

Perceptions of older people among Chinese adolescents: conceptual and methodological issues

Ka Man So¹ and Daniel T.L. Shek^{1-4,*}

¹ Department of Applied Social Sciences, The Hong Kong Polytechnic University, Hong Kong, PRC

² Public Policy Research Institute, The Hong Kong Polytechnic University, Hong Kong, P.R. China

³ Kiang Wu Nursing College of Macau, Macau, P.R. China

⁴ Division of Adolescent Medicine, Kentucky Children's Hospital, University of Kentucky, Lexington, KY, USA

Abstract

Ageism against older people exists worldwide almost among all age groups and adolescents are of no exception. Numerous studies with specific reference to adolescents of different age, gender, educational level, socioeconomic background, knowledge about aging and experiences with older people showed that they had different perceptions of and attitudes toward older people, but such findings are not entirely conclusive. The situation of Hong Kong is even more confused as there are few studies examining this topic. It is argued that the conflicting findings are largely due to conceptual and methodological problems in the studies. This paper examines the conceptual and methodological issues in this area and outlines suggestions for future research.

Keywords: adolescents; ageism; conceptual issues; methodological issue; older people.

Introduction

Living in a capitalist society with an aging population, older people are always being regarded as “social liability” competing scarce social resources with the young. Associated with the stereotypic characteristics of “infirm”, “senile” and “frail”, our perceptions of older people greatly affect what we think, feel and treat this group of people. Negative stereotypes usually accompany with prejudicial affect and discriminatory behavior laying down the roots of ageism.

Ageism is said to be pervasively universal and cross-cultural (1). Negative perceptions of older people and ageism can impose fear to the young toward their own aging and it has a negative impact on the development of positive interpersonal relations with others of all ages (2). They will also feel disoriented in modeling from our old generation who are being negatively stereotyped and perceived. Adolescents who are the masters of our future world should be directed to have positive youth development, including the possession of an optimistic belief in the future and the competence to develop healthy relationships with adults in an extra-familial context (3). Adolescent positive development will be hindered if an adolescent possesses negative perceptions of or ageism against older people. Nevertheless, owing to inconsistent and contradictory research findings, whether adolescents perceive older people negatively is questionable. Moreover, a survey of the literature shows that there is no systematic research on adolescent perceptions of older people, particularly in the Chinese context.

Against the above background, the purpose of this paper was to outline the conceptual and methodological issues in studies regarding perceptions of older people among adolescents. This paper consists of three parts: (a) review of the existing relevant studies on the perceptions of older people among adolescents in Hong Kong and in foreign countries; (b) examination of conceptual and methodological issues intrinsic to the existing literature; and (c) suggestions for future research.

Existing studies on the perceptions of older people among adolescents in Hong Kong

With the support of several studies, Ng (4) reported that younger people in Hong Kong held “more negative stereotypes about and assigned lower socio-economic vitality” to older people when compared with other countries around the Pacific Rim (p. 103). With an aim to understanding the attitudes toward older people among the Hong Kong general public, Law (5) surveyed 647 respondents aged from below 20 to above 50 years. Findings revealed “inconsistent or even self-contradictory” results as the majority expressed positive attitudes toward older people’s contributory functions in family but at the same time considered old people to be too demanding (p. 30). By contrast, the minority viewed older people as a burden and the majority were negative toward aging. Cheung et al. (1) also conducted a study to investigate the general public’s extent of ageism in terms of stereotyped beliefs in different dimensions. Findings from 902 respondents consisting of secondary school students reported that younger people expressed positive ageism on physical and

*Corresponding author: Professor Daniel T.L. Shek, PhD, FHKPS, BBS, JP, Chair Professor of Applied Social Sciences, Faculty of Health and Social Sciences, Department of Applied Social Sciences, The Hong Kong Polytechnic University, Room HJ407, Core H, Hungghom, Hong Kong, P.R. China
E-mail: danielshk@inet.polyu.edu.hk

Submitted June 20, 2010. Revised September 1, 2010. Accepted September 14, 2010. Previously published online March 1, 2011.

social dimensions but negative ageism on psychological dimensions. In other words, ageism is prejudice and discrimination against older people who are stereotyped and treated negatively and unfairly because of their old age. Palmore (6) classified it as "negative ageism" to distinguish it from "positive ageism" which is "prejudice and discrimination in favor of the aged" (p. 6).

