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## Ageism by a Community Sample of Young Adults: Expanding the Contact Hypothesis to Explore Ageism

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**Ageism by a Community Sample of Young Adults:  
Expanding the Contact Hypothesis to Explore Ageism**

A Dissertation Defense

presented in partial fulfillment of the requirements for  
the degree of Doctor of Philosophy  
in Community Psychology

Presented to

The Department of Psychology  
College of Science and Health

DePaul University

Chicago, IL

By

Helena Lucia Swanson

November 17<sup>th</sup>, 2023

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## **Biography**

Helena Lucia Swanson (she/her) was born in Wolcott, CT, on July 23, 1997. Helena graduated from Central Connecticut State University in New Britain, CT where she received her Bachelor of Arts degree in Psychology with a minor in Gerontology. After completing her Bachelor of Arts degree, she started the Community Psychology MA/PhD program at DePaul University in the Fall of 2019. Helena is passionate about community and social change to advance systems to foster health and well-being for people of all ages and abilities. Her research and community interests include ageism, the consequences of ageism at all ecological levels, community livability, age-friendly communities, aging in place, and food and housing insecurity across the lifespan. Helena is an Assistant Professor in Community and Health Psychology at Central Connecticut State University, starting Fall 2023.

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## Abstract

Aging demographics globally are changing rapidly, resulting in the category of “older adults” (65 years and older) growing to eventually become the largest age demographic (United Nations, 2022). As our world gets older, *ageism* is a growing concern given its health, societal, cultural, and political consequences (Chrisler et al., 2016; Bugental & Hehman, 2007; Levy et al., 2020). Following Allport’s Contact Hypothesis (1954), this dissertation empirically analyzed predictors of ageism, including contact with older adults, for younger adults (18-26 years old) residing in U.S. communities. Participants were recruited using Prolific Academic, an online crowdsourcing platform and responded to five scales and demographic questions, totaling approximately six minutes. Project scales included the Fraboni Scale of Ageism (Fraboni et al., 1990), the Intergroup Contact scale (adapted from Islam & Hewstone, 1993), the Perspective Taking scale (adapted from Davis, 1994), the Contact Valence scale (Barlow et al., 2012), and the Social Desirability scale (Reynolds, 1982). Analyses were conducted in The Statistical Package for the Social Sciences (SPSS, Version 27.0; IBM Corp, 2020).

Results indicated that, among a community sample of younger adults, younger adult’s contact with older adults predicted the younger adult’s ageist beliefs, with the relationship mediated by the younger adult’s ability to take the perspective of the older adult. Contact valence was tested as a moderator for the mediated relationship between contact, perspective taking, and ageism; and result indicate that contact valence does not moderate the mediated relationship.

The results from the present study provided insight into what variables may impact younger adult’s changes in ageist beliefs as a result of their contact with older adults. Findings have implications for psychometric development, intergenerational interventions, and future research. Most importantly, the findings display the importance of perspective taking as an



element in intergenerational interventions to reduce ageism among young adults. The present study expands The Contact Hypthesis (Allport, 1954) theory into the field of aging and ageism and calls attention to the role of perspective-taking in changing younger adult's ageism beliefs.

## Introduction

Aging demographics globally are changing rapidly, resulting in the category of “older adults” (65 years and older) growing to eventually become the largest age demographic (United Nations, 2022). The United Nations (2023) predicts there will be 1.6 billion older adults by 2025, accounting for more than 16% of the global population. As our world gets older, *ageism* is a growing concern given its health, societal, cultural, and political consequences (Chrisler et al., 2016; Bugental & Hehman, 2007; Levy et al., 2020). Given the multitude of consequences ageism has on all ecological levels of society, it is crucial researchers understand what predicts people's ageist beliefs. This study explores younger adults' contact with older adults, perspective-taking, and contact valence in relation to how they predict ageist beliefs.

### Defining Ageism

Butler (1969) coined the term “*ageism*”, a form of prejudice and discrimination “by one age group towards another age group”. Taking Butler’s (1969) definition into consideration, younger adults may also experience ageism from middle-age groups or older adults; however, in the context of this dissertation, when ageism is referenced, I am referring to younger adults’ ageism towards older adults. Ageism is arguably one of the leading forms of discrimination in our current society (Binstock, 1985; Kagan, 2008; Kagan, 2012). Ageism is the only form of discrimination against a subpopulation that we will all inevitably join barring a premature death. Like other forms of discrimination, ageism is problematic and impacts multiple ecological levels of society. On a micro/individual-level, research shows internalized ageism (i.e., older adults being prejudiced against their own age group) has negative health consequences and negatively impacts older adult's ability to age successfully (Seow et al., 2022). On a macro/policy-level,

ageism has policy implications for public policy, workplace policy, policies related to driving, legal rights of older adults, and more (Bugental & Hehman, 2007).

Previous theorists believed there are differences between the Western cultures and Eastern cultures on perceptions of older adults (e.g., ageism), which Vauclair and colleagues (2016) call the culture hypothesis. Vauclair and colleagues (2016) created the culture hypothesis to detail the differences in culture that may lead to different perceptions on aging and behavior towards older adults. However, various researchers found that culture differences are much more nuanced than what social scientists previously thought. When analyzing ageism cross-culturally, there is either similar ageist beliefs or contradictory results, such that persons from Eastern cultures may be considered more ageist than Western cultures (Huang, 2013; North & Fiske, 2015; Vauclair et al., 2017). North and Fiske (2015) asserted that there are other categories beyond Western-Eastern culture distinctions that are necessary to capture fully how different people, countries, and cultures perpetuate and experience ageism. Given the consequences of ageism, previous researchers theorized why ageism exists. In the current study, ageism predictor variables explored with a convenient sample of US citizens, to represent part of the Western world, at the micro/individual level in younger adults to understand younger adults' ageist beliefs.

### **Micro/Individual Level Theories of Younger Adults' Ageism**

#### ***Terror Management***

The fear of death is a relatively universal anxiety (Conzelus Moore, & Williamson, 2003). One individual-level theory explaining why ageism exists draws from *terror management* theory; more specifically, individuals may behave a certain way (e.g., ostracize older adults) to help manage their fear of death (Greenberg et al., 1986). The theory suggested that older adults

remind younger adults of their own eventual death and aging process, which pushes them to cling closer to those that are more like them (i.e., younger adults; Greenberg et al., 2004).

Consistent with this theory, it has been well studied that found that death anxiety (i.e., fear of death) and aging anxiety (i.e., fear of one's own aging process) predicted ageism (Bodner et al., 2015; Chonody & Teater, 2016).

### ***Social Identity Theory***

Similarly, the *social identity* theory (SIT) may be applied to younger adults' ageist beliefs about older adults, such that SIT suggests that younger adults are more likely to identify with people that share the same identity as them (i.e., someone that is also a younger adult) and push away outgroup members (i.e., older adults; Abrams & Hogg, 1988). The theory suggests that we all want to have a positive self-identity and feel group membership; therefore, to display positive group membership behavior in their group they may purposefully ostracize older adults or be ageist to show their membership status to other younger adults (Kite et al., 2002) who are residents of US communities.

### ***Theories about Physical Characteristics***

Previous research found that people link an individual's beauty and morality, attributing attractiveness to their moral character (Klebl et al., 2022). In modern society, given our fear of death, products and marketing are geared to encourage consumers to purchase anti-aging measures to look young for as long as possible (Katz, 2001). Following these ideas, multiple interpersonal theories such as the negative halo effect (Langlois et al., 2000), overgeneralization effect (Montepare & Zebrowitz, 2004), and social affordances (Palmore, 2003) all suggest that physical aging characteristics perceived as negative leads to make negative conclusions about older adults' character and/or demeanor.

