

The Impact of Television Media on the Endorsement of Aging Stereotypes

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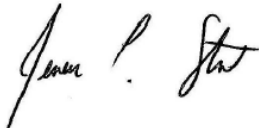
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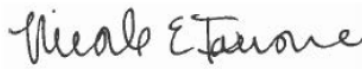


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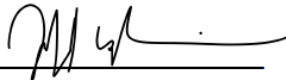


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Abstract

Ageism is defined as the stereotyping and prejudices held toward older adults and the aging process (Butler, 1969). Across the literature, an older adult refers to anyone over the age of 65. Research suggests that people stigmatize older adults in both positive and negative ways, which provides the basis for stereotypes to arise. Although there are more negative adjectives assigned to older adults, both positive and negative adjectives are assigned. Fiske et al. (2007) found that older adults are most often categorized as warm and incompetent. The present study examined how video clips from Netflix's *Grace and Frankie* influence how people feel about older adults. Participants were randomly assigned to view either a stereotype congruent (warm and incompetent) or stereotype challenged (cold and competent) clip for a male or female character from *Grace and Frankie*. The stereotype challenged condition showed older adult characters as cold and competent (capable), while the stereotype congruent condition showed older adult characters as warm or incompetent. After viewing the clips, participants completed an adjective endorsement task regarding the stigmatization of older adults. Those who viewed the stereotype congruent clips endorsed more warmth/incompetence adjectives stereotypes, while those who viewed the stereotype challenged clips endorsed adjectives less strongly. Results also showed that those who viewed the female older adult video clips endorsed more incompetence adjectives. However, the current study did not find the same for the endorsement of warmth adjectives, when viewing female older adults.

Keywords: ageism, stereotypes, warmth and competence, television media

The Impact of Television Media on the Endorsement of Aging Stereotypes

Unfortunately, discrimination and endorsement of stereotypes regarding older adults are quite common and acceptable. In recent history, social media has illustrated trends such as the “Okay Boomer” meme (Vaitkevicius, 2020) and Covid-19 being referred to as the “Boomer Remover” (Colenda et al., 2020). As early as the late 1960s, Butler saw ageism as a problem just as common and serious as sexism and racism. He defined ageism as the act of holding prejudicial attitudes, stereotyping, and discriminating against older adults or the aging process (Butler, 1980). As a result of current social media trends, research surrounding ageism has begun to peak psychologists’ interests and shift toward studying discrimination and the stigmatization of older adults.

When older adults are stigmatized, it has the potential to lead to discrimination. Discrimination of older adults takes on a variety of forms ranging from not receiving a job offer to blatant, derogatory name-calling. Palmore (2001) found that over 77% of their older adult participants reported experiencing at least one form of ageism. However, age discrimination is more often witnessed than reported (Heuvel, 2012). As a result, it is difficult to get an accurate idea of the pervasiveness of the problem. Lack of reporting also leads to people not viewing ageism as a serious problem. Older adults are less likely to report an event, either due to fear of what could happen or simply forgetting the occurrence. Unfortunately, discrimination based on age has become one of the most socially condoned forms of discrimination worldwide (Nelson, 2005). As stigmatization can lead to discrimination, those discriminatory behaviors and attitudes can further perpetuate the stereotyping of older adults.

Golden Selection Hypothesis

Research suggests that people stigmatize older adults in both positive and negative ways, which provides the basis for stereotypes to arise (Fiske et al., 2007). The golden section hypothesis suggests that people assign adjectives to others in an asymmetrical way, where positive adjectives are usually assigned 61.8% of the time (Adams-Webber, 1977). However, Widrick and Raskin (2010) found reversed results; when participants were asked about older adults, they assigned negative adjectives such as impaired, fragile, and needy 60.5% of the time. Disproportional assignment of adjectives further supports the belief that stereotypical language promotes acceptance of myths about older adults (Nuessel, 1982). The current study explored if participants who viewed video clips of older adults that were stereotype congruent (warm and incompetent) would endorse congruent stereotypes significantly more strongly, compared to challenged stereotypes (cold and competent).

