

# Measuring Ageism Based on Knowledge, Attitudes and Behavior: Findings from an Israeli Pilot Study

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**Abstract** The purpose of this article is to present the challenges and findings of a preliminary attempt to create a national “measurement” tool for ageism. We conducted on a random sample of 92 participants and used three ways of measuring ageism. This was the first time that the components of knowledge, attitudes and behaviour were combined within the framework of a single national-based survey. Respondents demonstrated a “fair” level of knowledge with regard to ageing and older adults; some level of implicit ageist attitudes; and some negative ageist expressions; however, the respondents rejected blatant ageist comments. This exploratory survey represents a first step in learning about the phenomenon on a national scale and in the Israeli context. This study can act as a basis for continued research and study of the concept of ageism on national scales both in Israel and in other countries.

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## Introduction

Since the end of the nineteen sixties, when the expression “Ageism” was first coined by Butler, this social phenomenon has witnessed significant conceptual and empirical research developments. On the one hand, theoretical developments expanded the understanding of the phenomenon, and more attempts have been made to empirically measure and quantify the occurrence of ageism in social settings and social institutions.

Until recently, there was little awareness in Israel to the social phenomenon of ageism, both to its theoretical and practical dimensions. Studies that were conducted in Israel during the late 1980s and early 1990s, focused mostly on the attitudes of students and professionals towards older persons (e.g. Carmel et al. 1990; Carmel et al. 1992; Eaglestein and Weinsberg 1986). These studies were usually limited to specific professional groups or students. During 2008 an Israeli research group was established, whose goal was to increase knowledge, research and awareness in this field and to examine ageism within the broad and unique Israeli cultural context. Within this framework, it was decided to explore the possibility of measuring the phenomenon of ageism in Israel on a national scale. The purpose of this article is to present the challenges and findings of a preliminary national survey carried out in Israel, and to describe the instruments adopted pointing out to their strengths and limits. We also discuss our lessons to assist researches in other countries who may wish to nationally measure ageism.

## Literature Review

Reviewing the existing literature on ageism, reveals that two distinct, yet related, questions are commonly discussed. The first is a question of definition: what is ageism? The second is a question of operationalization and measurement: how can ageism be empirically measured? From a definitional perspective, ageism is commonly defined as an aged-based discrimination, similar to discrimination on the ground of sex (sexism), or ethnicity (racism) (Butler 1969; Palmore 2001a, b). However, reviewing the literature reveals that over the years, various attempts have been made to introduce different and more complex definitions to the term (Bytheway 1995). Issues surrounding questions such as: is ageism only “negative” in its nature or also “positive”? Does ageism affect only older persons or also younger persons? On what societal levels does ageism appear? These questions and more are still debated as ageism is still in the process of establishing a well-founded conceptualization (e.g. Bugental and Hehman 2007; Iversen et al. 2009; Levy 2001).

The way one measures ageism is naturally linked to the question of conceptualization and definition: does this phenomenon really exist in reality? and if so, to what extent? (e.g. McGuire et al. 2008; Palmore 2001a, b). From a scientific perspective, the importance of these questions was quite clear as one cannot describe, understand, explain or shape social policies without being able to “measure” what is being examined. Moreover,

the ability both to compare different groups or societies and to measure changes over time is impossible without a measurement tool. Hence, it was not surprising that the theoretical conceptualization of ageism was accompanied right from its inception by attempts to measure it, and to empirically estimate its various dimensions, using a variety of instruments. A survey of the literature reveals that these instruments may be broadly divided into those which measure one of three general dimensions of the phenomenon; knowledge, attitudes and behaviour.

### **Measuring Knowledge**

One of the dimensions examined is the breadth of knowledge people possess vis-à-vis the aged population. Key social psychology theories concerning the development of attitudes have suggested that lack of knowledge concerning a social group could lead to negative attitudes toward that group (Allport 1954; Weber and Crocker 1983), as well as ascribing specific unwarranted characteristics and features to its members (stereotypes).