### *Contact Hypothesis*

Another relevant theory is Allport's *Contact Hypothesis* which indicates that intergroup contact (e.g., contact between those in an in-group and those in an out-group) predicts prejudiced beliefs about an out-group (Allport, 1954; Brown & Hewstone, 2005; Pettigrew et al., 2007).

Allport specified three conditions for positive intergroup contact to occur; namely, (1) both group members need to have equal status in the situation, (2) both group members need to have a common purpose, (3) if the situation calls for it, members of both groups should work together, and (4) the interaction is more successful when it is supported by authority (e.g., laws).

Additionally, researchers Regan and Fazio (1977) found that when people have direct experience with an (typically negative) event/experience, typically demonstrate greater attitude-behavior consistency. Regan and Fazio (1977) stated that direct behavioral experiences lead to the ability to maintain an attitude about the experience, which in turn may predict behavior, while people with indirect experiences for the same event have less attitude-behavior consistency.

The Contact Hypothesis received a variety of critiques from other researchers in its application, specifically critiques related to race relations (Connolly, 2000; McKeown & Dixon, 2017). Connolly (2000) highlights a major critique of the Contact Hypothesis is that it fails to examine the 'multilayered' implications (e.g., interpersonal, political, biographical, structural, and ideological) of lack of intergroup contact. McKeown et al. (2017) expand on these critiques by detailing three additions; namely, (1) contact may be construed as a negative experience that increases rather than decreases prejudice, (2) contact is often limited by informal (re)segregation/segregation practices that can be overlooked, and (3) positive contact may have ironic effects of historically marginalized people. It is important to note that many of these

critiques related to researchers utilizing the Contact Hypothesis for studies on racism, using people of color as the out-group.

In the context of the current, the in-group was defined as younger adults and the out-group is defined as older adults. Unlike research on racism and sexism, fewer studies utilized the Contact Hypothesis related to ageism. One study by Grefe (2011) found supportive results for the application of the Contact Hypothesis related to ageism; such that, intergenerational contact groups, in which the four conditions for positive intergroup contact are met, may reduce ageism towards older adults. Christian and colleagues (2014) conducted a systemic review of ageism intervention studies using the Contact Hypothesis as the foundation and found mixed results; more specifically, more productive interventions were those that focused on long-term, sustaining relationships rather than short-term intervention. However, Christian and colleagues (2014) identified that of the ageism intervention studies, the majority of them focused on the impacts the intervention had on older adults' perceptions of younger adults and not younger adults' perceptions' of older adults.

Given the decades of research utilizing the Contact Hypothesis, multiple researchers have suggested expanding the theory to use additional variables and moderators. Yaghoobzadeh and colleagues (2020) found that for studies focusing on intergenerational contact predicting ageism, factors such as culture, age, and gender are important factors to use as control or moderating variables. Other variables to consider concerning the Contact Hypothesis and reducing prejudice include contact valence (Lolliot et al., 2015) and perspective-taking (Maner et al., 2020; Oh et al., 2016; Yee & Bailenson, 2006). For the current study, the micro/individual level theory of ageism that was explored, and expanded upon, is the Contact Hypothesis. The Contact

Hypothesis was chosen as the theoretical basis because there is a variety of baseline literature detailing its use for exploring ageism and expanding the theory to include additional variables.

### **Contact Valence**

*Contact valence* may be defined as the perception that contact is positive or negative, and is an important consideration for research on in-group and out-group interaction because whether the interaction is positive or negative may have different implications on an individual's prejudice beliefs (Lolliet et al., 2015). Barlow and colleagues (2012) explored the importance of contact valence for White/European Australians (in-group) and Black Australians, Muslim Australian, and asylum seekers (out-groups). The findings detail that contact quality and prejudice were moderated by valence; such that negative contact predicts increased prejudice more than positive contact predicts prejudice reduction. Regarding ageism research, Drury and colleagues (2017) explored contact valence in the context of care workers assisting older adults in their homes and found that negative contact between care workers in older adults and the denial of older adults 'humanness' led to ageist beliefs. Conversely, Harwood and colleagues' (2017) findings indicate that negative intergroup contact between younger and older adults may sometimes have positive effects, and positive contact may have negative effects.

Given the contradictory results, it is important to explore further the role contact valence has in predicting ageism. The current study explored contact valence as a predictor variable for younger adults' ageist beliefs who drew from a convenient sample residing in US communities.

### **Perspective Taking**

*Perspective taking* within the field of psychology is considered the ability to take the perspective of someone other than oneself, is an additional important factor to consider when exploring intergenerational contact to reduce ageism (Maner et al., 2020; Oh et al., 2016; Yee &

Bailenson, 2006). Yee and colleague (2006) conducted an experiment in which younger adults could digitally embody someone else in a different age group via an immersive virtual environment. Their results suggested that when a younger adult virtually embodied avatars of older adults, compared to those placed in avatars of young people, they reported reduced negative stereotyping of older adults; suggesting that the more perspective-taking younger adults receive on the experience of older adults, the less ageist they may be. Oh and colleagues (2016) conducted a study to explore if perspective-taking may mitigate ageism when intergroup threat (i.e., a situation in which one group's beliefs, actions, or characteristics challenge the well-being or goal attainment of another group; Riek et al., 2006). Their results detail that when intergroup threat is present engaging perspective-taking mitigated ageist beliefs. Maner and colleagues (2020) explored the roles of perspective-taking, knowledge of older adults and aging, and intergroup contact to predict ageist beliefs in Turkey university students. They found that the more knowledge, contact, and perspective-taking an individual has the less ageist they are; detailing that perspective-taking mediated the relationship between intergroup contact and ageism.

Taken together, it is clear that the role of perspective-taking is important when exploring intergroup contact predicting ageist beliefs. For the current study, perspective-taking was a predictor variable of younger adults' ageist beliefs. In the present study, participants were drawn from a convenient sample of US adults.

### **Community Psychology Relevance**

Community psychology values such as social justice and promoting well-being and a sense of community are relevant to research on ageism. Considering aligning values, one may



assume that multiple community psychologists are active in this research domain. Unfortunately, community psychology research related to aging is extremely sparse (Cheng & Heller, 2009).

Cheng and Heller (2009) call out community psychology as a field for its lack of research in the field of aging, "...it is quite astonishing that the field of community psychology rarely attends to issues of aging and has rarely attracted scholars and professionals working with older persons and their communities" (p.1). They detail that community psychologists have an important role to play in aging research including work on aging communities, aging in place, older adults' civic participation, aging policy issues, and empowering older adults. Since Cheng and Heller's (2009) article, it seems that there is a growing recognition of aging as a subfield of community psychology, evident by a chapter in the APA Community Psychology Handbook about community psychology and aging which details the various ways in which community psychologists have and could contribute to aging research (Hostetler & Paterson, 2017). The emersion of a new subfield was created by gerontologists called Community Gerontology, which pulls heavily from community psychology (Greenfield et al., 2019).

Taken together, understanding ageism is of interest to community psychology as a field and should be explored further. The current study explored predictors of ageism, including community contact, among young adults from a convenient community sample of US citizens. Community psychology considerations for prevention and intervention are detailed.

### **Rationale of the Present Study**

The current study explored predictors of ageism (intergroup contact, perspective taking, and contact valence) utilizing Allport's (1954) Contact Hypothesis as the theoretical foundation. The literature above has gaps that this study seeks to fill, including expanding the theory to include more variables and in the context of ageism. As mentioned above, contact valence and

perspective-taking are important variables to consider when using the Contact Hypothesis; therefore, this study uses these factors as mediating and moderating variables to explore their dual impact on ageism.

