

## PAPER DETAILS

TITLE: EXPLORING THE BENEFITS OF FREQUENT AND POSITIVE INTERGENERATIONAL CONTACT ON YOUNG ADULTS' BEHAVIORAL INTENTIONS TOWARD OLDER ADULTS: THE MODERATING ROLE OF OPTIMISM AND AGING ATTITUDES

AUTHORS: Ryan Wise,Bilge Kilci

PAGES: 47-74

ORIGINAL PDF URL: <https://dergipark.org.tr/tr/download/article-file/3486511>

**To cite this article:** Wise, R.M., Kilci, B. (2023). Exploring the Benefits of Frequent and Positive Intergenerational Contact on Young Adults' Behavioral Intentions Toward Older Adults: The Moderating Role of Optimism and Aging Attitudes. *International Journal of Social and Humanities Sciences (IJSHS)*, 7(2), 47-74

**Submitted:** August 02, 2023

**Accepted:** September 04, 2023

## **EXPLORING THE BENEFITS OF FREQUENT AND POSITIVE INTERGENERATIONAL CONTACT ON YOUNG ADULTS' BEHAVIORAL INTENTIONS TOWARD OLDER ADULTS: THE MODERATING ROLE OF OPTIMISM AND AGING ATTITUDES**

Ryan Macey Wise<sup>1</sup>

Bilge Kilci<sup>2</sup>

### **ABSTRACT**

This study examined the moderating effects of future anxiety and aging attitudes on the relationship between intergenerational contact and behavioral intentions of young adults towards older adults in Turkey in the aftermath of the devastating earthquakes in February 2023. Participants included 201 young adults with a mean age of 20.98 ( $SD=1.94$ ). The study supported Hypothesis 1, indicating that young adults with more frequent and positive contact with older adults demonstrated greater behavioral intentions towards older adults. Hypothesis 2 was supported only for contact frequency, suggesting that aging attitudes moderated the effects of contact frequency on behavioral intentions. Hypothesis 3 was supported only for contact frequency, indicating that future anxiety moderates the relationship between contact frequency and behavioral intentions. Specifically, individuals with lower levels of future anxiety and frequent intergenerational contact demonstrated stronger behavioral intentions towards older adults than those with higher future anxiety and infrequent contact. These findings hold practical implications for developing policies and programs that can enhance intergenerational solidarity and caregiving in Turkey and elsewhere, addressing the critical need for support for older adults in the wake of adverse living situations.

---

<sup>1</sup> Ph.D. (C.A.) Department of Psychology Istanbul Bilgi University Istanbul, Turkey  
ryan.wise@bilgi.edu.tr

<sup>2</sup> Department of Psychology Istanbul Bilgi University Istanbul, Turkey

**Keywords:** Intergenerational relationships; contact quality; contact frequency; behavioral intentions; future anxiety

## INTRODUCTION

Previous research indicates that intergenerational contact in Turkey among grandchildren and grandparents and unrelated younger and older individuals is common and preferred (Aşiret et al., 2017; Wise & Önel, 2021; Wise & Ozel, 2021). These findings reflect social and cultural dynamics. The rapid urbanization in Turkey over the past 50 years has resulted in a high incidence of multigenerational living arrangements in many urban centers. Furthermore, Turkey has low individualism scores, indicating a greater orientation toward collectivism (Hofstede, 2011). In collectivist societies, intergenerational relationships and family relationships are highly valued and deemed of great importance (Sunar & Fisek, 2005).

Despite the centrality of older adults in Turkish society, research related to intergenerational relationships in Turkey has primarily focused on grandparent-grandchild interactions, with limited exploration of young adult interactions with non-related older adults and how such interactions affect their willingness to engage in different behaviors directed towards the older generation. This issue has become increasingly significant in the Turkish context due to the country's deteriorating economy, the 2023 earthquakes in eastern Turkey, resulting in more than 50,000 deaths in both Turkey and Syria and the subsequent rise of older adults re-entering the workforce out of economic necessity owing to high inflation and limited social security benefits (Telek et al., 2021). Furthermore, rising inflation and deteriorating long-term prospects may lead to lower optimism and greater future anxiety among young adults, affecting not only their attitudes toward aging and older adults but also their willingness to engage in prosocial behaviors directed toward them.

### **Intergenerational Contact, Optimism, and Attitudes Toward Aging**

Intergenerational contact has been shown to play an important role in shaping attitudes toward aging (Schwarz & Simmons, 2001). Studies have demonstrated that individuals with more frequent contact with older adults tend to have more positive attitudes toward aging (Wise & Uzel, 2021). This finding has been replicated across different cultures and contexts, suggesting that intergenerational contact may have universal benefits in improving attitudes toward aging (Fung et al., 1999; Lytle et al.,

2020; Kwong & Yan, 2023; Taylor et al., 2005; Yaghoobzadeh et al., 2020). Several studies in Turkey have reported that increased intergenerational contact is linked to more positive attitudes toward aging in younger generations (Kiliç & Adıbelli, 2011; Küçükgülü et al., 2011; Özdemir Ocaklı & Yalçın, 2021; Wise & Önel, 2021). Additionally, Türgay et al. (2015) found that having older relatives and a desire to live with them were associated with more favorable attitudes toward aging.

The quality of intergenerational contact has also been found to influence attitudes toward aging. High-quality contact, characterized by mutual respect, warmth, and closeness, has been associated with more positive attitudes toward aging and a reduced tendency to stereotype older adults (Cadieux et al., 2019; Chase, 2010; Liu et al., 2020; McGuinn & Ashley, 2002; Okur et al., 2023). Studies have shown that positive intergenerational contact, characterized by closeness, respect, and affection, is associated with more positive attitudes toward aging (Kunzmann & Little, 2002). In contrast, low-quality contact, marked by conflict, tension, or neglect, may reinforce negative stereotypes about aging and older adults (Sun et al., 2019). Wise and Onol (2021) found that lower levels of emotional closeness with grandparents predicted greater aging anxiety and more negative attitudes toward aging.

Optimism has been found to have a significant relationship with attitudes toward aging. Studies have shown that individuals with a more positive outlook on their future tend to have more positive attitudes toward aging (Saleh Manige et al., 2020; Turner & Hooker, 2022) and that greater knowledge about aging is associated inversely with future anxiety about aging (Neikrug, 1998). This relationship may be because optimistic individuals have a more positive perspective on aging and view it as a period of opportunity rather than a period of decline (Barnett & Adams, 2018). Optimistic individuals may be more likely to engage in behaviors that promote healthy aging, such as exercise and healthy eating, which may contribute to their positive attitudes (Löckenhoff & Carstensen, 2007).