A review of studies on perceptions of older people among adolescents

Extensive studies on the perceptions of and attitudes toward older people have been conducted worldwide in the past decades using different research designs and measurements in different contexts across different strata of people. Of those studies involving adolescents, negative perceptions of and attitudes toward old age and older people as well as lack of accurate knowledge on aging were commonly found (7-12). Nevertheless, there are also positive (13, 14), neutral (15) and mixed research findings (16). Obviously, whether adolescents have negative perceptions of older people is an empirical question that still remains to be answered. In addition, researchers pointed out that the unclear picture could be due to the existence of conceptual and methodological issues in the field (7, 16-20).

Conceptual issues

As mentioned above, conflicting findings are partly caused by conceptual problems in the studies. The first conceptual issue relates to terminology. Lichtenstein et al. (21) pointed out that terms such as perceptions, attitudes, beliefs, stereotypes and the like were always used interchangeably. In addition, few researchers have provided detailed conceptual definitions for these terms. Lichtenstein et al. (21) further noted that the terms were not used "consistently across studies, making comparisons between bodies of work difficult" (p. s37). For example, Kogan (18) noticed the confusion between attitudes and beliefs leading to inaccuracy on the domain construct for measurement. Ambiguity in conceptualizing attitudes can induce different understandings for operationalized constructs. It could also cause threat to the validity of measurement.

The second conceptual issue relates to how older people are perceived. Older people as the stimuli are the target to be evaluated. However, the information about "older people" appears to vary in different studies resulting in diverse and conflicting findings. Such problem usually relates to how older people are perceived in "specific" or "general" contexts (19) in terms of their characteristics such as age, gender, social status and financial condition. In some studies, there is no clear proposition on what "older people" is, subject to respondents' interpretation. Inevitably, people may have their own understanding of "older people" and "old age". For example, in a study by Davidovic et al. (7), an "old man" was reporting having an age value ranging from 35 to 80 years.

Gender differences can also contribute to the blurred picture in the field. Green (17) cited various studies and pointed out that as women were thought to reach old age earlier than men, they were likely to be viewed negatively than men in younger age but not at stage of old-old. Kite and Wagner (22) explained that women were under "double standard of aging" and further pointed out that "older" or "elderly" was usually interpreted as male, "older worker" was male, and "older homemaker" was female (p. 143). In many studies involving adolescents, the gender of the older people as stimuli was not specified and the respondents were free to draw their own conclusions. In a study by Steitz and Verner (12), the adolescent respondents tended to pick older people of same sex to evaluate. As a result, this customized selection might lead to biased findings.

Moreover, variations in physical features in old people can affect the perceptions of old people. People are more likely to express negative perceptions and attitudes toward older people, especially those who are the old-old, oldest-old and frail (22, 23). Similar responses from the middle school students indicated that their views of aging and older people focused on older people's salient physical features or disability (9) and thus easily led to negative perceptions. Causes of such findings may be partly due to the unpleasant appearance and frail conditions of older people and partly due to the young people's threat of death according to the Terror Management Theory (24). Hence, the negative perceptions of older people may not be totally caused by old age per se but associated with an aged-related stereotypic belief triggered automatically by the unpleasant physical cues (25). This could explain why the most common characteristics listed by the middle school students included physical features such as having wrinkles, gray hair or being bald and signs of decrease in activity (9). The older the adult, the less pleasant of his image held by adolescents (23).

Poverty is another salient characteristic associated with negative perceptions of older people. It links the social status with income as older people holding different roles (such as a retired teacher or a hawker) represent different social classes having different levels of financial independency. Being a categorizer carrying a social evaluation element can outweigh the effects of age or gender (22).