The current study also was a partial replication of Maner and colleagues' (2020) study; however, there were important distinctions between their study and the current study. Study elements that were consistent with Maner and colleagues (2020) study are the following: (1) perspective taking tested as a mediating variable between intergroup contact and ageism and (2) the measures used for intergroup contact and perspective taking were the same. The first distinction between Maner et al.'s (2020) study and the current study is the Maner and colleagues study was conducted in Turkey and the current study is conducted in the USA; and as detailed by the replication crisis, replicating psychology findings in different contexts is important for theory application (Wiggins & Christopherson, 2021). Second, Maner et al.'s (2020) study did not include contact valence as a predictor of ageism. Lastly, the current study utilized different measures of predictor variables than those that Maner et al. (2020) used. The current study adds to intergroup contact literature by conducting research in the context of ageism, exploring a model of intergroup contact including contact valence and perspective taking, and expanding the Contact. Taken together, this study adds to the literature by expanding the Contact Hypothesis by exploring the theory in the context of ageism and exploring mediators and moderators for the theory.

## Methods

### Participants

#### *Sample size*

Participants ( $N = 165$ ) were between the ages of 18-26, i.e., the conventional age range in behavioral research when the target population is younger adults (Stroud et al., 2015).

Throughout the survey, there were four attention checks to ensure participants were paying attention while completing the survey. An example of an attention check on the survey was, “Please select ‘strongly agree’ to show you are paying attention to this question”, with response options including strongly agree, agree, disagree, and strongly disagree. Participants that did not pass all four attention checks ( $n = 12$ ) were excluded from data analyses. After excluding participants, the sample sized used for data analyses included 153 participants. A power analysis was conducted using G\*Power using version 3.1.9.6. (Faul et al., 2007), and found the study has adequate power (power = .999), see Appendix A for G\*Power inputs.

#### *Demographics*

Participants responded to a variety of demographic variables. Study participants had a mean age of 23.07 ( $SD = 2.15$ ). The gender breakdown for participants were as follows: woman ( $n = 74$ , 48.4%), man ( $n = 73$ , 47.7%), and non-binary/ gender-fluid/ genderqueer ( $n = 6$ , 3.9%). Ten participants identified as transgender (6.5%). Demographic questions about race asked participants to “mark all that apply” to allow participants to self-identify with multiple races, resulting in percentages for race equaling above 100%. Race breakdown for participants were as follows: Caucasian ( $n = 113$ , 73.9%), Asian ( $n = 23$ , 15%), Black/ African American ( $n = 18$ , 11.8%), American Indian or Alaskan Native ( $n = 2$ , 1.3%), Native Hawaiian or other Pacific Islander ( $n = 1$ , 0.7%), or other race ( $n = 3$ , 2.0%). Twenty-eight participants (18.3%) identified

as Hispanic or Latino. Multiple participants indicated either currently living with an older adult ( $n = 46$ , 30.1%) or recently (within the last 6 months) lived with an older adult ( $n = 48$ , 31.4%). Lastly, 37 (24.2%) participants indicated they have previously taken a course that included content about aging or older adulthood.

## **Procedure**

IRB approval of the study and procedures were granted from DePaul University's IRB (#IRB-2023-904). Participants were recruited via Prolific Academic, an online platform that crowdsources participants. Consistent with previous research, Prolific Academic served as a reputable platform for behavioral research that produced a diverse pool of participants for the current study (Douglas et al., 2023; Peer et al., 2017). Data were collected in May 2023 and participants self-selected to participate in the study after reviewing a brief introduction to and the purpose of the study. The online survey was located on Qualtrics which provided a detailed consent form including participants' rights, risks, and benefits of participating in the study. Participants received \$2.50 for participating and it took participants an average of approximately 6 minutes to complete.

## **Psychometric Measures**

### ***Ageism***

Participants completed the 29-item *Fraboni Scale of Ageism* (Fraboni et al., 1990; see Appendix B). In previous literature, researchers used this scale as both a unidimensional scale and a multidimensional scale to measure an individual's ageist beliefs. When used as a multidimensional scale it consists of three subscales; namely, Avoidance, Discrimination, and Antilocution (i.e., a form of prejudice in which someone makes verbal remarks against a group of people). This scale was chosen for this study because of its comprehensive view of ageism,

characterized by the three subscales. Participants respond to items with a 4-point Likert scale (1 = *strongly disagree* to 4 = *strongly agree*), with higher scores indicating greater ageist beliefs. An example item for the scale is, “*It is best that old people live where they won’t bother anyone*”. The overall scale is reliable in the current study ( $\alpha = .903$ ). All subscales are also reliable in the current study: avoidance ( $\alpha = .824$ ), discrimination ( $\alpha = .774$ ), and antilocution ( $\alpha = .779$ ). Donizzetti (2019) reported an overall scale mean of 2.10 and a standard deviation of 0.35. The present study used the scale as a unidimensional scale and multidimensional scale.

### ***Intergroup Contact***

The *General Intergroup Contact Quantity and Contact Quality Scale* (Isla, & Hewstone, 1993) has two subscales to measure an individual’s quantity and quality contact with an out-group member (see Appendix C). For the purposes of this study, the “out-group” was used to reflect older adults. The two subscale scores were multiplied together to create one composite score for intergroup contact. This scale was consistent with Maner and colleagues (2020) measurement for perspective taking, so this study may be an accurate partial replication.

The quantity subscale is adapted for the current study to include more contact zones. The subscale additions are inspired by Kaplan et al. (2020) textbook on intergenerational contact zones to include more intergroup contact locations that were not in the original scale (i.e., in your family, at work, in the community). One original subscale item (How much contact do you have with older adults as neighbors?) is removed for the current study because the added community contact zone encompasses that zone.

With the adaptations for the current study, the *Quantity subscale* includes 7 items participants respond with a 7-point Likert scale (1 = not at all to 7 = a great deal). An example item includes, “*How much contact do you have with older adults at work?*” The subscale is

reliable in current study ( $\alpha = .819$ ). Hutchison & Rosenthal (2011) report a subscale mean of 3.36 and a standard deviation of 4.55. The quality subscale includes 5 items that participants answer with a 7-point Likert scale with differing, corresponding scale boundaries for each item. An example item with its corresponding response scale is, “*To what extent did you experience the contact with older adults as pleasant?*” Participants responded with a 7-point Likert Scale (1 = *not at all* to 7 = *very pleasant*). The subscale is reliable in the current study ( $\alpha = .760$ ). Hutchinson and Rosenthal (2010) report a subscale mean of 3.76 and a standard deviation of 0.99.

### ***Perspective Taking***

Participants also responded to the 7-item *Perspective Taking* subscale of the *Interpersonal Reactivity Index* (Davis, 1994; see Appendix D). This scale was consistent with Maner and colleagues (2020) measurement for perspective taking, so this study may be an accurate partial replication. The scale utilizes a 4-point Likert scale (1 = *does not describe me well* to 4 = *describes me well*). Higher scores indicate a greater ability for an individual to take the perspective of older adults. An example item is, “*Before criticizing an older adult, I try to imagine how I would feel if I were in their place*”. The subscale is reliable in the current study ( $\alpha = .824$ ). Beven and colleagues (2004) report a Perspective Taking subscale mean of 20.19 and a standard deviation of 4.25.

### ***Contact Valence***

Barlow and colleagues' (2012) *Contact Valence* scale was used to measure younger adult's perception that interactions they have had with older adults were positive or negative in the current study. The scale utilized a 7-point Likert scale (1 = *never* to 7 = *extremely frequently*) and included two items: (1) “On average, how frequently do you have negative/ bad contact with

[out-group]?” and (2) “On average, how frequently do you have positive/ good contact with [out-group]?”, see Appendix E.

### ***Social Desirability***

In addition, all participants completed a unidimensional 13-item true-false forced choice social desirability measure (Reynolds, 1982; see Appendix F). Social desirability is a participant's tendency to give socially appropriate responses. For the current study, social desirability was a control variable. An example item is, “*I’m always willing to admit it when I make a mistake*”. The scale was reliable in the current study ( $\alpha = .713$ ).