Furthermore, studies have shown that optimism may also influence attitudes toward aging in younger generations. Younger individuals who are optimistic about their future tend to have more positive attitudes toward aging and view it as a natural part of life (Durbin et al., 2019; Wise & Uzel, 2021). This positive outlook on aging may translate into greater respect for older adults, a willingness to engage in intergenerational contact, and prosocial behaviors directed toward the older generation (Kwong

& Yan, 2023). However, overly optimistic individuals may have unrealistic expectations for their aging process or may view aging as something that will not affect them personally (Sörensen et al., 2014). Research has found that optimism is affected by large, macro-level economic crises, such as the 2008 financial crisis (Kaniel et al., 2010), the Covid-19 pandemic (de Vries et al., 2021), and natural disasters, like Hurricane Katrina in the United States (Trumbo et al., 2011) and the Great East Japan Earthquake (Yoshii et al., 2014), which have been found to result in lower levels of dispositional optimism and increase future anxiety.

### **Extended Contact**

Extended contact, a concept explored as an alternative to direct intergenerational contact, has garnered attention from researchers examining its effects on attitudes toward older adults and aging anxiety (Prior & Sargent-Cox, 2014). Turner and West (2012) revealed that imagining positive contact with another group member can lead to several beneficial outcomes, including improved intergroup relations and behavioral tendencies towards the out-group. Both implicit and explicit improvements in attitudes have been associated with imagined contact with older adults (Turner & Crisp, 2010; Turner et al., 2007). Building upon this concept, researchers have expanded it to include the notion of extended contact, which suggests that knowing that an in-group member has a relationship with an out-group member may yield similar benefits to in-person contact (Lytle & Levy, 2019). Several studies have supported the efficacy of extended contact in reducing prejudice and ageism and fostering more positive attitudes toward older individuals (Aronson et al., 2016; Fowler & Harwood, 2000; Turner et al., 2008; Wright et al., 1997). A recent meta-analysis by Zhou et al. (2019) reported that extended contact exhibits a positive relationship with attitudes toward an outgroup independent of direct contact

Wright et al. (1997) proposed several explanations for how extended contact can decrease prejudice. First, the awareness of a relationship between two groups demonstrates the possibility of positive contact without incurring punitive responses from one's group. At the same time, negative beliefs about the out-group may be modified through extended contact. Third, being aware of positive intergroup relations can alleviate anxiety, leading to improved attitudes towards the other group. Lastly, extended contact may undermine in-group and out-group distinctions, thereby enhancing the inclusion of the other into the self. In the context of intergenerational contact,

research has shown that extended contact of young adults with older individuals predicts more positive attitudes towards older adults through decreases in intergroup anxiety (Fowler & Harwood, 2000).

### **Behavioral Intentions**

Behavioral intentions, a concept derived from the theory of planned behavior, emphasize that an individual's intention to engage in action is a crucial determinant of whether they act (Ajzen, 1985, 1991). It suggests that behavior is not solely driven by personality traits or other dispositional factors but by the planned intention preceding the action. Research indicates that an individual's actions often align with their intentions, and the strength of these intentions predicts the likelihood of actual behavior in the real world (Ajzen, 1991; Han & Ryu, 2009). This finding implies that changing intentions can lead to behavioral changes. A Webb and Sheeran (2006) meta-analysis found a moderate effect of changing intentions on behavior change. While there may be instances where intentions and behavior do not align, intentions are considered one of the strongest predictors of behavior (Sheeran & Webb, 2016). In the context of intergenerational literature, Bousfield and Hutchison (2010) found significant correlations between young adults' prosocial behavioral intentions towards older adults and contact quality, intergroup anxiety, and aging attitudes. However, no relationship was found between behavioral intentions and aging anxiety. In another study involving university students, Lytle et al. (2020) reported that ageism was a significant predictor of prosocial behavioral intentions, with higher levels associated with lower levels of prosocial intentions. Wise and Uzel (2021) reported that intergenerational contact had a favorable effect on aging attitudes and promoted prosocial intentions toward older adults, while aging attitudes were not associated with self-reported aging anxiety.

### **Current Study and Rationale**

Due to several factors, studying intergenerational contact in Turkey uniquely contributes to intergenerational studies. First, the rapid urbanization that has taken place in Turkey over the past few decades has resulted in unique family structures and living arrangements, with multigenerational living becoming prevalent in urban centers. This provides a distinct context for examining intergenerational contact and relationships, as family ties and traditions play a significant role in Turkish culture. Second, Turkey's cultural orientation towards collectivism, as indicated by low

scores on measures of individualism, highlights the importance of family relationships, including intergenerational relationships, in the Turkish context. This cultural context uniquely shapes attitudes, behaviors, and expectations toward intergenerational contact.

Furthermore, given the challenging life circumstances in Turkey, including the economy, with inflation officially over 80% at the end of 2022 (TCMB, n.d.), and the recent deaths from the earthquakes in February, it is essential to examine the moderating role of future anxiety and attitudes toward aging concerning intergenerational contact. Anxiety about the future and differential levels of future anxiety may be crucial in facilitating positive attitudes and behaviors towards intergenerational contact, especially in the face of adversity. Additionally, attitudes toward aging may also play a moderating role, as negative attitudes towards aging may hinder intergenerational contact and relationships. Thus, understanding these unique contextual factors and the moderating role of optimism and attitudes toward aging can provide valuable insights into the complexities of intergenerational relationships and contribute to the broader understanding of intergenerational studies.

In addition, the recent earthquakes in Turkey have highlighted the importance of intergenerational relationships and the role of young people in supporting and helping older adults in times of crisis. The earthquakes have caused significant damage and loss of life, particularly among older adults who were more vulnerable and often unable to access resources and assistance, especially in rural areas. Understanding the factors influencing young people's willingness to help older adults can have important implications for developing programs and policies supporting intergenerational relationships and caregiving in times of need and strengthening intergenerational solidarity. Economic constraints and natural disasters may exacerbate the need for intergenerational support and solidarity. In such situations, understanding and predicting young people's willingness to help older adults is vital for promoting intergenerational relationships and gaining insight into the factors that encourage or hinder intergenerational support and solidarity in challenging circumstances.

## **Research Hypotheses**

Hypothesis 1: Young adults with more frequent and positive contact with older adults will demonstrate greater behavioral intentions toward older adults than those with less frequent and positive contact.