Stereotype Content Model

Although there is an imbalance in adjective assignment for older adults, Fiske and colleagues (2007) found both positive and negative adjectives are applied to the older adult community. Their stereotype content model (SCM) found that worldwide, older adults are most often categorized as warm and incompetent (Fiske et al., 2007). They categorized warmth as friendliness, trustworthiness, and morality. Competence was categorized as creative, skilled, and intelligent. Fiske and colleagues (2002) suggested that stereotype content could be a result of a shared public view of groups, that shows widespread consistency in attitudes. For instance, college students and members of the public answered a questionnaire classifying groups of people. Fiske and colleagues (2002) found when participants were asked about gender, males were rated as significantly more competent compared to females. Females, on the other hand,

were rated as significantly more warm compared to males. When asked about older adults as a group, participants rated them the same as women, higher on warmth and lower on competence. The current study explored whether participants would more strongly endorse age- and gender-congruent stereotypes when viewing video clips of female older adults, compared to male older adults.

The SCM may be reflective of different, separate dimensions of (dis)like and (dis)respect (Fiske et al., 2007). Although warmth and competence lie on two different dimensions, people generally categorize warmth and competence together in a positive manner. If a group is rated as low on warmth and competence, this is interpreted as negative. However, when there is a discrepancy where an individual or group is rated low on one dimension and high on another, people are unsure how to act. In this case, older adults are treated as if they are children or disabled, high in warmth but low in competence, unable to care for themselves. Cuddy et al. (2008) also found that due to their mixed categorization, there is a downward comparison towards older adults that usually leads to being pitied and disrespected. Older adults receive paternalistic forms of prejudice, including sympathy, condescension, and dismissive behaviors from younger generations. As a result, older adults potentially fall prey to the self-fulfilling prophecy and begin to believe that they are no longer independent or contributing adults (Nelson, 2005). Older adults might believe they are less competent, then they begin to act in such a way, further perpetuating the stereotype. The current study explored if participants who viewed older adults depicted in stereotypically congruent ways (warm or incompetent) in television media would endorse stereotypes about older adults more strongly, than participants who viewed video clips of older adults in stereotypically challenged ways (cold and competent).

Positive and Negative Stereotypes of Older Adults

To examine the specific stereotypes that people hold toward older adults, Rodin and Langer (1980) assessed people's beliefs about activities engaged in by older adults. Both younger and older adults took a survey where they responded to questions about behaviors in which older adults engage. Results showed that respondents, of all ages, viewed older adults as less social and engaging in more passive activities. Participants also attributed more negative characteristics to older adults. Moreover, the older adult participants reported more negative attitudes, compared to younger adults (Rodin & Langer, 1980). A review by Nelson (2005) found that ageism is present in television media and suggested since older adults spend the majority of their leisure time watching television, they are exposed to these negative depictions. Donlon and colleagues (2005) suggested that the more time an older adult spends watching negative portrayals of older people, the worse they view and feel about aging. These studies demonstrated that the stigmatization of older adults can be found across generations and is present in both older adults and younger adults. The current study looked at the overall percent of positive (warm) and negative (incompetent) stereotypes endorsed by younger adults when viewing television media.

The Media's Role and Believability

The media plays a large role in society, ranging from news media to social media. Watching television has become a part of people's daily routine due to easy accessibility via streaming websites and the ease of recording shows (McMillan & Morrison, 2006). Through media sources, we are constantly being bombarded with new information, as well as reinforcing old. As a result, people are able to recall topics and events more frequently than others, leading them to believe certain events occur more often. The cultivation hypothesis suggests people

believe that the media they consume depicts accurate representations of the real world (Busselle, 2000). This theory is backed by the availability heuristic, or the idea that the more we see a stimulus, the more easily accessible it is to think of later (Busselle, 2000). Busselle and Shrum (2003) investigated how TV exposure influenced participants' ability to retrieve examples of social events, such as gun violence or robberies. They found that ease of retrieval from media sources was positively correlated with time spent watching TV (Busselle & Shrum, 2003). This further suggests that media exposure can influence our ability to recall events and information.