Regarding the relationship between the stimuli and the perceiver, effects of age or gender of the stimuli may reduce when the older people as the stimuli are known vs. unknown (7, 8, 13, 26, 27), visualized (use of photographs) vs. verbalized (16), kin vs. non-kin (e.g. grandparents vs. non-grandparents) (12). It is consistent with the notion that perceptions of and attitudes toward specific older people differed from those when referring to older people in general (19, 22). In addition, Lichtenstein et al. (21) analyzed the drawings prepared by the middle school adolescents and concluded that they were more likely to draw a positive image of someone they knew rather than draw a figure from their imagination.

The third conceptual issue relates to the perceivers' characteristics. Research findings on the effect of perceivers' age are inconclusive. Children's understanding of aging increases continuously with age followed by advance in judgment (15).

Logically, adolescents getting older should have more knowledge on aging and thus hold more positive perceptions of and attitudes toward older people than children. Haught et al. (16) confirmed that older students showed positive bias, whereas younger students showed negative bias toward older people. In contrast, older adolescents were likely to attribute stereotypical characteristics and viewed older people less positive than younger adolescents and children (23). However, it is noteworthy that there were mixed findings (1, 15) or no significant difference (13, 14, 19) in other studies.

Perceivers' gender and education are two other variables that contribute to the diverse findings. The majority of the findings indicated that female respondents held more positive bias (12, 16) or less negative attitudes to aging and older people than males (11). However, findings of no gender differences were also reported (10, 13, 14). Regarding knowledge of aging, female respondents were more knowledgeable than male respondents (11), but Steitz and Verner (12) reported no difference when education was held constant. Allen (28) concluded that the gender variable was inconsequential as there were very slight differences between male and female respondents in the levels of knowledge about older people. Okoye and Obikeze (10) showed that young people with higher level of education possessed fewer aging stereotypes than the less educated youth, whereas Allen (28) found education had little effect on knowledge about aging. Furthermore, it should be noted that as perceivers' demographic correlates such as age, gender and education are closely associated among themselves, it is not easy to delineate their real individual effects.

Of all the variables related to perceivers, "contact with older people" has been the focus of extensive attention in many studies because lack of intergenerational contact was identified as one of the contributing factors to young people's negative perceptions of and attitudes toward older people (8, 11, 26). It is a significant predictor of attitudes (13) as well as a moderating factor affecting attitudes toward older people. Although the majority of the research findings support that more contact with older people has a positive effect on better knowledge and positive attitudes toward older people (7, 10, 13, 26, 27, 29), findings showing no significant or slight relationships between these variables (8, 11, 12, 14, 16, 28) and even negative effect on attitudes toward older people (20) also exist. Problems of conceptual ambiguity and inconsistency are probably caused by measurement on two aspects: the older people being contacted and the nature of the contact. For example, some studies measured contact with the respondents' grandparents only (14), whereas others considered grandparents living under the same roof or living apart (12, 28). Also, some researchers included kinship (i.e., grandparents and other relatives) and/or non-kinship elders (i.e. friends, neighbors, church fellow and voluntary work encounter), whereas others focused on the known and/or unknown (8, 16, 27).

Regarding the nature of contact, Baranoswki (13) argued that frequency of contact had no prediction or effect on the attitudes toward the older people as it yielded little information about the nature and meaningfulness of the elder-younger relationship. Instead of only counting frequency, quality of

contact was of equal importance (12, 13, 16, 17). Quantity and quality of contacts constituted objective and subjective evaluation in this area (12). Having acknowledged that contact with older people was a multidimensional variable, Knox et al. (30) investigated undergraduates' perceptions of older people and identified that "comparative status levels of the interacting participants, atmosphere of co-operation vs. competition, the voluntariness of the contact, and the intimacy of the relationship" were significant aspects to be included in the measurement of quality of contact with older people (p. 309). As a result, they demonstrated that "quality of contact with the general elderly was the most powerful in every case" (p. 312). With reference to the findings of Knox et al., it seems that this variable has not been adequately measured in many studies.