The knowledge factor concerning older persons has been examined almost exclusively using Palmore's knowledge tests known as "The Palmore Facts on Aging Quiz" (Palmore 1977, 1981). These tests date back to the 1970s, and were initially intended to show students that their knowledge of, and approaches to older persons, were mostly erroneous and biased. The tool originally contained 25 items (both correct and incorrect) regarding old people (Palmore 1977). This tool was later further developed in order to neutralize the influence of familiarity with the tool (Palmore 1981).

### **Measuring the Attitude Factor**

#### *Explicit Attitudes Measures*

The first questionnaires to identify attitudes toward older adults were developed in the fifties. Tuckman and Lorge examined explicit attitudes using 137 statements, which could be divided into 13 categories, such as the best time of life, personal qualities, and so on (Tuckman and Lorge 1953: "Old People Questionnaire"). Gold and Kogan (Golde and Kogan 1959) developed an index of 20 open questions asking the respondents to complete sentences about old age and about people in general. Another common measurement is the "Aging Semantic Differential" developed at the end of the sixties of the twentieth century (Rosencranz and McNevin 1969). Finally, a well known index developed in the nineties which is among the most common measures used today is the Fraboni Scale of Ageism (Fraboni et al. 1990). This index allows a multi-faceted measurement of attitudes towards the elderly, because it examines attitudes not as a single feature, but as a combination of the following elements: disregard, avoidance and discrimination.

#### *Implicit Attitudes Measures*

One of the shortcomings of the tools used to measure explicit attitudes is that of social desirability (the reluctance of respondents to express negative attitudes towards older people). Therefore, an indirect appraisal of ageist attitudes was developed at a later

stage in order to address the existing deficits associated with measuring them directly. Implicit or latent indices often involve the “priming paradigm”, with the respondent first being exposed to a stimulus which presents the group under discussion (presented subliminally) and then responding to various characteristics or attributes (Perdue and Gurtman 1990). Another manner of implicit measurement of ageism is carried out by giving descriptions of similar case vignettes apart from age (young as opposed to old). Participants are asked to respond to various questions about the case vignette. Different responses to the case vignettes demonstrate differing attitudes depending on age (Uncapher and Areán 2000). Finally, another implicit instrument was developed by Carmel et al. (1992), by comparing the number of spontaneous answers to two open-ended questions: “what is pleasant and what is unpleasant for you about young people and about old people”. However, there is no well known or established measurement in this field with broad usage experience.

### **“De Facto” Ageism: Measuring Expressions of Ageist Behaviour**

In 2001, Palmore presented a comprehensive tool for measuring expressions of ageism – “The Ageism Survey” (Palmore 2001a, b). Until this tool was developed, expressions of ageism were examined in specific fields such as in health care and discrimination in the area of employment, (e.g. Snape and Redman 2003; Gringart and Helmes 2001). Over the years Palmore’s tool was criticized for not fully capturing the ageist behaviors and a new tool was developed for measuring ageist behaviours, known as ROPE – “Relating to Older People Evaluation” (Cherry and Palmore 2008). A study which examined the psychometric characteristics of the tool (Cherry and Palmore 2008) found an acceptable test-retest and internal reliability.

## **Measuring Ageism in Israel – an Exploratory Study**

### **Israel as a Case Study**

Israel is an interesting and appropriate experimental ground for nationally attempting to measure ageism for several reasons. Firstly, Israel is an evolving multi-cultural society which includes a Jewish majority alongside a significant non-Jewish minority (e.g. Muslims, Christians and Druze). The Jewish majority itself is culturally pluralistic as it includes a unique mixture of orthodox, secular, new immigrants (e.g. Russians, Ethiopians), and Jews from very different cultural backgrounds (e.g. Ashkenazi /European Jews and Sephardi/Arab countries Jews) (Lowenstein and Doron 2008). Secondly, Israel has experienced a relatively rapid social-aging process: while in 1948 (the year of its establishment) Israeli society was very young with an almost invisible old population (less than 3 % of its population was above the age of 65), in 2014 11 % of its population is defined as “old”, and this figure is expected to rise to 14 % in less than 20 years (Brodsky et al. 2014). Finally, from a cultural perspective, Israel, both as a Jewish state and as a family-oriented Mediterranean welfare state, used to view itself as an honoring and respecting society for its older population. However, empirical findings in the field of elder abuse alongside rising political awareness of the older population have challenged the validity of this societal self image (Doron 2008;

Lowenstein et al. 2009). These complexities can potentially expose the difficulties and challenges in attempting to measure ageism on a national level.