Hypothesis 2: The relationship between contact frequency and contact quality and young adults' behavioral intentions toward older adults will be moderated by attitudes toward aging.

Hypothesis 3: Future anxiety will moderate the relationship between contact frequency and contact quality, and behavioral intentions toward older adults.

## **METHODS**

### **Procedure**

Participants in this study were selected using a non-random convenience sampling method, utilizing an online survey software program (Google Forms) distributed across various undergraduate psychology courses. Recruitment was done through an announcement shared across university departments. Ethical approval was obtained from the responsible institutional review board (IRB), and participants were asked to provide informed consent indicating their voluntary participation in the study. Participants were not given any incentives for research participation, and the authors received no funding and reported no ethical conflicts. A post hoc power analysis using G\*Power (Faul et al., 2009) determined that with a total sample size of 201 participants, the statistical power of this study exceeded .90, indicating sufficient power to detect moderate to significant effects according to conventional standards (.80) (Cohen, 1977).

### **Participants**

Out of a total of 201 respondents, 84.1% identified as female (169 respondents), 15.4% identified as male (31 respondents), and 0.5% identified as other (1 respondent). The mean age was 20.98 (SD=1.94), ranging from 18 to 27.

## MATERIALS

### Future Anxiety

The Dark Future Scale (DFS) (Zaleski et al., 2017) is a 5-item self-report questionnaire to measure an individual's negative expectations about their future. The scale consists of five statements, and respondents are asked to rate the extent to which they agree or disagree with each statement on a Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). An example item is: "I am afraid that the problems which trouble me now will continue for a long time." A total scale was calculated and scored such that lower scores indicated greater future anxiety. The Turkish translation of the Dark Future scale demonstrated acceptable reliability, with a Cronbach's alpha coefficient of .75.

As the Dark Future Scale had not been previously translated to Turkish, the items were analyzed using principal component analysis (PCA) with Varimax rotation. The PCA results showed a Kaiser-Meyer-Olkin (KMO) value of 0.73, indicating the analysis meets the criteria of sampling adequacy. Bartlett's test of sphericity was significant ( $p < 0.01$ ), rejecting the null hypothesis that the correlation matrix is an identity matrix. Results of the PCA indicated one factor explained 50.2% of the total variance, confirming the one-factor structure of the Dark Future Scale (Zaleski et al., 2017). See Table 1.

Table 1.  
Factor Analysis (PCA)--Dark Future Scale

	Component
	1
1. I am afraid that the problems which trouble me now will continue for a long time	0.788
2. I am terrified by the thought that I might sometimes face life's crises or difficulties.	0.703
3. I am afraid that in the future, my life will change for the worse	0.848

4. I am afraid that changes in the economic and political situation will threaten my future	0.627
5. I am disturbed by the thought that in the future, I won't be able to realize my goals	0.530
Eigenvalue	2.51
%Total Variance	50.2

---

*Note.* 'varimax' rotation was used

### **Behavioral Intentions**

The intentions to engage in positive behaviors towards older adults were measured using five items from Bousfield and Hutchison's (2010) study. These items included statements such as "I would not give money to someone collecting for an organization which helps elderly people," "I would support a small rise in taxation if the money went towards supporting elderly people," "I would offer help to an elderly person if they were clearly in need of it (for example, crossing the road or carrying shopping)," "I would be happy to take a job which involved regular contact with elderly people," and "I would not want to spend some of my free time on an activity supporting elderly people." Wise and Uzel (2021) previously translated these items into Turkish, and this translation was used in the current study. The items were assessed using a 5-point scale, ranging from 1 (disagree) to 5 (agree). The Turkish translation of the Behavioral Intentions scale demonstrated acceptable reliability, with a Cronbach's alpha coefficient of .69, indicating that the scale has acceptable internal consistency.

### **Attitudes toward Older Adults**

Items from the Personal Acceptability (PA) subscale of the Aging Semantic Differential (ASD; Rosencranz & McNevin, 1969) scale were adapted to Turkish and used to assess participants' attitudes toward older adults. Previous research with Turkish populations (Aydoğmuş, 2021; Wise & Uzel, 2021) demonstrates that the factor structure of Turkish ASD exhibits acceptable reliability and validity. The PA subscale included six items with the following endpoints: Friendly-Unfriendly, Gener-

ous-Selfish, Trustful-Suspicious, Tolerant-Intolerant, Ordinary-Eccentric, and Pleasant-Unpleasant. Each item was rated on a five-point scale and scored, so higher scores indicated more positive attitudes. The full scale demonstrated acceptable reliability, with a Cronbach's alpha of .79.

### **Intergenerational Contact**

Contact frequency was assessed using three questions asking participants about the frequency of their interaction with older adults in general, related older adults, and unrelated older adults. Response options ranged from 1 (very rarely) to 5 (very often). Reliability analysis for the contact items indicated an acceptable level of reliability, with a Cronbach's alpha coefficient of .67. Extended contact was assessed with one question that asked participants to report how many of their close friends had positive relationships with older adults, with response options ranging from 1 (none at all) to 5 (very many) (Drury et al., 2016). All items were scored such that higher scores indicated more contact frequency and extended contact.

Contact quality was assessed using three items asking participants to evaluate their previous interactions with older adults along the dimensions of voluntariness, quality, and pleasantness. Responses were scored on a 5-point Likert scale ranging from 1 to 5. All items were scored such that higher scores indicated higher quality interactions with older adults. A full scale was computed such that higher scores indicated high-quality contact with older adults. The reliability analysis of the full scale revealed a high internal consistency with a Cronbach's alpha coefficient of .87.

## **RESULTS**

### **Descriptive Statistics**

Contact quality had a mean of 10.92 ( $SD=2.59$ ), ranging from 3.00 to 15.00.

Contact frequency ranged from 3.00 to 18.00 with a mean of 9.90 ( $SD=3.11$ ), while attitudes toward aging had a mean of 13.24 ( $SD=3.79$ ) and a range from 3.00 to 18.00. Extended contact had a mean of 3.16 ( $SD=.98$ ) and a range from 1 to 5, while Future Anxiety ranged from 1.00 to 30.00 with a mean of 20.72 ( $SD=5.48$ ). See Table 2.