Television shows are limited in their time allotted to tell a story. As a result, many shows rely on stereotypical portrayals of groups to quickly make a point (Signorielli, 2001). For example, when media sources depict older adults in a way that reinforces stereotypes, such as incompetent or frail, people would consequently be more likely to believe those stereotypes are accurate, real-life depictions of older adults. Gerbener and colleagues (1980) argued that the media uses "distorted and negative" depictions of older adults, so when people consume large doses of this type of media, they are more likely to endorse such views of older adults. Donlon and colleagues (2005) had a group of adults record their television habits for a week. The adults were split into two groups: one group just reported the shows they watched, while the intervention group reported their viewing habits and also answered questions about older adults in television programs, such as "When older people appear as characters on television, how are they most often portrayed?" In sum, adults in the intervention group were much more aware of the infrequency of older adult characters and reported an increase in their belief that older adult characters were portrayed negatively. Such depictions can be seen in children's cartoons (Robinson & Anderson, 2006), which has led children to believe stereotypes about older adults from an early age (Bishop & Krause, 1984), especially when children have similar real-life

encounters with older adults. We are shown stereotypical depictions of older adults throughout our entire life, so when our real lives match with what we have seen in the media, those stereotypes are what we tend to remember and use to navigate the real world.

Previous research has found media of all kinds (i.e., print and video) mirrors the stereotyping seen in society (Bishop, 1984). The media is limited in their time and space to present a message, making it more effective to portray groups in ways that people can quickly and easily recognize (Miller et al., 1999). A content analysis by Lee and colleagues (2007) found that older adults were present in about 15% of television advertisements. From the advertisements they viewed, Lee and colleagues (2007) found that the advertisements with older adults present tended to reinforce stereotypes, such as vulnerability or physical disabilities. The advertisements were most frequently for medication or medical services, legal services, and financial services. These types of commercials continue to add to the depiction and stereotype that older adults are not able to take care of themselves.

When looking at cartoons, Robinson and Anderson (2006) found that older adults were only present in 8% of the Saturday morning cartoon lineup, which is grossly under representative of the population. Robinson and Anderson (2006) observed that older characters' physical appearances were depicted stereotypically. From the 121 episodes, from 41 different shows, stereotypes such as gray hair, glasses, and wrinkles showed up most frequently. They also found that from the shows they examined where older adult characters were present, approximately 68% of that time the older characters were given minor roles, with minimal speaking time. This indicates that older adults are an afterthought and a way to diversify the show. Older adults seem to be underrepresented in television media, but when they are present, they are depicted in stereotypical ways, further perpetuating the stigmatization of older adults.

Harwood (2000) found that even when there is a positive portrayal of an older adult, adding a negative implication to the scene can change the perspective of viewers. Even in the short amount of time information is presented, that negative implication then becomes the focal point and reverts viewers back to familiar stereotypes. The example Harwood (2000) provided explains that a media source can portray an older adult as competent but hint that there is incompetence possible. The possible incompetence is what viewers focused on since it may be more in line with what they believe of older adults. The media is a powerful source of information that can lead to more beliefs and stigmatizations of groups of people. For that reason, Harwood (2000) suggested that people be aware of the messages we consume because media has the ability to confirm and strengthen stereotypes about older adults, especially when the source is considered more believable. The current study assessed believability by asking participants if the video clips they viewed were comparable to something they believe could happen in real life. We expected that those who find the clips more believable would rate the older adults more stereotypically.

Participant Gender and Individual Differences in Ageism

Research is mixed on the presence of gender differences in aging stereotypes. On one hand, studies have found little to no differences between males and females in their attitudes towards older adults (McKinley, 2020). Other research has found males to be more likely to endorse stereotypes related to older adults (Fiske et al., 2002; Fiske et al., 2007; Hatch, 2005). Allan and Johnson (2009) conducted a study to assess undergraduate students' attitudes towards aging and knowledge of aging. Compared to females, males responded more negatively to aging-related survey questions (Allan & Johnson, 2009). Hawkins (1996) also found that when responding to a semantic differential scale regarding older adults, male participants reported

more negative attitudes toward older adults, compared to the female participants. Specifically, male participants held more negative attitudes toward female older adults of all ages. However, they only had negative attitudes towards males when they were in the 65-74-year-old age group. Due to the mixed findings in recent research, the current study explored gender of the participant as a potential covariate.