The present study provides a basis for a preliminary evaluation of ageism in the Israeli society. The three acceptable ways of measuring ageism were combined within the framework of a single national-based survey.

## Research Tools

A unique feature of the research protocol was that it includes measurement of the three dimensions elaborated in the literature review to examine ageism on a national scale: (1) knowledge; (2) attitudes: both explicit and implicit; and (3) behaviour: both positive and negative expressions of ageism. In other words, unlike previous studies which attempted to measure ageism and used only one or even two research tools, or adopted different research tools but all in the same measurement domain, this study combined different research tools from three different measurement domains, (i.e. knowledge, attitudes – both implicit and explicit, and behavior), which together capture and measure the full scope of the phenomenon on a national scale.

To measure **knowledge**, we adopted Palmore's FAQ1 measurement tool. This choice was based on the fact that it is broadly used in research internationally (Pennington et al. 2001; Wang et al. 2010) and would facilitate the comparison of results with the findings of other studies. Twelve out of the twenty five questions were included. The main reason for not including all the questions from the original quiz was to avoid burdening responders. Questions were selected based on their face validity by two independent judges.

**Implicit attitudes** were measured using a tool developed by the research team based on existing tools aimed at examining implicit attitudes towards analogous phenomena, such as racism. The tool was examined by experts in the field, who addressed the question whether the tool measures what it is supposed to measure, using face validity. The participants were presented with one of two versions of a hypothetical scenario. The first version states: "Let us suppose that you discover that an apartment next to your home is for sale and it has been purchased by a 29 year-old couple with no children; the husband is an engineer in hi-tech and the wife is a high school teacher". The second version is the same, apart from the buyers' age: an older couple 76 year-old with no children; the husband is a retired hi-tech engineer and the wife is a retired high school teacher.

The sample was split randomly so that half responded to the first version (the apartment was purchased by the young couple), and the other half responded to the second version (the apartment purchased by the old couple). In both cases, the respondents were asked to answer five questions following the story (such as How much would you like to befriend with the new couple? and if you would go on vacation, how comfortable would you be to ask them to water your plants? In all five questions the interviewees were asked to answer on a scale from 1 ("not at all") to 10 ("very much").

**Explicit attitudes** were measured based on the Fraboni Scale of Ageism (FSA; Fraboni et al. 1990). 24 items were adopted from the original scale due to cultural compatibility. Items in this instrument examine attitudes in different levels such as prejudice (e.g. "Many old people just live in the past"), avoidance (e.g. "It is best that

old people live where they won't bother anyone"), and discrimination (e.g. "Old people should find friends their own age") on a 6-level Likert scale ranged from 1 ("not agree at all") to 6 ("totally agree").

**Ageist behaviours** were measured based on the Relating to Older People Evaluation (ROPE) (Cherry and Palmore 2008). This is a self-report tool that asks about types and frequency of ageist behaviours in daily life. The tool measures both negative and positive ageist behaviour and includes 20 items. It uses questions that examine the number and frequency of daily behaviors that may express ageist attitudes such as: telling old people jokes about old age; using simple words when talking to old people; or avoiding old people because of their age. In the present survey 17 items of the original ROPE were used. 3 items (such as: "Send birthday cards to old people that joke about their age") were dropped because they were less relevant to the Israeli context.