Table 2.  
Descriptive statistics

	<b>Mean</b>	<b>SD</b>
Contact Quality--Pleasant	3.83	0.933
Contact Quality--Voluntary	3.59	0.982
Contact Quality--High Quality	3.50	0.986
Contact Frequency	2.83	1.073
Contact Frequency--Unrelated	2.42	1.351
Contact Frequency--Related	4.65	1.542
Extended Contact	3.16	0.979
Future Anxiety	20.72	5.48
Attitude toward Aging	13.24	3.786

Five items measured behavioral intentions, asking participants to express their willingness to perform various actions related to older adults. The average total score for these intentions was 16.80 ( $SD=3.87$ ). The item with the highest endorsement was giving money, with a mean score of 3.65 ( $SD=1.24$ ), while communication at work was the least endorsed ( $M=3.02$ ,  $SD=1.21$ ). This finding was similar to what Wise and Uzel (2021) reported. See Table 3.

Table 3.  
Descriptive Statistics for Behavioral Intentions

	Giving Money	Increase Tax	Helping	Work	Spending Time
Mean	3.65	3.18	3.80	3.02	3.17
SD	1.24	1.17	1.06	1.21	1.12

Five items from the Dark Future Scale measured future anxiety. The item with the highest mean was "The thought of not achieving my goals in the future bothers me" ( $M=5.07$ ,  $SD=1.22$ ), while the item with the lowest mean was "I am horrified at the thought of sometimes being able to face crises or difficulties that may arise in life," ( $M=3.26$ ,  $SD=1.63$ ). The total mean score for the optimism measure was 20.72 ( $SD=5.48$ ). See Table 4.

Table 4.  
Dark Future Scale

	Mean	SD
I am afraid that the problems which trouble me now will continue for a long time.	3.71	1.68
I am terrified by the thought that I might sometimes face life's crises or difficulties.	3.26	1.63
I am afraid that in the future, my life will change for the worse.	3.63	1.82
I am afraid that changes in the economic and political situation will threaten my future	5.04	1.31
I am disturbed by the thought that in the future, I won't be able to realize my goals.	5.07	1.22
.		
Total	20.72	5.48

## CORRELATIONS

As seen in Table 1, the three contact variables (frequency, quality, extended) exhibited significant positive correlations with aging attitudes and behavioral intentions but not with attitudes toward aging. Aging attitudes had strong positive correlations with both measures of behavioral intentions. See Table 5.

Table 5.

Correlations between Future Anxiety, Contact Variables, Behavioral Intentions, and Aging Attitudes

	Future Anxiety	Behavioral In- tentions	Contact Quality	Contact Frequency	Fre- quency	Attitude toward Aging
Future Anxiety	—					
Behavioral Intentions	0.11 6	—				
Contact Quality	0.04 6	0.495 ***	—			
Contact Frequency	0.06 4	0.422 ***	0.380 ***	—		
Attitude toward Aging	0.03 1	-0.440 ***	- 0.613	*** 0.309	- 0.309	—

Note. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

**Hypothesis 1: Young adults with more frequent and positive contact with older adults will demonstrate greater behavioral intentions toward older adults than those with less frequent and positive contact.**

Hierarchical regression analysis examined the relationship between contact frequency, extended contact, contact quality, and behavioral intentions among young adults. Demographic variables (sex and age) were entered as predictors in the first step, followed by the addition of contact frequency and extended contact in the second step and contact quality in the third step. The overall model was statistically significant,  $F(5, 195) = 18.465, p < .001$  and explained 32.1% of the variance in behavioral intentions. The first step of the model, which included demographic predictors (sex and age), was not significant,  $F(2, 198) = 2.89, p = .058$ . The second step, which included contact frequency and extended contact, was significant,  $F(4, 196) = 12.87, p < .001$  and accounted for an additional 20.8% of the variance in behavioral intentions. The third step, which added contact quality, significantly improved the model's predictive power,  $F(5, 195) = 18.47, p < .001$ , explaining an additional 11.3% of the variance. These findings suggest that contact frequency, extended contact, and contact quality are significant predictors of prosocial behaviors toward older adults among young adults. See Table 6.

Table 6.  
Summary of Regression Analysis

	<i>B</i>	SE	$\beta$	<i>t</i>
<b>Model 1</b>				
Age	.135	.142	.067	.953
Sex	-1.657	.713	-.165	-2.32*
<b>Model 2</b>				

Age	.154	.129	.077	1.196
Sex	-1.152	.661	-.114	-1.74
Contact Frequency	.500	.080	.401	6.23**
Extended Contact	.381	.259	.096	1.47

### Model 3

Age	.019	.122	.009	.155
Sex	-1.140	.613	-.113	-1.859
Contact Frequency	.332	.080	.267	4.15**
Extended Contact	-.025	.251	-.006	-.098
Contact Quality	.579	.101	.388	5.70**

---

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

### **Hypothesis 2: The relationship between contact frequency and contact quality and young adults' behavioral intentions toward older adults will be moderated by attitudes toward aging.**

To analyze Hypothesis 2, moderation analysis was conducted using the PROCESS macro for SPSS (Hayes, 2022), with contact frequency as the predictor, behavioral intentions as the outcome, and attitudes toward aging as the moderator. The model summary showed that the predictor variables explained 31.24% of the variance in the outcome variable (behavioral intentions),  $F(3, 197) = 29.84$ ,  $p < .01$ . Results indicated that contact frequency ( $b = 0.4085$ ,  $SE = 0.0775$ , 95% CI [0.2557, 0.5613],  $t(197) = 5.2706$ ,  $p < .001$ ) and attitudes toward aging ( $b = -0.3146$ ,  $SE = 0.0647$ , 95% CI [-0.4423, -0.1869],  $t(197) = -4.8593$ ,  $p < .001$ ) were significant predictors of behavioral intentions. There was a significant interaction effect between contact frequency and aging attitudes on behavioral intentions ( $b = 0.0491$ ,  $SE = 0.0172$ , 95% CI [0.0151, 0.0830],  $t(197) = 2.8515$ ,  $p = .0048$ ). The results showed that contact frequency and aging attitudes had significant main effects on behavior intentions, with a significant interaction effect between them, suggesting that aging attitudes

moderated the relationship. This suggests that the relationship between contact frequency and behavioral intentions is stronger when attitudes toward aging are more positive.