### **Hypotheses & Research Questions**

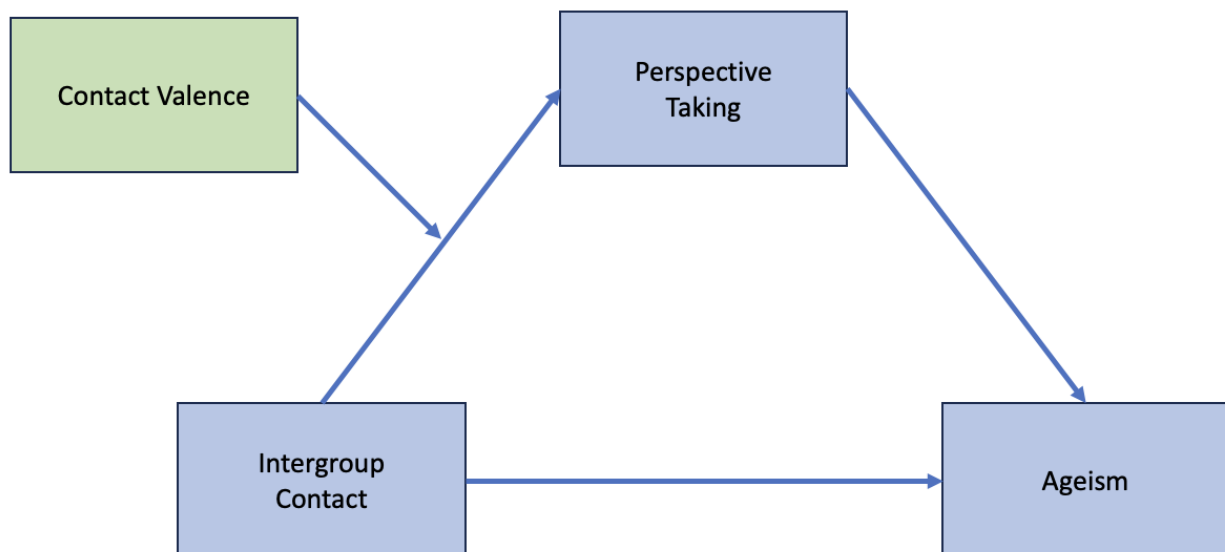
For the current study, there were three primary hypotheses, namely:

Hypothesis I: *Consistent with previous literature, intergroup contact will predict ageism.*

Hypothesis II: *Consistent with previous literature, perspective-taking will mediate the relationship between intergroup contact and ageism.*

Hypothesis III: *Contact valence will moderate the mediated relationship between intergroup contact, perspective-taking, and ageism (see Figure 1).*

Figure 1. Conceptual model for Hypothesis III.



There were two primary research questions for the current study.

**Research Question I:** *Does the model detailed in Hypothesis III differ if the contact environment (i.e., community, work, family, college) is the community versus other environments?*

**Research Question II:** *Does the model detailed in Hypothesis III differ if the ageism subscales were used (e.g., Avoidance, Discrimination, and Antilocution) rather than the composite score?*

## **Results**

All project analyses were conducted in The Statistical Package for the Social Sciences (SPSS, Version 27.0; IBM Corp, 2020).

### **Preliminary Analyses**

Means, standard deviations, and zero-order correlations for all variables are found in Table 1. Given social desirability's significant relationship with the ageism avoidance subscale, the intergroup contact composite score, and perspective taking, partial correlates controlling for social desirability were conducted (see Table 2).

Gender differences, excluding non-binary/gender-fluid/genderqueer participants because of their low sample size in the data sample ( $n = 6$ ), were conducted to explore differences in ageist beliefs. A *t*-test analysis was conducted and concluded that there were significant gender differences, such that men are higher than women on all measures of ageism (see Table 3). Lastly, a MANOVA assessed race differences for ageism and found no significant results.



Table 1. Mean Response Score and Zero Order Correlates between All Self-reported Scales

Variable	<i>M (SD)</i>	1	2	3	4	5	6	7	8	9	10
<i>Ageism Scale</i>											
1. Avoidance Subscale	2.17 (0.47)	[.824]									
2. Discrimination Subscale	1.79 (0.42)	.636**	[.774]								
3. Antilocution Subscale	2.29 (0.43)	.726**	.556**	[.779]							
4. Ageism Scale Total	2.11 (0.39)	.917**	.800**	.893**	[.903]						
<i>Intergroup Contact Scale</i>											
5. Quantity Subscale	3.35 (1.14)	-.153	.045	-.061	-.466**	[.819]					
6. Quality Subscale	4.64 (0.98)	-.484**	-.317**	-.360**	-.257**	.282**	[.760]				
7. Composite Score	15.86 (7.16)	-.330**	-.120	-.194*	-.077	.878**	.681**	-			
8. Contact Valence	29.13 (12.68)	-.052	-.030	-.065	-.058	.348**	.037	.246**	-		
9. Perspective Taking	2.83 (0.61)	-.344**	-.360**	-.219**	-.345**	.210**	.325**	.295**	.100	[.824]	
10. Social Desirability	5.29 (2.81)	-.171*	-.094	-.109	-.146	.125	.122	.162*	.012	.223**	[.713]
<i>N</i> = 153.		* <i>p</i> < .05		** <i>p</i> < .01							

**Note:** Values in parentheses are standard deviations. Values along the diagonal are the alpha coefficients with the present sample. Alpha scores not presented for *Intergroup Contact Composite Score* because the composite score is calculated by multiplying the Quantity subscale and Quality subscale nor the Contact Valence scale because it is a 2-item scale.

Table 2. Partial Correlates, Controlling for Social Desirability Scores

Variable	1	2	3	4	5	6	7	8	9
<i>Ageism Scale</i>									
1. Avoidance Subscale	-								
2. Discrimination Subscale	.628**	-							
3. Antilocution Subscale	.730**	.573**	-						
4. Ageism Scale Total	.915**	.800**	.898**	-					
<i>Intergroup Contact Scale</i>									
5. Quantity Subscale	-.138	.051	-.050	-.065	-				
6. Quality Subscale	-.476*	-.373**	-.354**	-.460**	.262**	-			
7. Composite Score	-.315**	-.113	-.183*	-.244**	.878**	.672**	-		
8. Contact Valence	-.061	-.045	-.061	-.064	.376**	.047	.269**	-	
9. Perspective Taking	-.323**	-.364**	-.201*	-.328**	.193*	.311**	.274**	.098	-
<i>N</i> = 153		* <i>p</i> < .05		** <i>p</i> < .000					

Table 3. Mean Ageism Score by Gender

	Women		Men		<i>t</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Avoidance Subscale	2.04	0.47	2.27	0.44	-3.062**
Discrimination Subscale	1.69	0.40	1.87	0.40	-2.938**
Antilocution Subscale	2.15	0.39	2.39	0.43	-3.487**
Ageism Scale Total	1.99	0.37	2.21	0.36	-3.687**

Women, *n* = 74; Men, *n* = 73. \*\**p* < .01

*Note:* Non-binary/Gender-fluid/Genderqueer participants were excluded in data analyses, because of the small sample size (*n* = 6).

## Primary Analyses

### *Hypothesis I*

To evaluate the first hypothesis, a *linear regression analysis* was conducted. The inputs were a composite score of intergroup contact as the predictor variable and an averaged ageism score as the outcome variable. The regression analysis concluded intergroup contact composite score predicts ageism, see Table 4.

Table 4. Intergroup Contact Predicting Ageism

Effect	<i>F</i>	<i>df</i>	<i>SE</i>	<i>p</i>	<i>R</i> <sup>2</sup>
Intergroup Contact	10.65	1, 151	.004	.001	.066

*N* = 151.