### Sample and Procedure

The pilot was carried out during September 2009. The sample included 94 individuals (52 % response rate). This response rate is reasonable in academic studies in general, and in phone surveys, specifically (Baruch 1999; Keeter et al. 2000). The sampling framework was the entire database of telephone customers in Israel. Using a probability sampling, respondents were randomly sampled by geographical area (proportional to the size of the town). Criteria for inclusion in the sampling were ages of 21 and older, Jewish, and Hebrew speakers. Collection of the data was carried out through telephone interviews conducted by the Statistical Consultation Unit of Haifa University (SCUHU), which has ample experience with telephone surveys. The interviewers were trained personnel of the SCUHU, and the interviews lasted between 20 and 30 min each. The interviewers did not report any significant or unique difficulties in conducting this survey. Nevertheless, this phone-based survey was inherently limited by its methodological format, i.e. inadequate sampling (e.g. households without telephone or ex-directory numbers) or lower quality of data collection compared with face-to-face interviewing.

### Socio-Demographic Characteristics of the Respondents

Respondents were divided almost equally by gender, the average age was 46 (SD 1.6) years; about 40 % were between 21 to 40 years old, a similar rate (36.5 %) were in the middle-aged group (from 41 to 60 years old), and 20 % were sixty or more. The average number of years of schooling was 15 (SD 0.5), indicating a relatively high level of education. The majority were born in Israel (64.9 %), while 10 % were born in the former Soviet Union and 8.5 % in Eastern Europe.

## Findings

### The Knowledge Factor

As seen in Table 1, two items in which the majority of people were mistaken (as highlighted on the chart) are item 5: "*At least one-tenth of the aged are living in long-*

**Table 1** Responses to the FAQ1 quiz

Item	Correct answers – Frequency (%)
1. The majority of old people (age 65+) are senile (have defective memory, or are disoriented or demented) (Incorrect)	67 (71.3 %)
2. The five senses (sight, hearing, taste, touch and smell) tend to decline in old age (Correct)	80 (85.1 %)
3. The majority of old people feel miserable most of the time (Incorrect)	64 (68.1 %)
4. Physical strength tends to decline in old age (Correct)	91 (96.8 %)
5. At least one-tenth of the aged are living in long-stay institutions such as nursing homes (Incorrect)	25 (26.6 %)
6. Over three-fourths of the aged are healthy enough to carry out their normal activities without help (Correct)	63 (67.0 %)
7. older workers usually cannot work as effectively as younger workers (Incorrect)	53 (56.4 %)
8. older people usually take longer to learn something new (Correct)	63 (67.0 %)
9. The majority of old people are unable to adapt to change (Incorrect)	18 (19.1 %)
10. Old people tend to react more slowly than younger people (Correct)	83 (88.7 %)
11. Depression is more frequent among the elderly than among younger people (Incorrect)	52 (55.3 %)
12. In general, old people tend to be pretty much alike (Incorrect)	68 (72.3 %)

*stay institutions such as nursing homes, and homes for the aged”* and item 9: *the majority of old people are unable to adapt to change”*. In addition, above 40 % of the respondents believed erroneously that older workers are less efficient than young ones (item 7) and that depression is more common among the elderly (item 11).

Table 2 shows the average score on the knowledge quiz, for the total sample and by age and gender. We used the T-Test for independent groups in order to identify differences according to gender and ANOVAs to identify differences according to age. The overall knowledge score was 7.73 out of a maximum of 12 points. As may be seen in Table 3, there were no significant differences based on age or gender.

**Table 2** Summary of correct answers to the FAQ1 quiz by age and gender

	M (SD)	p-value
The total sample	7.73 (1.6)	
Age		
The youngest age group (21–40)	7.75 (1.83)	N.S.
The middle age group (41–60)	7.47 (1.54)	
The elderly age group (60 and above)	8.10 (1.96)	
Gender		
Male	7.79 (1.97)	N.S.
Female	7.67 (1.50)	