A second moderation analysis was conducted to examine the relationship between contact quality and behavioral intentions with attitudes toward aging as the moderator. The results showed that the model was statistically significant,  $F(3,197) = 25.92$ ,  $p < .001$ ) and accounted for 28.3% of the variance in behavioral intentions. The analysis revealed a significant negative relationship between attitude and behavioral intentions ( $b = -0.21$ ,  $SE = 0.08$ , 95% CI  $[-0.40, -0.03]$ ,  $p = 0.008$ ), a significant positive relationship between contact quality and behavioral intentions ( $b = 0.52$ ,  $SE = 0.12$ , 95% CI  $[0.27, 0.74]$ ,  $p < 0.001$ ), and a non-significant interaction between aging attitudes and quality ( $b = 0.03$ ,  $SE = 0.02$ , 95% CI  $[-0.01, 0.06]$ ,  $p = 0.14$ ). This suggests that aging attitudes did not moderate the relationship between contact quality and behavioral intentions.

### **Hypothesis 3: Future anxiety will moderate the relationship between contact frequency, contact quality, and behavioral intentions toward older adults.**

To examine Hypothesis 3, a moderation analysis was conducted with contact frequency and behavioral intentions with future anxiety as the moderator. The results showed that the model had a significant overall effect,  $F(3, 197) = 17.26$ ,  $p < .001$ ,  $R^2 = .21$ . Contact frequency had a significant direct effect on behavioral intentions,  $b = .50$ ,  $SE = .08$ ,  $t(197) = 6.36$ ,  $p < .001$ , 95% CI  $[.35, .66]$ . However, the direct effect of future anxiety on behavioral intentions was not significant,  $b = .06$ ,  $SE = .04$ ,  $t(197) = 1.44$ ,  $p = .151$ , 95% CI  $[-.02, .15]$ . The interaction term was also significant,  $b = .04$ ,  $SE = .02$ ,  $t(197) = 2.34$ ,  $p = .020$ , 95% CI  $[.01, .07]$ . The results showed that the effect of contact frequency on behavioral intentions was significant for participants with low (16th percentile), medium (50th percentile), and high (84th percentile) levels of future anxiety, with effect sizes of .29, .52, and .73, respectively. Additionally, the 95% confidence intervals for these effects were  $[.04, .54]$ ,  $[.36, .67]$ , and  $[.49, .97]$ , respectively. These findings suggest that contact frequency has a stronger influence on behavioral intentions among individuals with less anxiety about the future.

A second moderation analysis was run to determine if future anxiety moderated the relationship between contact quality and behavioral intentions. The results indicated

that the model accounted for a significant proportion of variance in behavioral intentions ( $R = .508$ ,  $R^2 = .26$ ,  $F(3, 197) = 22.7839$ ,  $p < .001$ ). The regression coefficients showed that contact quality was a significant predictor of behavioral intentions ( $b = .7239$ ,  $SE = .0922$ ,  $t(197) = 7.8524$ , 95% CI [.5421, .9058],  $p < .001$ ), but future anxiety was not a significant predictor ( $b = .0639$ ,  $SE = .0434$ ,  $t(197) = 1.4716$ , 95% CI [-.0217, .1496],  $p = .1427$ ). The interaction term was also not significant ( $b = .0175$ ,  $SE = .0171$ ,  $t(197) = 1.0257$ , 95% CI [-.0162, .0513],  $p = .3063$ ). The highest-order interaction's F-test was insignificant ( $F(1,197) = 1.0520$ ,  $p = .3063$ ), indicating that future anxiety did not moderate the relationship between contact quality and behavioral intentions.

## DISCUSSION

The increasing life expectancy of young and older adults and the resulting need to study the predictors of positive interactions between generations have become important topics in research (Tang & Martins, 2021). As young adults engage with older adults in various settings and media platforms, new opportunities arise for reciprocal intergenerational influences. Unlike Western cultures, Turkey has high levels of intergenerational contact and multigenerational families, lower levels of age segregation, and cultural values that award older adults high social status (Cramm & Nieboer, 2017).

To understand the significance of the current study, it is essential to examine the challenges faced by Turkish society, particularly older adults. The country is experiencing many crises that require intergenerational cooperation, with the economic situation being a significant issue. Mass unemployment, poverty, and high inflation have contributed to the estimated 17% of older adults living in poverty, primarily older adult women (TurkStat, 2021). The COVID-19 pandemic has worsened the economic situation, leading to unemployment, poverty, and currency devaluation. And in light of the recent earthquakes (2023) in eastern Turkey ( $M_w = 7.8$  and  $7.7$ ) that resulted in the deaths of more than 50,000 people across Turkey and Syria, one of the worst earthquakes in recorded history, intergenerational cooperation and support are essential in providing necessary resources and assistance to older adults who the earthquake may have impacted. Therefore, it is crucial to investigate the factors

that promote positive intergenerational interactions and attitudes toward aging to foster a society that supports its older adults during times of crisis. Despite generational differences, young adults and older adults have shared experiences that can reduce intergenerational tension (Şener, 2021). Interactions and shared experiences can result in greater cross-generational unity, shared values and norms, and a decrease in ageism (Ayalon et al., 2020; Bengtson & Roberts, 1991; Wise, 2010).

### **Hypothesis 1**

The present study used hierarchical regression analysis to examine the relationship between intergenerational contact variables (contact frequency, extended contact, and contact quality) and behavioral intentions toward older adults among young adults. Findings indicate that contact frequency, extended contact, and contact quality are significant predictors of prosocial behaviors toward older adults among young adults after controlling for demographic variables such as sex and age. These results are consistent with previous research demonstrating that intergenerational contact positively affects attitudes and behavioral intentions toward older adults (Bousfield & Hutchison, 2010; Cadieux et al., 2019; Drury et al., 2016; Nishi-Strattner & Myers, 1983; Wise & Önlol, 2021; Yaghoobzadeh et al., 2020). The significant contribution of contact frequency and extended contact to the model supports previous research suggesting that increasing opportunities for intergenerational contact can lead to more positive attitudes and behaviors toward older adults (Crisp & Turner, 2009). Additionally, the finding that contact quality significantly improved the model's predictive power aligns with previous studies highlighting the importance of positive intergenerational interactions for improving attitudes and behaviors toward older adults. Overall, the results support the notion that intergenerational contact, particularly when of high quality and occurring frequently, is important for promoting positive attitudes and behaviors toward older adults among young adults. These findings have implications for intergenerational programs and policies to promote positive intergenerational relationships and enhance older adults' well-being.

### **Hypothesis 2**

Previous research has suggested that attitudes toward aging play an important role in shaping intergenerational interactions and attitudes (Levy, 2009, 2018). To test Hypothesis 2, a moderation analysis was conducted to investigate whether attitudes toward aging moderate the relationship between contact frequency, contact quality,

and young adults' behavioral intentions toward older adults. The results of the analysis indicated that attitudes toward aging did indeed moderate the relationship between contact frequency and behavioral intentions but not the relationship between contact quality and behavioral intentions.