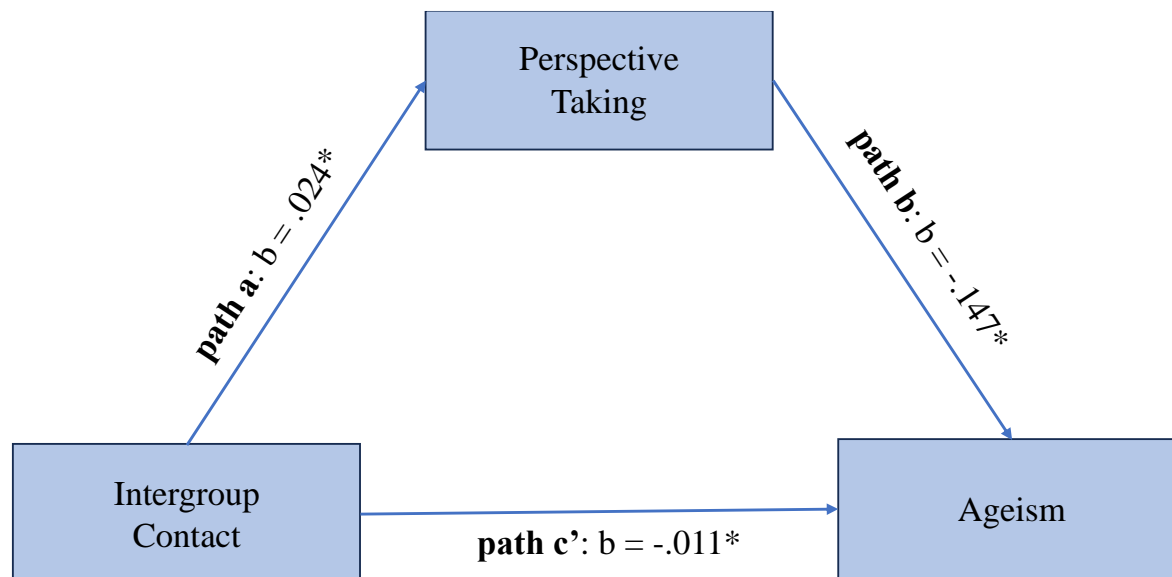
### *Hypothesis II*

To evaluate the second hypothesis, a *mediation analysis* using PROCESS (Hayes, 2022) was conducted. The inputs were the intergroup contact composite score as the predictor variable, an average perspective-taking score as the mediating variable, and an averaged ageism score as the outcome variable. The following variables were control variables in the model: gender identity, transgender identity, race demographic, if participants lived with an older adult currently or recently, if participants previous took a course related to aging and/or older adulthood, and social desirability.

The mediation analysis concluded that path a (the effect of intergroup contact composite score on perspective taking) was significant,  $b = 0.024$ ,  $p = .001$ ,  $R^2 = .1409$ . The second step of the mediation analysis revealed that path b (the effect of perspective taking on ageism) was also significant,  $b = -0.147$ ,  $p = .003$ . The direct effect ( $c'$ ), which represents the effect of perspective taking mediating the relationship between intergroup contact and ageism was significant,  $b = -0.011$ ,  $p = .014$ . Path b and  $c'$  results show that 25% of the variance in ageism may be attributed

to intergroup contact and perspective taking,  $R^2 = .2515$ . The indirect effect also is considered significant because the 95% confidence interval (CI) excludes zero,  $b = -0.004$ , CI = -0.0071 to -0.0009. Taken together, these results represent a partial mediation, such that the effect of intergroup contact on ageism is partially mediated by perspective taking, see Figure 2.

Figure 2. Mediation Model Predicting Ageism



$N = 151$

\* $p < .05$

*Note:* Covariates: gender identity, transgender identity, race demographic, if participants lived with an older adult currently or recently, if participants previous took a course related to aging and/or older adulthood, and social desirability.

### ***Hypothesis III***

To evaluate the third hypothesis, a *moderated mediation analysis* using PROCESS (Hayes, 2022) will be conducted using model 7. The independent variable (X) will be a composite score of the intergroup contact subscales, the moderator variable (W) will be the single-item contact valence, the mediating variable (M) will be perspective taking, and the outcome variable (Y) will be an average ageism score. The analysis concluded that the

interaction effect of intergroup contact and contact valence on perspective taking (path a) was not significant,  $b = -0.001$ ,  $p = .159$ ; indicating the moderated mediation analysis was not significant.

Table 5. Moderated Mediation Predicting Ageism

Path	Predictors	Outcome	Coefficients	<i>t</i> -value	<i>p</i>
a	Intergroup Contact x Contact Valence	Perspective Taking	-.001	-1.67	.097
b	Perspective Taking	Ageism	-.147	-3.04	.003
c'	Intergroup Contact	Ageism	-.011	-2.49	.014

$N = 151$ .

### ***Research Question I***

To evaluate the first research question, five additional *moderated mediations* were conducted using PROCESS (Hayes, 2022) using model 7. For each of the five models, the only change was the independent variable (X) in which the five separate independent variables were a composite score of intergroup contact, but only including one intergenerational contact zone at a time (e.g., college, family, work, close friends, and community). The rest of the model was consistent with what is laid out in Hypothesis III: the moderator variable (W) contact valence, the mediating variable (M) perspective taking, and the outcome variable (Y) was the averaged ageism score. All five moderated mediation analyses produced non-significant results (see Appendix J for details).

### ***Research Question II***

To evaluate the second research question, three additional *moderated mediations* were conducted using PROCESS (Hayes, 2022) using model 7. For each of the three models, the only change was the outcome variable (Y) in which the three subscales for the ageism scale were utilized. The rest of the model was consistent with what is laid out in Hypothesis III: the independent variable (X) intergroup contact, the moderator variable (W) contact valence, and the

mediating variable (M) was perspective taking. All three moderated mediation analyses produced non-significant results (see Appendix K for details).

### **Discussion**

The current study used Allport's (1954) *Contact Hypothesis* as the theoretical foundation to examine the relationship between intergroup contact between younger adults and older adults, contact valence from the younger adult's perspective, the younger adult's ability to take the perspective of older adults, and the younger adult's ageist beliefs. More specifically, the present study explored perspective taking as a mediating variable for the relationship between intergroup contact and ageism. Additionally, contact valence was tested as a moderator for the mediated relationship between perspective taking, intergroup contact, and ageism.

Following the Contact Hypothesis (Allport, 1954), the first hypothesis expected intergroup contact to predict ageism. The results indicated that the relationship between intergroup contact and ageism was significant, consistent with the Contact Hypothesis (Allport, 1954). While the results supported the model by Allport (1954), the present study does add to the literature by expanding the Contact Hypothesis to the context of ageism for younger adults (a previously demographic largely ignored in other studies). Furthermore, although the relationship between intergroup contact and ageism is significant, the effect size of the relationship is small with only about six percent of the variability in ageism accounted by intergroup contact.

To explore further the relationship between intergroup contact and ageism, the second hypothesis predicted that perspective taking would mediate the relationship. Consistent with Maner and colleagues (2020), the present study found perspective taking as a significant partial mediator for the relationship between intergroup contact and ageism. Evidence finding perspective taking as a partial mediator shows that the impact of younger adult's ageist beliefs

based on their intergroup contact with older adults may be partially explained by the younger adult's ability to take the perspective of the older adult. However, the partial mediation leads to future questions about what other variables may mediate the relationship between younger adult's intergroup contact and ageism.