Furthermore, few studies have examined inter-relationships among socioeconomic status of the respondents, their knowledge of aging and perceptions of older people. Among the available research findings, Baranoswki (13) found that adolescents' view of older people was positively and significantly correlated with social class. Similar results were found by Ivester and King (14) that people in lower social classes showed less positive attitudes toward the elder than the upper classes. On the other hand, Scott et al. (11) reported that students of higher levels of socioeconomic background improved their knowledge about aging more than those of lower levels. However, it is noteworthy that there is no clear definition on socioeconomic status with consistent dimensions being measured. For instance, Ivester and King (14) used occupation and education of the adolescents' father or head of the household to determine their social class according to the Hollingshead's (1957) Two Factor Analysis of Social Position. Baranoswki (13) only used paternal education, whereas Lichtenstein et al. (9) employed the criteria of eligibility for free and reduced lunch fees as the criteria.

The fourth conceptual issue concerns the contextual background. Being one of the probable core determinants for the conflicting findings, contextual background could be constituted by either one of the cultural, social, political or economic factors, or all of them. Cultural differences are closely related to the way adolescents are being socialized to interact with older people. It is particularly vital if the study population has a long history of traditional ideology of filial piety in some societies such as China, Hong Kong, Japan and Korea. Differences in social and economic structures such as primitive agrarian or rural community (13, 14, 16) and urban modernized society (1, 6) can cause differences in family structure and relationships, social value, human relations, intergenerational solidarity, meaning of old age and social responsibility on elderly care, which in turn contribute to diverse findings. Other situational factors such as intense social issues or sensitive political climate which arouse an outburst of strong negative feelings against elder at the time of the study may also confound the results.

Following the emergence of intergenerational programs addressing the problem of age segregation and upgrading elder's image in society in recent years, many evaluation studies examined how such programs could lead to improve-

ments in the related knowledge and attitudes in adolescents (26, 27, 29). Unfortunately, very few studies have addressed the contextual limitations such that it might not be able to fully reflect the true picture in real life. Several factors could contribute to this observation. First, as one of the prerequisites, adolescent participants are likely to possess predominating neutral or even positive perceptions of older people if they voluntarily join the program. As a result, positive results in both pre- and post-tests are usually promising. Because of this possible confounding effect, it will be risky to generalize the overall impression of positive perceptions of and attitudes toward older people held by adolescent participants to adolescents in general. In addition, the "ceiling effect" on attitude changes, as pointed out by Meshel and McGlynn (20), which could be due to the adolescents' participation under self-selection (27) or having extensive or excessive exposure to the older people (8) is another aspect to be cautious of.

Second, it is probable that the elder participants are mostly active, in good health, or even well-educated. Their salient characteristics and personality traits are not in line with the prototypes of the typical stereotyped aged. Third, the relationship between the adolescent and elder participants is not completely remote as they have direct interaction in the program activities. Therefore, when the adolescent participants provide their views on the perceptions of and attitudes toward older people during or after the program, they just refer to those elder participants for evaluation purposes, in particular when they are responding to post-tests. The elder participants are the older people "in specific" but not "in general". Thus, the positive results at post-test should not necessarily equate to the adolescents' perceptions of and attitudes toward "older people in general".

To re-examine the above three factors, reference can be made to the findings of the following two studies. The first one is the adolescents in Doka's (8) Oral History Project displaying admiration to the elder participants who were viewed as "special and unique" that might have impeded the adolescents' ability to generalize from the experiences of the project (p. 183). The second one is the adolescents in Olejnik and LaRue's (29) study who had less negative attitudes after joining the intergenerational program but there was "a decrease in the adolescents' willingness to interact more with old people" after the program (p. 346). These two programs as well as other similar forms of intergenerational programs which are under controlled settings evoke two concerns. One is the sustainability of the attitudes change but very few studies have covered this aspect. The other one is about the attitudes that may, as Meshel and McGlynn (20) said, relate to "a set of intentions to behave certain ways toward an attitude object" (p. 460). Study of adolescents' perceptions of and attitudes toward older people faces the concern on the attitudes toward a global object vs. the specific object. Therefore, including the assessment of adolescents' behavioral intentions to ascertain what Green (17) has described as their "potential operationalizations of contexts of varying degrees of intimacy" (p. 108) is deemed necessary.