Consistent with previous research, the analysis results suggested that negative attitudes toward aging are associated with lower behavioral intentions toward older adults (Bousfield & Hutchison, 2010). However, the analysis revealed that contact frequency had a non-significant negative effect on behavioral intentions, indicating that the frequency of contact alone may not be enough to promote positive attitudes toward older adults or increase behavioral intentions. Instead, the positive effect of contact frequency on behavioral intentions was stronger for young adults with more positive attitudes toward aging. This finding highlights the importance of attitudes toward aging in shaping intergenerational interactions and suggests that efforts to improve intergenerational relations should promote positive attitudes toward aging.

### **Hypothesis 3**

The results showed that while the frequency of intergenerational contact had a significant positive effect on behavioral intentions toward older adults, future anxiety had a significant moderating effect on this relationship, indicating that the positive relationship between frequent intergenerational contact and behavioral intentions was stronger for individuals with lower levels of future anxiety. Moreover, the model significantly predicted behavioral intentions toward older adults, with quality and optimism as essential predictors. The regression coefficients for quality and optimism were positive and negative, respectively, indicating that quality was positively associated with behavioral intentions, while future anxiety was negatively associated with behavioral intentions. However, the interaction term between quality and optimism was not significant, indicating that the effect of quality on behavioral intentions was not related to levels of future anxiety. These findings suggest that frequent and positive intergenerational contact can improve young adults' behavioral intentions toward older adults, especially for those with more positive attitudes toward aging.

### **Limitations and Future Directions**

This study has several limitations that should be considered. Firstly, there was an unequal distribution of gender, with a majority of female participants. This may limit the generalizability of the findings to young adult female relationships with older

adults. Therefore, future research should use a more representative sample to draw more direct conclusions. Secondly, some variables were assessed with single items, which may not fully capture the complexity of participants' interactions with older adults. However, this approach has been used in previous studies (e.g., Wise & Uzel, 2021) and, thus, allows for comparison with previous findings. Finally, the study was limited to university students, and a more diverse sample may provide richer insights into intergenerational relationships.

### **Contributions of the Current Study**

This study highlights the importance of intergenerational relationships and their impact on the behavioral intentions of young adults toward older adults in Turkey following the devastating earthquakes that occurred in February 2023. The study found that young adults with more frequent and positive contact with older adults exhibit stronger behavioral intentions towards them, emphasizing the positive outcomes of intergenerational relationships. Moreover, the study revealed that aging attitudes and future anxiety moderate the effects of contact frequency on behavioral intentions. The findings of this study have practical implications for policymakers and program developers in enhancing intergenerational solidarity and caregiving, especially during challenging economic and living conditions. By recognizing the value of intergenerational relationships, societies can promote well-being and care for older adults, addressing the critical need for support in the aftermath of adverse situations.

### **REFERENCES**

- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179–211. [https://doi.org/10.1016/0749-5978\(91\)90020-T](https://doi.org/10.1016/0749-5978(91)90020-T)
- Ajzen, I. (1985). From intentions to actions: A theory of planned behavior. In J. Kuhl & J. Beckmann (Eds.), *Action control: From cognition to behavior* (pp. 11–39). Springer-Verlag.
- Aronson, K. M., Stefanile, C., Matera, C., Nerini, A., Grisolaghi, J., Romani, G., Massai, F., Antonelli, P., Ferraresi, L., & Brown, R. (2016). Telling tales in school: Extended contact interventions in the classroom. *Journal of Applied Social Psychology*, 46(4), 229–241. <https://doi.org/10.1111/jasp.12358>

Aşıret, G., Kaymaz, T. T., Çopur, E., & Akyar, I. (2017). Ageism attitude towards elderly: Young perspective. *International Journal of Caring Sciences*, 10 (2), 819–827.

Ayalon, L., Chasteen, A., Diehl, M., Levy, B., Neupert, S. D., Rothermund, K., Tesch-Römer, C., & Wahl, H. W. (2020). Aging in times of the COVID-19 pandemic: Avoiding ageism and fostering intergenerational solidarity. *The Journals of Gerontology: Series B*, 76(2), e49–e52. <https://doi.org/10.1093/geronb/gbaa051>

Aydoğmuş, M. E. (2021). Adaptation of the Aging Semantic Differential Scale into Turkish. *Turkish Journal of Geriatrics*, 24(2), 255–263.

Barnett, M. D., & Adams, C. M. (2018). Ageism and aging anxiety among young adults: Relationships with contact, knowledge, fear of death, and optimism. *Educational Gerontology*, 44(11), 693-700.

Bengtson, V. L., & Roberts, R. E. (1991). Intergenerational solidarity in aging families: An example of formal theory construction. *Journal of Marriage and the Family*, 53(4), 856–870. <https://doi.org/10.2307/352993>

Bousfield, C., & Hutchison, P. (2010). Contact, anxiety, and young people's attitudes and behavioral intentions towards the elderly. *Educational Gerontology*, 36(6), 451–466. <https://doi.org/10.1080/03601270903324362>

Cadieux, J., Chasteen, A. L., & Packer, D. J. (2019). Intergenerational contact predicts attitudes toward older adults through inclusion of the outgroup in the self. *The Journals of Gerontology: Series B*, 74(4), 575–584. <https://doi.org/10.1093/geronb/gbx176>

Central Bank of the Republic of Turkey. (n.d.). Consumer prices. Retrieved April 30, 2023, from <https://www.tcmb.gov.tr/wps/wcm/connect/EN/TCMB+EN/Main+Menu/Statistics/Inflation+Data/Consumer+Prices>

Chase, C. A. (2010). An intergenerational e-mail pal project on attitudes of college students toward older adults. *Educational Gerontology*, 37(1), 27-37.

Cohen, J. (1977). *Statistical power analysis for the behavioral sciences* (Rev. ed.). Lawrence Erlbaum Associates, Inc.

Cramm, J. M., & Nieboer, A. P. (2017). Positive ageing perceptions among migrant Turkish and native Dutch older people: A matter of culture or resources? *BMC Geriatrics*, 17(1), 159. <https://doi.org/10.1186/s12877-017-0549-6>

de Vries, L. P., van de Weijer, M. P., Pelt, D. H., Ligthart, L., Willemsen, G., Boomsma, D. I., ... & Bartels, M. (2021). Gene-by-Crisis Interaction for Optimism and Meaning in Life: The Effects of the COVID-19 Pandemic. *Behavior Genetics*, 1-13.