**Table 3** Implicit attitudes towards older people: by age and gender

	Young couple M (SE)	Elderly couple M (SE)	P
<i>How much would you like to befriend the new couple?</i>	7.56	6.78	$P < .10$
Age			
The youngest age group (21–40)	7.63(.51)	5.76(.63)	N.S.
The middle age group (41–60)	7.31(.63)	7.80(.71)	N.S.
The elderly age group (60 and above)	8.00(1.00)	7.36(.74)	N.S.
Gender			
Male	8.05(.56)	7.24(.56)	N.S.
Female	7.19(.46)	6.26(.62)	N.S.
<i>Do you think they could become good neighbours?</i>	8.11	8.14	N.S.
Age			
The youngest age group (21–40)	7.63(.51)	5.76(.73)	.03
The middle age group (41–60)	7.31(.63)	7.80(.71)	N.S.
The elderly age group (60 and above)	8.00(1.00)	7.36(.34)	N.S.
Gender			
Male	8.73(.34)	8.09(.39)	N.S.
Female	7.65(.37)	8.20(.46)	N.S.
<i>What is the probability that you would borrow a work tool in the case that you would need one?</i>	6.47	6.51	$P < .10$
Age			
The youngest age group (21–40)	6.78(.57)	5.61(.68)	N.S.
The middle age group (41–60)	5.73(.72)	5.86(.94)	N.S.
The elderly age group (60 and above)	7.25(1.23)	4.66(1.29)	N.S.
Gender			
Male	7.00(.66)	6.34(.75)	N.S.
Female	6.03(.55)	4.63(.64)	N.S.
<i>If you would go on vacation, how comfortable would you be to ask them to water your plants?</i>	5.75	6.23	N.S.
Age			
The youngest age group (21–40)	5.61(.53)	4.70(.91)	N.S.
The middle age group (41–60)	5.94(.68)	7.00(.77)	N.S.
The elderly age group (60 and above)	4.83(1.74)	7.70(.84)	N.S.
Gender			
Male	5.60(.70)	6.43(.70)	N.S.
Female	5.87(.56)	5.94(.84)	N.S.
<i>How much do you foresee that you would suffer from the noise that your new neighbours would make?</i>	3.85	2.32	$P < .000$
Age			
The youngest age group (21–40)	4.34(.49)	2.40(.44)	$P < .01$
The middle age group (41–60)	3.78(.68)	2.53(.51)	N.S.
The elderly age group (60 and above)	3.62(.86)	2.27(.60)	N.S.
Gender			
Male	3.38(.60)	2.24(.36)	N.S.
Female	4.23(.49)	2.40(.44)	$p < .01$



## Implicit Attitudes

Table 3 shows analysis examining implicit attitudes. An analysis of the data was carried out using the T Test for independent groups, which examines whether mean difference between the two groups (the respondents addressing the younger couple and the respondents addressing the older couple) was statistically significant. When we examined the responses of the respondents, according to age and gender (Table 3), a number of differences emerged: the younger groups of respondents tended to report more than the older groups that the young couple would make better neighbours, but also that they would make more noise than the older couple.

## Explicit Attitudes

Findings concerning explicit attitudes toward older persons demonstrated a mixed trend. On the one hand, the respondents tended to agree with ageist attitudes, such as “*many old people are stingy and hoard their money and possessions*” ( $M = 4.1$ ). On the other hand, the respondents tended greatly to disagree with harsh or more personal comments, such as “*it is best that old people live where they won’t bother anyone*” ( $M = 1.8$ ). Along with this, the respondents tended for the most part, to agree with positive statements about old people, such as “*most old people are interesting, individualistic people*” ( $M = 4.1$ ), “*complex and interesting conversation can be expected from most old people*” ( $M = 5.0$ ) and “*old people deserve the same rights and freedoms as do other members of our society*” ( $M = 5.9$ ).

The internal reliability of the tool for measuring explicit attitudes in the pilot was acceptable ( $\alpha = .74$ ) and is similar to prior findings. In order to calculate a total score, we converted the response scale of the ten items which were phrased in a positive manner (questions 4,7,11,14,16,17,18,20,21,23). After inverting the items, the scale varied between 24 and 144, with a higher score representing negative ageist attitudes. The mean was 65.3 ( $CI = 62.8–67.8$ ). No gender or age differences were found with regard to the explicit attitudes (not shown). Factor analysis was performed to test the factorial structure of the scale. Consistent with the literature, a three-factor structure was found: “positive perception of aging”; negative perception of aging” and “contribution to the society”, with 37 % of the variance being explained by the three factors. The latter factor is consistent with previous research conducted in Israel (Bodner and Lazar 2008).