Methodological issues

In addition to the above conceptual concerns, there are also methodological issues to be addressed. The first methodological issue relates to the administration format and wordings used in questionnaires or scales. For adolescents, it is observed that self-reported questionnaires constructed with different types of scales are commonly used because of their easiness to administer and affordability to be used in greater sample size, especially when compared with face-to-face interview. Yet, as stated by Schwarz (31), perceptions or attitudes are socially "context sensitive" and "highly context dependent" that minor changes in question wordings, format and order may profoundly affect the respondents' answers (p. 42). In fact, ageist wordings or the transparency of the terminology as raised by Meshel and McGlynn (20) may shape respondents to provide socially desirable answers (19) or create potential bias during data collection. For example, Palmore (32) criticized the use of ambiguous words such as "most", "working" and "dependent" (p. 315). Polizzi and Steitz (33) argued that the use of synonymous terms in the assessment of attitudes toward older people was a problem. In addition, they strongly suggested using updated wordings currently known by younger people. Their suggestion is also considered applicable to the studies on adolescents. Use of proper wordings to address cultural diversification can undoubtedly avoid bias, misinterpretations and doubts. Given that there is no such single measurement scale used across different cultural societies, validation is deemed necessary in developing new measurements or adapting Western-designed scales, although not many studies have carried out this process.

The second methodological issue concerns measurements and dimensions. Perceptions and attitudes are concepts and predispositions which are highly abstract in nature. They exist in both explicit and implicit forms. Therefore, they are usually assessed through respondents' explicit verbal responses and overt behavior to infer covert predispositions (31). However, not many research reports have provided detailed elucidation on the constructs that the researchers were going to measure. Failure to explicitly elucidate such background information provides no clues to identify whether they are measuring the same attribute, even the same word "attitudes" or "perceptions" is used. In addition, some studies have not assessed reliability and validity of the assessment tools. As mentioned above, measuring adolescents' knowledge, belief and attitudes has only addressed cognitive and affective components with behavior or behavioral intent not being fully assessed. For instance, in Olejnik and LaRue's (29) study, adolescents having positive attitude changes after the program were reluctant to have further contact with old people. It reflects the importance of measuring behavior or behavioral intent which can help explore the attitude-behavior relationship and fill up the missing puzzle.

Moreover, there are few studies covering both implicit and explicit measures of attitudes. Simple yes-or-no and true-or-false answers are certainly insufficient to capture the respondents' perceptions of older people. Instead, Kogan (18) suggested using open-ended mode such as the sentence com-

pletion instrument as it was useful for exploring respondents' qualitative data in a natural way and it can capture the "flavor of behavioral intentions" (p. 30). To fit the characteristics of adolescents, adopting a more innovative and interesting way to collect qualitative data is more promising. Obviously, qualitative assessment can help assess the related constructs in a more comprehensive manner.

Moreover, different types of attitudinal dimensions have been used in different studies. Some used a three-factor model (15, 27), whereas another study adopted a four-factor model (19). One research used Likert-type statements to measure stereotyped beliefs (1), whereas another one used both descriptive and evaluative scales (23). However, few have used multiple scales in measuring attitudes toward older people in a single study. Thus, attitude, just as Law (5) described, is "being evaluative depends very much on the frame of reference being used" (p. 30).

The third methodological issue is sampling. It is worth mentioning that studies targeting adolescents as the perceivers are far fewer than those of undergraduate students. In addition, almost no samples have been drawn from populations such as school-dropouts or adolescents living in correctional homes. It is believed that school is a stable setting conveniently to obtain large samples of high degree of representativeness and high level of homogeneity such that problems of outlier and third-variable can be eliminated. Yet, it will be intriguing whether adolescents other than those in schooling possess similar perceptions of and attitudes toward older people.

Time dimension is the fourth methodological issue to be addressed. Apart from some of the nationwide studies, there are very few longitudinal studies. Longitudinal studies can accurately trace the trends and changes over time on the perceptions of and attitudes toward older people among people of the same cohort. It not only helps solve the problems of self-selection and demand characteristics but also identifies the predictive factors determining the positive or negative perceptions of older people. By using the same measurement tools to study people of the same age cohort over time and comparing the findings among different age cohorts, it can help identify which cohort holds the most negative perceptions from life course perspective. By identifying the most suitable point of time along the lifespan, effective and timely measures to tackle the problem of ageism, if any, can then be strategically planned and implemented.