Drury, L., Hutchison, P., & Abrams, D. (2016). Direct and extended intergenerational contact and young people's attitudes towards older adults. *The British Journal of Social Psychology*, 55(3), 522–543. <https://doi.org/10.1111/bjso.12146>

Durbin, K. A., Barber, S. J., Brown, M., & Mather, M. (2019). Optimism for the future in younger and older adults. *The Journals of Gerontology: Series B*, 74(4), 565-574.

Faul, F., Erdfelder, E., Buchner, A., & Lang, A.-G. (2009). Statistical power analyses using G\*Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods*, 41(4), 1149–1160. <https://doi.org/10.3758/BRM.41.4.1149>

Fowler, C., & Harwood, J. (2021). Does perceived normativity of intergenerational contact enhance the effects of imagined intergenerational contact? *Group Processes & Intergroup Relations*, 24(7), 1151–1179.

Fung, H. H., Carstensen, L. L., & Lutz, A. M. (1999). Influence of time on social preferences: implications for life-span development. *Psychology and Aging*, 14(4), 595.

Han, H., & Ryu, K. (2009). The roles of the physical environment, price perception, and customer satisfaction in determining customer loyalty in the family restaurant industry. *Journal of Hospitality and Tourism Research*, 33(4), 487–510. <https://doi.org/10.1177/1096348009344212>

Hayes, A. F. (2018). Introduction to mediation, moderation, and conditional process analysis: A regression-based approach. PROCESS macro for SPSS (Version 3.5). Retrieved from <https://www.processmacro.org/download.html>

Hofstede, G. (2011). Dimensionalizing cultures: The Hofstede model in context. *Online Readings in Psychology and Culture*, 2(1), 2307–0919. <https://doi.org/10.9707/2307-0919.1014>

Kaniel, R., Massey, C., & Robinson, D. T. (2010). Optimism and economic crisis. Available at SSRN 1579050.

Kiliç, D., & Adibelli, D. (2011). The validity and reliability of Kogan's attitude towards old people scale in the Turkish society. *Health*, 3(9), 602–608. <https://doi.org/10.4236/health.2011.39101>

Küçükgülü, Ö., Mert, H., & Akpınar, B. (2011). Reliability and validity of Turkish version of attitudes toward old people scale. *Journal of Clinical Nursing*, 20(21–22), 3196–3203. <https://doi.org/10.1111/j.1365-2702.2011.03764.x>

Kwong, A. N., & Yan, E. (2021). How do face-to-face, extended and vicarious intergenerational contacts impact on young people's attitude and prosocial behaviour toward older people? *Ageing International*, 1–19. <https://doi.org/10.1007/s12126-021-09437-7>

Kwong, A. N., & Yan, E. C. (2023). The role of quality of face-to-face intergenerational contact in reducing ageism: The perspectives of young people. *Journal of Intergenerational Relationships*, 21(1), 136–151.

Levy, B. R. (2017). Age-stereotype paradox: Opportunity for social change. *The Gerontologist*, 57(suppl\_2), S118–S126. <https://doi.org/10.1093/geront/gnx059>

Levy, B. (2009). Stereotype embodiment: A psychosocial approach to ageing. *Current Directions in Psychological Science*, 18(6), 332–336. <https://doi.org/10.1111/j.14678721.2009.01662.x>

Liu, D., Xi, J., Hall, B. J., Fu, M., Zhang, B., Guo, J., & Feng, X. (2020). Attitudes toward aging, social support and depression among older adults: Difference by urban and rural areas in China. *Journal of Affective Disorders*, 274, 85–92.

Löckenhoff, C. E., & Carstensen, L. L. (2004). Socioemotional selectivity theory, aging, and health: The increasingly delicate balance between regulating emotions and making tough choices. *Journal of Personality*, 72(6), 1395–1424.

Lytle, A., Apriceno, M., Macdonald, J., Monahan, C., & Levy, S. R. (2020). Pre-pandemic ageism toward older adults predicts behavioral intentions during the COVID-19 pandemic. *The Journals of Gerontology. Series B, Psychological Sciences and Social Sciences*, gbaa210. Advance online publication. <https://doi.org/10.1093/geronb/gbaa210>

Lytle, A., & Levy, S. R. (2019). Reducing ageism: Education about aging and extended contact with older adults. *The Gerontologist*, 59(3), 580–588. <https://doi.org/10.1093/geront/gnx177>

Lytle, A., Nowacek, N., & Levy, S. R. (2020). Instapals: Reducing ageism by facilitating intergenerational contact and providing aging education. *Gerontology & Geriatrics Education*, 41(3), 308-319.

McGuinn, K.K., & Mosher-Ashley, P.M. (2002) Children's fears about personal aging. *Educational Gerontology*, 28 (7), 561–575, DOI: <https://doi.org/10.1080/03601270290099769>

Neikrug, S. M. (1998). The value of gerontological knowledge for elders: A study of the relationship between knowledge on aging and worry about the future. *Educational Gerontology: An International Quarterly*, 24(3), 287-296.

Nishi-Strattner, M., & Myers, J. E. (1983). Attitudes toward the elderly: An intergenerational examination. *Educational Gerontology: An International Quarterly*, 9(5–6), 389–397. <https://doi.org/10.1080/0380127830090503>

Okur, E., Akbal, Y., Yagci Sentürk, A., Daştan, B., & Kuralay, Ç. (2023). The willingness of elderly care program students to care for older adults and the associated factors: a multi-centered research. *Educational Gerontology*, 49(4), 333-344.

Özdemir Ocaklı, B., & Yalçın, B. (2021). Perception of intergenerational conflict in Turkey: A macro level analysis of determinants. *OPUS– International Journal of Society Researches*, 17(33), 67–94. <https://doi.org/10.26466/opus.818458> [Google Scholar]

Prior, K., & Sargent-Cox, K. A. (2014). Students' expectations of ageing: An evaluation of the impact of imagined intergenerational contact and the mediating role of ageing anxiety. *Journal of Experimental Social Psychology*, 55(November), 99–104. <https://doi.org/10.1016/j.jesp.2014.06.001>

Rosencranz, H. A., & McNevin, T. E. (1969). A factor analysis of attitudes toward the aged. *The Gerontologist*, 9(1), 55–59. <https://doi.org/10.1093/geront/9.1.55>

Saleh Manige, H., Papi, S., Sahaf, R., Abbasi Asl, M., Ramshini, M., Rassafiani, M., & Bodaghi, A. M. (2020). Predicting the perception of aging based on optimism in the elderly people. *Iranian Journal of Ageing*, 14(4), 450-461.