## Ageist Behaviour

To examine which ageist behaviours are the most prevalent, as opposed to those which are not, we carried out an item analysis. Table 4 presents the prevalence of the positive and negative ageist behaviours.

The findings demonstrated that respondents report more positive ageism than negative. This finding fits that of a recent study (Cherry and Palmore 2008). An examination of the differences among the three age groups (not shown) showed non-significant differences with regard to the frequency of positive ageist behaviours ( $F = 0.34$ ,  $p = N.S$ ). Nor were significant differences noted among these groups insofar as expressions of negative ageism ( $F = 0.69$ ,  $p = N.S$ ). An examination of the differences by

**Table 4** Expressions of positive and Negative ageist behaviour

Positive	Never	Sometimes	Usually
1. Compliment old people on how well they look, despite their age	10 (10.7 %)	37 (39.8 %)	46 (49.5 %)
2. Enjoy conversations with old people because of their age	8 (8.7 %)	37 (40.2 %)	47 (51.1 %)
3. Hold doors open for old people because of their age	3 (3.2 %)	25 (27.2 %)	64 (69.6 %)
4. Offer to help an old person across the street because of their age	23 (24.7 %)	29 (31.2 %)	41(44.1 %)
5. Ask an old person for advice because of their age	23 (24.7 %)	39 (42.0 %)	31 (33.3 %)
6. Vote for an old person because of their age	64 (71.1 %)	14 (15.6 %)	12 (13.3 %)
Negative			
7. Tell an old person, “you’re too old for that”	80 (85.1 %)	10 (10.6 %)	4 (4.3 %)
8. When an older person has an ailment, I may say, “That’s normal at your age”	68 (73.1 %)	18 (19.4 %)	7 (7.5 %)
9. When I find out an old person’s age, I may say, “You do not look that old”	31 (33.7 %)	35 (38 %)	26 (28.3 %)
10. Talk louder or slower to old people because of their age	32 (34.4 %)	29 (31.2 %)	32 (34.4 %)
11. Use simple words when talking to old people	50 (53.8 %)	18 (19.3 %)	25 (26.9 %)
12. Ignore old people because of their age	93 (98.9 %)	1 (1.1 %)	
13. Tell old people jokes about old age	72 (76.6 %)	14 (14.9 %)	8 (8.5 %)
14. Vote against an old person because of their age	73 (83.9 %)	6 (6.9 %)	8 (9.2 %)
15. Avoid old people because of their age	82 (88.2 %)	9 (9.7 %)	2 (2.1 %)
16. Avoid old people because they are cranky	68 (75.6 %)	17 (18.9 %)	5 (5.5 %)
17. When a slow driver is in front of me, I may think, It must be an old person”	58 (63.7 %)	25 (27.5 %)	8 (8.8 %)

gender (not shown), using a T-Test for independent groups, showed that there were no significant differences between men and women in reports of positive behaviour, while significant differences were noted between men and women insofar as negative behaviours. Women tended to report less negative ageist behaviours in relation to men ( $p < 0.5$ ).

### Correlations among the Various Scales

Table 5 presents the correlations among the various scales of ageism. As can be seen, there is a negative relationship between the score on the knowledge test and the negative ageist

**Table 5** Correlations between the different scales for measuring ageism

	Knowledge	Positive behavioural expressions	Negative behavioural expressions
Positive behavioral expressions	-.14		
Negative behavioural expressions	-.29*	.19	
Explicit attitudes	-.31*	-.005	.48**

\* $p < .05$ ; \*\* $p < .01$

behaviours and explicit attitudes of ageism. As the knowledge increases, people tend to report less negative expressions and less explicit attitudes towards ageism. Furthermore, a relationship has been established between explicit ageist attitudes and negative ageist behaviours- so that more ageist attitudes are related to more negative ageist behaviours. These findings provide further validity to the various tools used to examine ageism.

