e.g. they don't understand young people, they like to criticize, they keep complaining, they like to criticize) and the other 13 were neutral or positive (e.g. they are generous, empathetic, understanding). Generally, a positive attitude towards

positive stereotypes was expressed by 31 to 79% of respondents (adolescents, adults and elderly), mostly adolescents, while 9 to 46.8% agreed with negative stereotypes, again mostly adolescents. Our findings are consistent with the findings that cultural age stereotypes (more friendly than competent) are widespread in most European countries [30]. Results of the present study are consistent also with Hummert that younger adults do not view negative age stereotypes as more typical of the elderly than positive ones; however, they believe the negative stereotypes are more characteristic of the old-elderly (75 years and older) [56].

In the present study we detected a generally positive attitude towards age stereotypes that refer to the wisdom and sociability of the elderly. The positive attitude towards the wisdom of the elderly was statistically insignificantly accentuated in adult respondents. According to Ramovš, the concept of age-related wisdom directs attention to the connection between a person's age and wisdom, especially to the expectation, that the old people are or should be at the foundation of life experiences wise, or it contains the comparative assumption that they are older people wiser than younger [45]. The fact that the majority of respondents considered the stereotypical wisdom of the elderly to be realistic is probably due to the fact that the younger generations are constantly learning from them. There is probably an additional reason that wisdom also lives in inseparable partnership with love and goodness; a wise man develops into a good man, who lives in love for everyone and everything [45].

Stereotypes about the sociability of the elderly were also evaluated positively by the participants, especially adolescents. A more detailed analysis showed an above-average positive perception of both groups of adolescents that the elders are compassionate, generous and warm which is consistent with the findings of Italian and Spanish authors about the warmth of the elderly and at the same time their incompetence [23,30]. The attitude towards sociability was most positive among younger adolescents, aged 15 to 17 who were used to listening to the life stories of their grandparents, who in our survey represented the majority (96.6%) of adolescents' older relatives [22]. A positive attitude towards the sociability of the elderly is most likely the result of the adolescent's positive attitude towards grandparents due to spending quality time with them, which is also confirmed by the findings of Marchetti et al. and Flamion et al. [22,23].

In the study it turned out that the agreement with negative age stereotypes was most pronounced in adolescence, then declined over the years. The results of present research showed that negative colored stereotypes about the elderly's mood, traditionalism, frailty and attitude towards technology are supported to the greatest extent by adolescents, to a lesser extent by adults and to the smallest extent by the elderly. This findings are consistent with the findings of Tihle that adults have the most positive attitude towards the old people, while the young people have the most negative attitude towards them [37]. The author (ibid.) believes that this is also supported by the fact that the adults have more frequent and diverse contacts with old people, which enable them to realize that



the age group of the elderly is very heterogeneous. Our results are consistent with findings of Hummert that young adults do not view negative stereotypes as more typical of the elderly than positive ones; however, they believe the negative stereotypes are more characteristic of the old-old than are the positive and see positive stereotypes as more typical of young adults than negative ones [56].

In the present study, according to the mood of the elders, it turned out that younger and older adolescents agreed to the greatest extent that elderly people are irritable. Older elderly (75 years and older) and adults were the most opposed to this stereotype, which is only partially consistent with Hummert's suggestion (1990), that negative stereotypes are more characteristic of the old-elderly than are the positive [56].

In the evaluations of statements related to the traditionalism of the elderly, we detected quite a few statistically significant differences by individual age groups. Adolescents and adults, have expressed their agreement with the stereotype that the elderly do not think broadly, while among younger and older elders there is an above-average proportion of those who expressed their disagreement with this statement. When it came to the statement that the elderly do not understand the young, the distribution of assessments was very similar, except that the differences between the groups of adolescents and the elderly were even more pronounced. The response of our respondents to the stereotyped statements about the traditionalism of the elderly were in line with other authors [24,32]. It is interesting that in the groups of younger and older elderly, only a good fifth of the respondents confirmed that they understand modern life.

Two statistically significant differences were observed regarding frailty per generation of respondents. Namely, younger adolescents, adults and older elderly rated above average that the elderly have a hard time remembering, which is only partly consistent with Irak's suggestion (2022) [29], while in both groups of adolescents above average they agreed with the statement that the elderly get injured quickly, which is consistent with the findings of other authors [17,18]. Also regarding the statement that the elderly do not approve of the use of digital media, younger adolescents stood out the most, while the proportion of respondents who disagreed with this was highest in the group of older elderly, which was only partly consistent with the findings of other authors [24,56].