Schwarz, L. K., & Simmons, J. P. (2001). Contact quality and attitudes towards the elderly. *Educational Gerontology*, 27(2), 127–137. <https://doi.org/10.1080/03601270151075525>

Sheeran, P., & Webb, T. L. (2016). The intention–behavior gap. *Social and Personality Psychology Compass*, 10(9), 503–518. <https://doi.org/10.1111/spc3.12265>

Sörensen, S., Hirsch, J. K., & Lyness, J. M. (2014). Optimism and planning for future care needs among older adults. *GeroPsych*. <https://doi.org/10.1024/1662-9647/a000099>

Sun, Q., Lou, V. W., Dai, A., To, C., & Wong, S. Y. (2019). The effectiveness of the young–old link and growth intergenerational program in reducing age stereotypes. *Research on Social Work Practice*, 29(5), 519–528.

Sunar, D., & Fisek, G. (2005). Contemporary Turkish families. In U. Gielen & J. Roopnarine (Eds.), *Families in global perspective* (pp. 169–183). Allyn & Bacon/Pearson.

Tang, J., & Martins, J. T. (2021). Intergenerational workplace knowledge sharing: Challenges and new directions. *Journal of Documentation*, 77(3), 722–742. <https://doi.org/10.1108/JD-08-2020-0129>

Taylor, A. C., Robila, M., & Lee, H. S. (2005). Distance, contact, and intergenerational relationships: Grandparents and adult grandchildren from an international perspective. *Journal of Adult Development*, 12(1), 33–41. <https://doi.org/10.1007/s10804-005-1280-7>

Telek, A., Özgüzel, C., & Korkmaz, S. S. (2021). *Türkiye’de işgücündeki yaşlılar ve güvencesizlik* [Labor and the security of the elderly in Turkey]. İstanbul Politik Araştırmalar Enstitüsü.

Trumbo, C., Lueck, M., Marlatt, H., & Peek, L. (2011). The effect of proximity to Hurricanes Katrina and Rita on subsequent hurricane outlook and optimistic bias. *Risk Analysis: An International Journal*, 31(12), 1907–1918. <https://doi.org/10.1111/j.1539-6924.2011.01633.x>

Türgay, A. S., Şahin, S., Aykar, F. Ş., Sari, D., Badir, A., & Özer, Z. C. (2015). Attitudes of Turkish nursing students toward elderly people. *European Geriatric Medicine*, 6(3), 267–270.

TurkStat. (2021, September 1). *Labor force statistics (2014 and after)*. Employment, unemployment, and wages. <https://data.tuik.gov.tr/> [Google Scholar]

Turner, R. N., Crisp, R. J., & Lambert, E. (2007). Imagining intergroup contact can improve intergroup attitudes. *Group Processes & Intergroup Relations*, 10(4), 427–441. <https://doi.org/10.1177/1368430207081533>

Turner, R. N., & Crisp, R. J. (2010). Imagining intergroup contact reduces implicit prejudice. *British Journal of Social Psychology*, 49(1), 129–142. <https://doi.org/10.1348/014466609X419901>

Turner, R. N., Hewstone, M., Voci, A., & Vonofakou, C. (2008). A test of the extended intergroup contact hypothesis: The mediating role of intergroup anxiety, perceived ingroup and outgroup norms, and inclusion of the outgroup in the self. *Journal of Personality and Social Psychology*, 95(4), 843–860. <https://doi.org/10.1037/a0011434>

Turner, S. G., & Hooker, K. (2022). Are thoughts about the future associated with perceptions in the present?: Optimism, possible selves, and self-perceptions of aging. *The International Journal of Aging and Human Development*, 94(2), 123–137.

Turner, R. N., & West, K. (2012). Behavioural consequences of imagining intergroup contact with stigmatized outgroups. *Group Processes & Intergroup Relations*, 15(2), 193–202. <https://doi.org/10.1177/1368430211418699>

Webb, T. L., & Sheeran, P. (2006). Does changing behavioral intentions engender behavior change? A meta-analysis of the experimental evidence. *Psychological Bulletin*, 132(2), 249–268. <https://doi.org/10.1037/0033-2909.132.2.249>

Wise, R., & Öno, A. (2021). Intergenerational relationships and aging anxiety among emerging adults in Turkey. *Journal of Intergenerational Relationships*, 19(2), 196–208. <https://doi.org/10.1080/15350770.2020.1730293>

Wise, R. (2010). Intergenerational relationship characteristics and grandchildren's perceptions of grandparent goal influence. *Journal of Intergenerational Relationships*, 8(1), 54–68. <https://doi.org/10.1080/15350770903520668>

Wright, S. C., Aron, A., McLaughlin-Volpe, T., & Ropp, S. A. (1997). The extended contact effect: Knowledge across-group friendships and prejudice. *Journal of Personality and Social Psychology*, 73(1), 73–90. <https://doi.org/10.1037/0022-3514.73.1.73>

Yaghoobzadeh, A., Navab, E., Mirlashari, J., Nasrabadi, A. N., Goudarzian, A. H., Allen, K. A., & Pourmollamirza, A. (2020). Factors moderating the influence of intergenerational contact on ageism: A systematic review. *Journal of Psychosocial*

*Nursing and Mental Health Services*, 58(8), 48–55.  
<https://doi.org/10.3928/02793695-20200624-01>

Yoshii, H., Saito, H., Kikuchi, S., Ueno, T., & Sato, K. (2014). Report on maternal anxiety 16 months after the great East Japan earthquake disaster: anxiety over radioactivity. *Global Journal of Health Science*, 6(6), 1.  
<https://doi.org/10.5539/gjhs.v6n6p1>

Zaleski, Z., Sobol-Kwapinska, M., Przepiorka, A., & Meisner, M. (2019). Development and validation of the Dark Future scale. *Time & Society*, 28(1), 107–123.  
<https://doi.org/10.1177/0961463X16678257>

Zhou, S., Page-Gould, E., Aron, A., Moyer, A., & Hewstone, M. (2019). The extended contact hypothesis: A meta-analysis on 20 years of research. *Personality and Social Psychology Review*, 23(2), 132-160.