## Discussion

The pilot study described above used three different research instruments of ageism. In effect, this was the first time that all three different and diverse components of ageism, i.e.: knowledge, attitude and behaviour, were combined within a single framework of a national-based survey. Prior to this survey, ageism has been commonly measured using only one or two of the above approaches at a time: measurement of knowledge (e.g. Palmore 1998), measurement of attitudes (e.g. Fraboni et al. 1990), ageist behaviours (e.g. Cherry and Palmore 2008; Palmore 2001a, b, 2004), or combining the components together but not on a national scale (e.g. Carmel et al. 1990).

Various reasons have led us to include the three methods in the same study. Firstly, we sought to examine diverse yet complementary aspects of the ageism phenomenon. Secondly, the inclusion of a number of tools of measurement which examine the same construct provides further validation to the various tools. In our case, the statistical correlation among the diverse tools used for measuring ageism served to establish criteria validity, with each tool acting as an external criterion for the other tools. The third, and perhaps most central, is that concerning the implications for future policy and programs aimed at preventing ageism. The examination of the relationship between knowledge, attitudes and behaviour could suggest directions of effective interventions.

The level of knowledge concerning older people, as found in this preliminary survey, shows that the respondents, in general, demonstrated a “fair” level of knowledge with regard to ageing and older adults. This evaluation is based in comparison to other studies, which suggest that the level of knowledge found in the survey in Israel is higher (Palmore 2005). Nonetheless, the comparison with other studies should be done with cautious given that within the framework of our survey, only twelve items of the original twenty five were included.

Insofar as attitudes, we found some level of ageist implicit attitudes as respondents tended to prefer the younger couple over the elderly couple in two of the questions (the friendship and in the work tools). Nonetheless, we have no comparative data from previous studies as the instrument was specifically formulated in our study. Moreover, we found that the absence of a well established measurement instrument in this field to be specifically challenging, and a significant effort should be placed on developing such a tool in the future.

The analysis of the correlations between all three components (the knowledge, attitudes and behavioural factors) further validates the broad theoretical model of attitudes which emphasizes the affinity between the knowledge, attitudes and behavioural components (Fishbein and Ajzen 1975). The survey found that insofar as the knowledge was greater, people tended to report less explicit ageist attitudes and less negative ageist behaviour.

The potential importance of this study can be fully accomplished if in the future, periodical surveys will continue to take place in Israel, using the same measurement tool, allowing for a comparative perspective over time regarding the different scores of ageism along time. This will enable to evaluate various policy interventions and socio-cultural changes. Moreover, considering that ageism is a cultural phenomenon, assessing differences in ageism among various ethnic groups both on national and cross-national scales, while using the above measurement instrument will be of much importance.

This pilot has several limitations: The sample included only Jewish respondents, despite the fact that Israeli society includes non-Jewish populations as well. In similar lines, in a multicultural society of immigrants such as Israel, telephone interview based on the Hebrew language is another clear limitation. Also, the sample is not representative of the Israeli population by age and educational levels (which only reflect the previous limitations). Furthermore, the sampling size is small- a fact which limits the examination of a large number of variables. However, this preliminary survey represents a first step in learning about the phenomenon in the Israeli context and will act as the basis for continued research and study of the concept of ageism in Israeli society. Future research efforts will include a broader examination of the prevalence of the phenomenon among the population in general and a comparative cross-national assessment of ageism.

#### Compliance with Ethical Standards

**Conflict of Interest** All authors (Sharon Shiovitz-Ezra, Liat Ayalon, Jenny Brodsky, & Israel Doron) declare that they have no conflict of interest.

**Informed Consent** As there is no person or personal data appearing in the paper, there is no one from whom a permission should be obtained in order to publish personal data.

**Ethical Treatment of Experimental Subjects (Animal and Human)** This article does not contain any studies with human or animal subjects performed by any of the authors.

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