Suggestions for future study

Notwithstanding that thousands of studies worldwide have been conducted investigating the perceptions of and attitudes toward older people among different groups of people, there are comparatively fewer studies on this area in Hong Kong, particularly based on adolescents. Lack of validated indigenous measurements suitable for people in the Chinese society may be one of the probable reasons. Therefore, it is worthwhile initiating a study by developing and constructing an indigenous scale suitable for Hong Kong Chinese adolescents.

Based on the present review, several possible areas for future research are highlighted for consideration. First, culturally relevant and validated measurements should be employed in future studies with an aim to facilitating comparison among them. Second, as "perception" and "attitudes" are complex and multidimensional, multiplicity in assessment tools and means of data collection should be employed so as to acquire more accurate and comprehensive data. To ensure that both implicit and explicit attitudes are to be revealed, objective and subjective evaluations through direct, semi-direct and indirect measures collecting quantitative and qualitative data are highly recommended.

Third, studies have revealed the interfering effect of perceiver's contact with old people on the attitudes toward older people, but inconsistent results on the relationship between these two variables have been found. Although this can be partly explained by the inconsistent dimensions being measured in the studies, Harwood et al. (34) also attributed it to the "failure to include an analysis of moderators" (p. 395). Furthermore, Kite et al. (35) termed the descriptors, age and gender of the stimuli, respondents' age as moderators with respondents' education, socioeconomic status and ethnicity being the secondary moderators. Intuitively, exploring moderating and mediating effects from other related variables such as filial piety of Confucianism in the Chinese societies such as Hong Kong is necessary to better our understanding of social and cultural contexts.

Fourth, although studies based on different theoretical models have been used, few studies have taken an ecological perspective with reference to Bronfenbrenner's (36) five levels of systems (i.e., microsystem, mesosystem, exosystem, macrosystem and chronosystem). In addition, one can also apply the ecological perspective to study the concomitants and consequences of negative perceptions of older people, such as its effects exerted on subject preference in academic study or future career choice. Fifth, sufficient sample size from large sampling frame through randomization can secure the power of generalizability and representativeness. Finally, in response to the influx of immigrants from Mainland China, more studies should be conducted to explore whether any differences on the perceptions of older people existed among adolescents with different ethnic origin in Hong Kong.

References

1. Cheung CK, Chan CM, Lee JJ. Beliefs about elderly people among social workers and the general public in Hong Kong. *J Cross Cult Gerontol* 1999;14:131-52.
2. Jantz RK, Seefeldt C, Galper A, Serlock K. Children's attitudes toward the elderly. *Soc Educ* 1977;41:518-23.
3. Shek DT. Conceptual framework underlying the development of a positive youth development program in Hong Kong. *Int J Adolesc Med Health* 2006;18:303-14.
4. Ng SH. Social psychology in an aging world: ageism and intergenerational relations. *Asian J Soc Psychol* 1998;1:99-116.
5. Law CK. Attitudes toward the elderly: a research report. Resource Paper Series, University of Hong Kong, 1982.