The third hypothesis predicted contact valence would be a moderator for the mediated relationship between intergroup contact, perspective taking, and ageism. The results found no significant evidence of contact valence moderating the mediated relationship. More specifically, younger adult's perception that the contact they had with an older adult was either positive or negative did not significantly impact their ability to take the perspective of the older adult, thus not impacting their ageist beliefs. These results contradict Drury and colleagues (2017) study on older adult's care workers ageist beliefs and Harwood and colleagues (2017) findings on younger adult's ageist beliefs, which both showed that the perception of contact being positive or negative, i.e., contact valence, significantly impacted ageist beliefs. One potential reason why the results between the present study and Drury et. al. (2017) as well as Harwood et. al. (2017) differed may be because in the present study, participants thought about their general experiences with older adults and reported the frequency in which they experienced positive or negative contact with older adults. In Harwood and colleagues (2017), for instance, participants responded to their perception of contact with older adults with more detailed positive and negative descriptors (e.g., positive descriptors: pleasant, friendly, co-operative; negative: unpleasant, unfriendly, uncooperative), which may have led to participants reflecting on their experience more, leading to rich contact valence data. Similar data including positive and negative descriptors of contact in the present study were used but were comprised in the Intergroup Contact Quality subscale. Future research might benefit from exploring the qualitative

differences between contact quality and contact valence to differentiate their use in intergroup contact research. Overall, future research is needed to fully understand how younger adult's perception of contact being either positive or negative after interacting with an older adult impact changes in ageist beliefs.

The first research question explored if results for the moderated mediation model from hypothesis three would differ based on different intergenerational contact zones. Intergenerational contact zones included at college, in your family, at work, as close friends, and in the community. Consistent with results from hypothesis three, there was no significant presence of a moderated mediation, regardless of the intergroup contact zone. The lack of significant findings obtained in the present study may be a result of the presence of contact valence in the model, which we know from hypothesis three was not a significant moderator. Following the potential reasoning as why hypothesis three was not significant, the results from the first research question may not produce significant results because there is a need for better contact valence measurement for intergroup contact research. Further investigation would benefit from better contact valence measurement; and with the better measurement, has the potential to understand the impact of different intergenerational contact zones and their relationship with younger adult's ageist beliefs.

The second research question explored if results for the moderated mediation model from hypothesis three would differ based on different types of ageism as the outcome variable. The different types of ageism included the three subscales of ageism: namely, avoidance, discrimination, and antilocution. Consistent with results from hypothesis three, there was no significant presence of a moderated mediation, regardless of the type of ageism as the outcome variable. Similar to the first research question, the lack of significant findings may be a result of



the presence of contact valence in the model, which we know is not a significant moderator from hypothesis three. As specified previously, better, more consistent contact valence measurement may lead to a deeper understanding on how positive or negative feedback may impact prejudice beliefs. With better measurement, further investigation is needed to capture how different forms of ageism may be impacted by younger adult's intergroup contact with older adults.

### **Interventions to Reduce Ageism**

The results from the present study may contribute to community-based interventions to reduce younger adult's ageist beliefs about older adults. Effect ageism intervention methods created to date generally include education, intergenerational contact, and the combination of education and intergenerational contact (Burnes et al., 2019; Lytle et al., 2021; Nelson, 2019). However, few ageism interventions to date have added perspective taking exercises to intervention activities; despite its well-established reputation of decreasing stereotyping in other contexts outside of ageism (Aberson & Haag, 2007; Galinsky & Moskowitz, 2000; Vescio et al., 2003).

### ***Promoting Perspective Taking in Community-Based Interventions to Reduce Ageism***

Within the context of ageism, experimental researchers Oh and colleagues (2016) found using immersive virtual environments was more effective than one's imagination in promoting perspective taking to reduce ageism. Oh and colleagues (2016) study and the results from this study begin to build an argument for the inclusion of perspective taking activities in interventions to reduce ageism. Similarly, but outside of the context of ageism, Herrera and colleagues (2018) placed participants in three perspective taking conditions (i.e., immersive virtual reliability, less immersive virtual reliability experience, and traditional/ imagination-based perspective taking) to promote empathy for homeless people. Herrera and colleagues (2018) and found that regardless

of the perspective taking condition that all participants reported an increase in empathy and a sense of connectedness with to homeless people. Beyond virtual reality experiences, a different and more community-oriented way to promote perspective taking is service-learning experiences.

### ***Service-Learning Educational Experiences as an Intervention to Promote Perspective Taking***

There is conflicting research that identifies service learning as a way to promote perspective taking. Johnson and colleagues (2017) found that college student's participating in service learning did not report a significant increase in social perspective taking. However, contradictory to Johnson and colleagues (2017) findings, Engberg and Fox (2011) found that college students that participated in service learning experiences had a significant increase in global perspective taking, which is defined as "the acquisition of knowledge, attitudes, and skills important to intercultural communication and the development of a more complex epistemological processes, identities, and interpersonal relations" (p. 85). Similarly, Barrera and colleagues (2018) found that student's participating in service learning experiences contributed to student's perspective taking. Taken together, it is clear there is a need for more research on service learning to promote perspective taking for college students.

### **Limitations from the Present Study**

The current study, of course, is not without limitations. First, there are a few measurement limitations to be considered. While the Fraboni's Scale of Ageism (1990) is one of the most widely used scales to measure ageism, a recent systemic review by Ayalon and colleagues (2019) found that, similar to other existing scales of ageism, the scale has inconsistent validity and reliability across studies. More specifically, Ayalon and colleagues (2019) found that the Fraboni Scale of Ageism had moderate content validity and structural validity, low

internal consistency, cross-cultural consistency, and construct validity, and very low reliability. Ayalon and colleagues report that there is no existing scale of ageism that meets the minimum requirements for psychometric validation and provides a holistic overview of ageism. Future researchers would benefit from creating a valid and reliable ageism scale.

Second, there were limited measurement options available when the author was seeking a scale to measure contact valence. The Barlow and colleagues (2012) two-item measure did not yield significant results in this study, which may be a result of measurement limitations. There is a need for future researchers to develop an updated contact valence measure that provides a holistic view of a respondent's perception of an interaction.

Beyond measurement limitations, sampling limitations may also be considered for the current study. While this study focused on younger adult's (18-26 years of age) ageist beliefs, it would be beneficial for future researchers to gather data on all age groups to explore how different variables and experiences for different age groups (e.g., children, teenagers, young adults, middle-aged adults, and older adults) may impact the development of ageist beliefs. Additionally, the current study's participants recruited from Prolific Academic. While Prolific Academic is considered one of the better options for online crowdsourcing (Douglas et al., 2023; Peer et al., 2017), it would be advantageous for future researchers to explore the relationship between the present study variables in smaller, more niche communities. Exploring the impact various variables may have ageism in smaller, more niche communities would be beneficial to fully capture how different people within certain communities may develop ageist beliefs.

Furthermore, there are theory limitations in the present study. The Contact Hypothesis (Allport, 1954) has multiple critiques, mostly surrounding the simplicity of the theory calling for the need to include additional variables in the model to explain how intergroup contact predicts

changes in prejudice beliefs. While the current study revealed perspective taking as a partial mediator between intergroup contact and ageist beliefs; the results lead to more questions regarding what other variables may help explain the relationship between intergroup contact and prejudice. Future research should be conducted to understand other mediators for the relationship between intergroup contact and prejudice in general, as well as ageism specifically.

Lastly, a theory limitation of the present study is only exploring ageism from a narrow perspective that proports that younger adult's ageist beliefs are universal for all older adults. On the contrast, older adults that hold other marginalized identities (e.g., people of color, people with disabilities, LGBTQ+ people) experience ageism differently compared to older adults that may hold privilege identities (e.g., White, heterosexual, cis-gender, able-bodied) because of the other structural forms of discrimination older adults with marginalized identities may experience (e.g., structural racism; Farrell et al., 2022). Farrell and colleagues (2022) found that older adults of color experience healthcare systems differently as a result of the dual impact of structural racism and ageism, leading to exacerbating health disparities among older adults. Future research may benefit from exploring The Contact Hypothesis using an intersectionality perspective.

### **Future Research for Social/Community Psychologists**

The results from the present study have implications for psychometric development, interventions, and research. Each of these future research lines of investigation were presented below.