Kranz et al. explored the effects of an intergenerational encounter program on cross-generational age stereotyping based on a biographical-narrative approach, where adolescents and older participants (secondary school students and nursing home residents) shared ideas about existential questions of life (e.g., about one's core experiences, future plans, and personal values). Two program benefits, the feeling of comfort with and the experience of learning from the other generation [47]. It is crucial for elderly to know their strengths and limitations - to use metacognitive thinking [48]. As increasingly more people experience old age as a time of growth and productivity, theoretical attention to successful ageing is needed [40]. However, such a strategy must not be

based on the fact that the attitude towards the elderly is often based on stereotypes about age, as the majority of society does not challenge them, but instead allows them to be strengthened by prejudice against the elderly [47]. Nevertheless, some activities can restore respect for the elderly by weakening ageism, such as quality intergenerational contact and the responsible transmission of realistic information about aging, which would encourage the transformation of negative stereotypes into positive ones already among adolescents. Therefore, effective non-formal education of adolescents about aging should be based on knowledge of chronological and functional aging with the active participation of wise, experienced and emotionally warm older people. In this way, the participants could highlight their own specific cases and situations and obtain appropriate support in solving such situations in the future. In Slovenia, according to the findings of Zupančič et al. are erroneous beliefs that reflect negative stereotypes about aging and older people are quite widespread, especially in the field of cognitive, or more broadly, psychosocial functioning of the elderly [46]. Based on this, the authors believe that both formal and informal education is important for acquiring knowledge about age stereotypes, even among adults (ibid.).

Our results are consistent with findings of Hummert that young adults do not view negative stereotypes as more typical of the elderly than positive ones [56]. Nevertheless, in the future, it would be good to involve adolescents to a greater extent in researching ageism and age stereotypes. Namely, the aging of the population is a fact that requires the creation of possibilities and opportunities for quality life for all generations and for dignified aging without the presence of ageism. To achieve this, adaptations are needed in a number of areas, including non-formal education about ageing, the elderly and ageist stereotypes [57,58].

In the following, certain shortcomings of the research and suggestions for improvement are also listed. As the first drawback, we would mention a sample that could contain a larger number of participants and be more representative in certain areas (e.g. in the area of a joint household of elderly people and adolescents). Another limitation concerns the clustering among the older respondents themselves. Namely, 104 younger seniors and only 35 seniors aged 75 and over participated in our research. According to the latest Eurostat data - they refer to the year 2021 - life expectancy in Slovenia is slightly higher than the average of the 27 EU countries: for Slovenian men it is 77.7 (77.2 years in the EU27), and for Slovenian women 83.8 years (82, 9 years in the EU27) [59]. Based on these data, that life expectancy is also steadily increasing in Slovenia, more old elderly people could participate in the survey study. But they should probably be provided with a younger digitally trained assistant who would participate in the technical entry of their answers into the computer. At the same time, such intergenerational cooperation would strengthen the social connection between older and other generations and transform negative age stereotypes into positive ones. This could also be a very effective form of intergenerational cooperation and can be the basis for further research with a larger and more diverse sample, which would contribute to the transformation of negative



age stereotypes into positive ones. We could also explore other components of ageism in the future. Here, we are mainly referring to the attitude of older elderly towards negative age stereotypes.

## Conclusions

Based on the findings of the present research, we can conclude that there is a lack of knowledge of ageism and an incorrect attitude towards age stereotypes. Additionally, we can conclude that the concept of ageism is more familiar among adults and the elderly than among adolescents, and that negative and positive attitudes towards age stereotypes are intertwined from adolescence onwards. Compared to adults and the elderly, adolescents showed an even greater preference for negative age stereotypes, which could lead to ageism even in young people, which is consistent with findings that ageism is probably adopted already in childhood or immediately after it [21,22,24]. Therefore, it is necessary to direct efforts to change negative age stereotypes into positive ones in as early as possible also in non-formal education for people of different ages, which should attract as many adolescents as possible. Suitable locations for such intergenerational education could be e.g. local intergenerational centers, youth centers, universities for the third life period and similar facilities. The program provider should clearly present theoretical knowledge about chronological and functional aging, guide the participants through the informal learning process and shares examples from practice. The program should be upgraded with the active participation of wise, experienced and emotionally warm older people who can be e.g. members of the regional pensioners' association or university for the third life period.

In this way, the participants could highlight their own specific cases and situations and obtain appropriate support in solving such situations in the future. In such a program, the participant could be a mentor and mentee and help establish an appropriate environment for future intergenerational cooperation. Meetings should be short, because current adolescents as majority members of the generation Z cannot concentrate for a long time and are not good at social contacts. In this way, young people will become better acquainted with the process of aging, they will worry less about their own aging and they will be critical of stereotypes that reinforce ageism. With such intergenerational cooperation, adolescents will also acquire skills in social communication, and active aging strategy would come to life in even greater measure [1].

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