6. Palmore E. Ageism: negative and positive. New York: Springer Publishing Co., 1999.
7. Davidovic M, Djordjevic A, Erceg P, Despotovic N, Milosevic DP. Ageism: does it exist among children? *Scientific World Journal* 2007;7:1134-9.
8. Doka KJ. Adolescent attitudes and beliefs toward aging and the elderly. *Int J Aging Hum Dev* 1985-1986;22:173-87.
9. Lichtenstein MJ, Pruski LA, Marshall CE, Blalock CL, Lee S, Plaetke R. Sentence completion to assess children's views about aging. *Gerontologist* 2003;43:839-48.
10. Okoye UO, Obikeze DS. Stereotypes and perceptions of the elderly by the youth in Nigeria: implication for social policy. *J Appl Gerontol* 2005;24:439-52.
11. Scott T, Minichiello V, Browning C. Secondary school students' knowledge of and attitudes towards older people: does an education intervention programme make a difference? *Aging Soc* 1998;18:167-83.
12. Steitz JA, Verner BS. What adolescents know about aging. *Educ Gerontol* 1987;13:357-68.
13. Baranoski MD. Relations with grandparents as a predictor of adolescents' attitudes toward the elderly. Paper presented at the Annual Meeting of the National Council on Family Relations, Washington, DC, October 13-16, 1982. Accessed 2010 Mar 01. URL: <http://eric.ed.gov/pdfs/ED228576.pdf>
14. Ivester C, King K. Attitudes of adolescents toward the aged. *Gerontologist* 1977;17:85-9.
15. Thomas EC, Yamamoto K. Attitudes toward age: an exploration in school-age children. *Int J Aging Hum Dev* 1975;6:117-29.
16. Haight PA, Walls RT, Laney JD, Leavell A, Stuzen S. Child and adolescent knowledge and attitudes about older adults across time and states. *Educ Gerontol* 1999;25:501-17.
17. Green SK. Attitudes and perceptions about the elderly: current and future perspectives. *Int J Aging Hum Dev* 1981;13:99-119.
18. Kogan N. Beliefs, attitudes, and stereotypes about old people: a new look at some old issues. *Res Aging* 1979;1:11-36.
19. Luszcz MA. Characterizing adolescents, middle-aged, and elderly adults: putting the elderly into perspective. *Int J Aging Hum Dev* 1985-1986;22:105-21.
20. Meshel DS, McGlynn RP. Intergenerational contact, attitudes, and stereotypes of adolescents and older people. *Educ Gerontol* 2004;30:457-79.
21. Lichtenstein MJ, Pruski LA, Marshall CE, Blalock CL, Liu Y, Plaetke R. Do middle school students really have fixed images of elders? *J Gerontol Soc Sci* 2005;60B:s37-47.
22. Kite ME, Wagner LS. Attitudes toward older adults. In: Nelson TD, editor. *Ageism: stereotyping and prejudice against older persons*. Cambridge, Mass., London: MIT Press, 2002:129-61.
23. Hickey T, Kalish RA. Young people's perceptions of adults. *J Gerontol* 1968;23:215-9.
24. Martens A, Goldenberg JL, Greenberg J. A terror management perspective on ageism. *J Soc Issues* 2005;61:223-39.
25. Perdue CW, Gurtman MB. Evidence for the automaticity of ageism. *J Exp Soc Psychol* 1990;26:199-216.
26. Aday RH, McDuffie W, Sims CR. Impact of an intergenerational program on black adolescents' attitudes toward the elderly. *Educ Gerontol* 1993;19:663-73.
27. Chapman NJ, Neal MB. The effect of intergenerational experiences on adolescents and older adults. *Gerontologist* 1990;30:825-32.
28. Allen BJ. Knowledge of aging: a cross-sectional study of three different age groups. *Educ Gerontol* 1981;6:49-60.
29. Olejnik AB, LaRue AA. Changes in adolescents' perceptions of the aged: the effects of intergenerational contact. *Educ Gerontol* 1981;6:339-51.
30. Knox VJ, Gekoski WL, Johnson EA. Contact with and perceptions of the elderly. *Gerontologist* 1986;26:309-13.
31. Schwarz N. Attitude measurement. In: Crano WD, Prislin R, editors. *Attitudes and attitude change*. New York: Taylor & Francis Group, 2008:41-60.
32. Palmore E. Facts of aging: a short quiz. *Gerontologist* 1977;17:315-20.
33. Polizzi KG, Steitz JA. Examining the aging semantic differential: suggestions for refinement. *Educ Gerontol* 1998;24:207-23.
34. Harwood J, Hewstone M, Paolini S, Voci A. Grandparent-grandchild contact and attitudes toward older adults: moderator and mediator effects. *Pers Soc Psychol Bull* 2005;31:393-406.
35. Kite ME, Stockdale GD, Whitley BE, Johnson BT. Attitudes towards younger and older adults: an updated meta-analytic review. *J Soc Issues* 2005;61:241-66.
36. Bronfenbrenner U. *The ecology of human development: experiments by nature and design*. Cambridge, Mass: Harvard University Press, 1979.