#### ***Psychometrics***

The present study investigated the role of contact valence as a moderator for the mediated relationship between intergroup contact, perspective taking, and ageism. However, the results indicated that there was no significant moderating effect of contact valence on the mediated

model. The measure used for contact valence in the present study was only a two-item measure; it would be advantageous for future researchers to develop a new and holistic measure for contact valence. Additionally, as mentioned, there is a need for better, more holistic measurement of ageism to be curated (Ayalon et al., 2019).

### ***Intergenerational Interventions***

The results from the present study shed light on the need to include perspective taking in intervention models to reduce ageism. Future researchers and community-aging practitioners would benefit from working together to create interventions to disrupt ageist beliefs and promote perspective taking. The current study only focused on younger adult's ageist beliefs about older adults; however, future interventions would benefit from taking a holistic approach to ageism. A holistic approach to ageism interventions would include focusing on younger adult's ageist beliefs about older adults, older adult's ageist beliefs about younger adults, and internalized ageism (i.e., older adult's ageist beliefs towards themselves or other older adults). Following the results of this study, the designed intervention should include perspective-taking activities to help the impact intergroup contact and ageism. Furthermore, intergenerational interventions would benefit from an ecological perspective, including multiple levels society. Using an ecological perspective when designing intergenerational interventions may provide important insights for policy development to reduce ageism at the macrosystem level (Gendron et al., 2022).

### ***Research***

Following the creation of new psychometrics for contact valence and ageism, future research would benefit from exploring the relationship that contact valence plays in the Contact Hypothesis (Allport, 1954) in the context of ageism, including the mediating role of perspective

taking. The current study asked participants to report on their experiences and beliefs in order to fully capture the complexity of how interventions as described above may impact participants, it would be advantageous for researchers to design a longitudinal impact evaluation of the intervention. A longitudinal impact evaluation would give researchers and practitioners insight into how intergroup contact and perspective taking as a result of the intervention may change overtime and, in turn, may impact changes in ageist attitudes and beliefs.

### **Conclusion**

The current study expanded the literature on the Contact Hypothesis (Allport, 1954) by expanding it to the context of ageism. Furthermore, this study adds to the literature because we explored the role of contact valence and perspective taking for the Contact Hypothesis. The results from the present study provided supportive evidence for perspective taking as a partial mediator for the relationship between intergroup contact and ageist beliefs in younger adults. Contact valence was explored as a moderator for the mediated relationship between intergroup contact, perspective taking, and ageist beliefs, and the results did not support contact valence as a moderator in the model. Taken together, these results add to our understanding of how prejudice beliefs may or may not be changed from contact between an in-group and an out-group. Furthermore, findings from this study are a partial replication of Maner and colleagues (2020) findings that also detail the mediating role of perspective taking for the relationship between intergroup contact and ageism. The results from this study may help to improve intergenerational interventions to disrupt ageism by including perspective taking.

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## Appendix A

### *G\*Power Inputs*

Test family	F tests	
Statistical test	Linear multiple regression: Fixed model, $R^2$ increase	
Type of power analysis	Post hoc: Compute achieved power – given $\alpha$ , sample size, and effect size	
Effect size ( $R^2$ )	0.17	
$\alpha$ err prob	.05	
Total sample size	153	
Number of tested predictors	1	Ageism
Total number of predictors	9	Intergroup Contact Perspective Taking Contact Valence Gender Race Age Currently or recently lived with an older adult Previously taken a developmental course Social desirability

*Note:* The following predictors are control variables: gender, race, age, currently living or recently lived with an older adult, previously taken a developmental course, and social desirability.

## Appendix B

### *Fraboni Scale of Ageism*

Instructions: Please respond to the following questions.

Response scale: 1 = Strongly disagree, 2 = Disagree, 3 = Agree, 4 = Strongly agree

Items:

1. Teenage suicide is more tragic than suicide among the old.
2. There should be special clubs set aside within sports facilities so that old people can compete at their own level.
3. Many old people are stingy and hoard their money and possessions.
4. Many old people are not interested in making new friends, preferring instead the circle of friends they have had for years.
5. Many old people just live in the past.
6. I sometimes avoid eye contact with old people when I see them.
7. I don't like it when old people try to make conversation with me.
8. Old people deserve the same rights and freedoms as do other members of our society. (*R*)
9. Complex and interesting conversations cannot be expected from most old people.
10. Feeling depressed when around old people is probably a common feeling.
11. Old people should find friends their own age.
12. Old people should feel welcome at social gatherings of young people. (*R*)
13. I would prefer not to go to an open house at a senior's club, if invited.
14. Old people can be very creative. (*R*)
15. I personally would not want to spend much time with an old person.
16. Most old people should not be allowed to renew their driver's licenses.
17. Old people don't really need to use our community sports facilities.
18. Most old people should not be trusted to take care of infants.
19. Many old people are happiest when they are with people their own age.
20. It is best that old people live where they won't bother anyone.
21. The company of most people is quite enjoyable. (*R*)
22. It is sad to hear about the difficulties old people experience in our society these days. (*R*)
23. Old people should be encouraged to speak out politically. (*R*)
24. Most old people are interesting, individualistic people. (*R*)
25. Most old people would be considered to have poor personal hygiene.
26. I would prefer not to live with an old person.
27. Most old people can be intimidating because they tell the same stories over and over.
28. Old people complain more than other people do.
29. Old people do not need much money to meet their needs.

*Reference:* Fraboni, M., Saltstone, R., & Hughes, S. (1990). The Fraboni Scale of Ageism (FSA): An attempt at a more precise measure of ageism. *Canadian Journal on Aging / La Revue Canadienne Du Vieillissement*, 9(1), 56–66.  
<https://doi.org/10.1017/S0714980800016093>



## Appendix C

### *General Intergroup Contact Quantity and Contact Quality Scale*

#### Subscale: Quantity

Instructions: For the following questions, the word contact is used to describe physical interaction between you and older adults. For this study, an older adult is anyone 65 years old or above.

Response scale: 1 = not at all, 2 = not much, 3 = infrequently, 4 = sometimes, 5 = frequently, 6 = a good deal, 7 = a great deal

How much contact do you have with older adults...

1. ...at college?
2. ...in your family?
3. ...at work?
4. ...as close friends?

Contact with an older adult in the community could include face-to-face interactions in your neighborhood, when volunteering, at a gym, at a religious institution, at a library, when engaging in hobbies outside of your home, and other activities in the community.

5. How much contact do you have with older adults in your community?

How often have you....

1. ...engaged in informal conversations with older adults?
2. ...visited the homes of older adults?

#### Subscale: Quality

Instructions: To what extent did you experience the contact with older adults as...

1. ...equal?
  - a. 1 = definitely not – 7 = definitely yes
2. ...involuntary or voluntary
  - a. 1 = definitely involuntary – 7 = definitely voluntary
3. ...superficial or deep?
  - a. 1 = very superficial – 7 = very deep
4. ...pleasant?
  - a. 1 = not at all – 7 = very
5. ...competitive or cooperative?
  - a. 1 = very competitive – 7 = very cooperative

*Adapted from:* Islam, M. R., & Hewstone, M. (1993). Dimensions of contact as predictors of intergroup anxiety, perceived out-group variability, and out-group attitude: An integrative model. *Personality and Social Psychology Bulletin*, 19(6), 668–759.

## Appendix D

### *Davis' Interpersonal Reactivity Index Perspective Taking Subscale*

Instructions: Read each of the following statements and rate how well each of them describes you.

Response scale: 1 = Does not describe me well, 2 = Describes me a little, 3 = Describes me somewhat well, 4 = Describes me well

Items:

1. Before criticizing an older adult, I try to imagine how I would feel if I were in their place.
2. If I'm sure I am right about something, I don't waste much time listening to an older adult's argument. (*R*)
3. I sometimes try to understand an older adult better by imagining how things look from their perspective.
4. I believe that there are two sides to every argument and try to look at them both.
5. I sometimes find it difficult to see things from an older adult's point of view. (*R*)
6. I try to look at everybody's side of a disagreement, including an older adult, before I make a decision.
7. When I am upset at an older adult, I usually "put myself in their shoes" for a while.

*Adapted from:* Davis, M. H. (1994). *Empathy: A social psychological approach* Madison, WI: Brown & Benchmark Publishers.

## Appendix E

### *Barlow et al. Contact Valence Scale*

On average, how frequently do you have POSITIVE/ GOOD contact with older adults?

- 1 = never
- 2 = rarely
- 3 = occasionally
- 4 = sometimes
- 5 = frequently
- 6 = usually
- 7 = extremely frequently

On average, how frequently do you have NEGATIVE/ BAD contact with older adults?

- 1 = never
- 2 = rarely
- 3 = occasionally
- 4 = sometimes
- 5 = frequently
- 6 = usually
- 7 = extremely frequently

Barlow, F. K., Paolini, S., Pedersen, A., Hornsey, M. J., Radke, H. R. M., Harwood, J., Rubin, M., & Sibley, C. G. (2012). The contact caveat: Negative contact predicts increased prejudice more than positive contact predicts reduced prejudice. *Personality and Social Psychology Bulletin*, 38(12), 1629–1643. <https://doi.org/10.1177/0146167212457953>

## Appendix F

### *Reynold's Social Desirability Scale*

Instructions: Listed below are a number of statements concerning personal attitudes and traits. Read each item and decide whether the statement is true or false as it pertains to you.

Response scale: True / False

Items:

1. It is sometimes hard for me to go on with my work if I am not encouraged.
2. I sometimes feel resentful when I don't get my own way.
3. On a few occasions, I have given up doing something because I thought too little of my ability.
4. There have been times when I felt like rebelling against people in authority even if I knew they were right.
5. No matter who I'm talking to, I'm always a good listener.
6. There have been occasions when I took advantage of someone.
7. I'm always willing to admit it when I make a mistake.
8. I sometimes try to get even, rather than forgive and forget.
9. I am always courteous, even to people who are disagreeable.
10. I have never been irked when people expressed ideas very different from my own.
11. There have been times when I was quite jealous of the good fortune of others.
12. I am sometimes irritated by people who ask favors of me.
13. I have never deliberately said something that hurt someone's feelings.

*Reference:* Reynolds, W. M. (1982). Development of reliable and valid short forms of the Marlowe-Crowne social desirability scale. *Journal of Clinical Psychology*, 38, 119-125.  
<https://doi.org/10.1002/1097-4679>

## Appendix G

### *Demographic Questions*

1. How old are you? \_\_\_\_\_
2. What is your gender?
  - a. Woman
  - b. Man
  - c. Non-binary/Gender-fluid/Genderqueer
3. Do you identify as transgender?
  - a. Yes
  - b. No
4. What is your race? Mark all that apply.
  - a. American Indian or Alaska Native
  - b. Asian
  - c. Black or African American
  - d. Native Hawaiian or Other Pacific Islander
  - e. White or Caucasian
  - f. Other (specify): \_\_\_\_\_
5. Are you Hispanic or Latino?
  - a. Yes
  - b. No
6. Do you currently live with an older adult (65 years old+)?
  - a. Yes
  - b. No
7. Have you lived with an older adult within the last 6 months?
  - a. Yes
  - b. No
8. What is the highest level of education you have completed? (Select one)
  - a. Less than high school diploma
  - b. High school degree or equivalent (e.g., GED)
  - c. Some college, no degree
  - d. Vocational/Trade School degree
  - e. Associate's degree (e.g., AA, AS)
  - f. Bachelor's degree (e.g., BA, BS)
  - g. Master's degree (e.g., MA, MS, MEd)
  - h. Post-graduate degree (e.g., MD, DDS, PhD, DVM, JD)
  - i. I'd prefer not to answer
9. Have you ever taken a course that included content about older adults (e.g., a developmental psychology course, a gerontology course, a psychology of aging course, etc.)?
  - a. Yes
  - b. No

## Appendix H

### *The Impact of Different Intergenerational Contact Zones on the Moderated Mediation Model*

Analysis	Path	Predictors	Outcome	Coefficients	<i>t</i>	<i>p</i>	CI
1	a	Intergroup Contact at college x Contact Valence	Perspective Taking	-.001	-1.94	.054	-.002, .0000
	b	Perspective Taking	Ageism	-.161	-3.36	.001	-.256, -.066
	c'	Intergroup Contact at college	Ageism	-.007	-2.10	.037	-.013, -.000
		Index of moderated mediation		.001			.000, .001
2	a	Intergroup Contact in your family x Contact Valence	Perspective Taking	-.000	-0.36	.717	-.001, .001
	b	Perspective Taking	Ageism	-.142	-2.98	.003	-.238, -.048
	c'	Intergroup Contact in your family	Ageism	-.009	-2.99	.003	-.016, -.003
		Index of moderated mediation		.000			-.001, .001
3	a	Intergroup Contact at work x Contact Valence	Perspective Taking	-.001	1.24	.217	-.001, .001
	b	Perspective Taking	Ageism	-.171	-3.50	.001	-.267, -.074
	c'	Intergroup Contact at work	Ageism	.002	-0.78	.435	-.008, .004
		Index of moderated mediation		.001			-.001, .001
4	a	Intergroup Contact as close friends x Contact Valence	Perspective Taking	-.001	-1.25	.214	-.002, .001
	b	Perspective Taking	Ageism	-.180	-3.75	.001	-.275, -.085
	c'	Intergroup Contact as close friends	Ageism	.001	0.067	.947	-.008, .008
		Index of moderated mediation		.001			-.001, .001
5	a	Intergroup Contact in the community x Contact Valence	Perspective Taking	-.001	-0.99	.323	-.002, .001
	b	Perspective Taking	Ageism	-.139	-2.96	.004	-.232, -.046
	c'	Intergroup Contact in the community	Ageism	-.012	-3.73	.001	-.019, -.006
		Index of moderated mediation		.001			-.001, .001

*N* = 151.

*Note:* For all path a's the Intergroup Contact variable is one of the contact locations (college, family, work, close friends, in the community) isolated from the other Intergroup Contact Quantitative contact locations and then multiplied by the Intergroup Contact Quality subscale averaged score, to create a total composite score for each contact location.

### Appendix I

#### *The Impact of Intergroup Contact, Contact Valence, and Perspective Taking on the Different Subscales of Ageism*

Analysis	Path	Predictors	Outcome	Coefficients	<i>t</i>	<i>p</i>	CI
1	a	Intergroup Contact x Contact Valence	Perspective Taking	-.001	-1.67	.097	-.002, .001
	b	Perspective Taking	Ageism Avoidance	-.166	-2.79	.006	-.283, -.049
	c'	Intergroup Contact	Ageism Avoidance	-.019	-3.43	.001	-.029, -.008
		Index of moderated mediation		.001			.000, .001
2	a	Intergroup Contact x Contact Valence	Perspective Taking	-.001	-1.67	.097	-.002, .001
	b	Perspective Taking	Ageism Discrimination	-.212	-4.06	.000	-.315, -.108
	c'	Intergroup Contact	Ageism Discrimination	-.002	-0.47	.642	-.012, .007
		Index of moderated mediation		.001			.000, .001
3	a	Intergroup Contact x Contact Valence	Perspective Taking	-.001	-1.67	.097	-.002, .001
	b	Perspective Taking	Ageism Antilocution	-.083	-1.46	.147	-.197, .029
	c'	Intergroup Contact	Ageism Antilocution	-.011	-2.02	.045	-.021, -.001
		Index of moderated mediation		.001			-.001, .001

*N* = 151.

*Note:* For all path a's the Intergroup Contact variable is one of the contact locations (college, family, work, close friends, in the community) isolated from the other Intergroup Contact Quantitative contact locations and then multiplied by the Intergroup Contact Quality subscale averaged score, to create a total composite score for each contact location.