The Current Study

The current study explored the impact of television media on the endorsement of stereotypes regarding older adults. This study sought to better understand how television media impacts beliefs regarding older adults, by assessing if media contributes to making ageism appear more acceptable or common. Three hypotheses, supported by prior research, were required for the current study.

Hypothesis 1: Controlling for video believability and participant gender, we expected a main effect for stereotype condition, such that participants who viewed video clips of older adults that are stereotype congruent (warm and incompetent) would endorse adjectives of warmth and incompetence (stereotype congruent) significantly more strongly than those who viewed video clips that challenge stereotypes (cold and competent) about older adults.

Rationale: Fiske et al.'s (2007) stereotype content model found that worldwide, older adults are most often categorized as warm and incompetent. Previous research by Gerbener et al. (1980) also suggested that the media uses "distorted and negative" depictions of older adults and as a result are more likely to endorse more stereotypical characteristics about older adults.

Hypothesis 2: Controlling for video believability and participant gender, we expected a main effect for video gender on endorsement of warmth and incompetence adjectives, such that

those who viewed video clips of female older adults would endorse aging stereotypes of warmth and incompetence significantly more strongly than those who viewed older males.

Rationale: Fiske and colleagues (2002) found when participants were asked about genders, females were rated significantly more warm and incompetent, compared to males. Males were rated significantly more cold and competent.

Hypothesis 3: Controlling for video believability and participant gender, we expected an interaction between stereotype condition and video gender, such that those who viewed video clips of female older adults that are stereotype congruent (warm and incompetent) would endorse congruent stereotypes significantly more strongly than all other conditions (i.e., male-congruent/challenged and female-challenged).

Rationale: The stereotype content model (Fiske et al., 2002) found that older females are rated more strongly on both positive and negative congruent stereotypes while older males were rated less strongly on congruent stereotypes. In addition, it is possible that the female-challenged stereotype condition would endorse less stereotype adjectives of warmth and incompetence than the female-congruent condition.

Method

Participants

Participants consisted of a young adult population from a mid-sized university in Southwest Virginia. Participants were recruited through the university's online recruitment tool, SONA. The recruitment tool provides an opportunity for students to earn credit(s) from their course instructor when they participate in research studies. Adequate data were collected for 96 participants (69 females, 26 males) with age ranging from 18 to 38 years old ($M = 19.86$, $SD = 2.9$). The sample included a majority of participants who identify as White (63.5%) and also

20.8% African American, 8.3% Hispanic or Latino, 4.2% Asian, and 2.1% identified as other.

Only 10.4% of the sample had seen *Grace and Frankie* before participating in the study. See

Appendix A, Table 1 for full demographic information.

Design

The current study utilized a 2 (stereotype: challenged vs. congruent) x 2 (stereotype type: warmth vs. competence) x 2 (gender: male vs. female) mixed factorial design with stereotype type as the within-subjects factor and stereotype and gender as between-subjects variables.

Participants were randomly assigned to two independent variables (video gender) and stereotype type (congruent vs. challenge). Each participant viewed two videos representing the two aging stereotype conditions (i.e., warmth/competent or cold/incompetent). Presentation of videos were counterbalanced.

Stereotype type	Stereotype Congruent	Stereotype Challenge)
Video Gender		
Male	Warmth Incompetent (n = 25)	Cold Competent (n = 22)
Female	Warmth Incompetent (n = 26)	Cold Competent (n = 22)

Dependent Variables: Endorsement of aging adjectives of warmth and incompetence

Covariates: Participant gender and believability

Materials

For the present study, television clips from Netflix's original show, *Grace and Frankie*, were selected. *Grace and Frankie* was chosen because it has both male and female older adult characters, who were portrayed in both stereotype congruent (warm and incompetent) and stereotype challenged (cold and competent) ways. The show also has older adults as the focal point, which provides character development, instead of being a background character or comic relief. The video clips themselves were chosen based on how well they portrayed older adults in stereotypical ways. For example, stereotype congruent clips were chosen because they depicted the older adults as kind and caring or weak and confused. Refer to Appendix C for descriptions of each video clip. The stereotype challenged clips were chosen because they depicted the older adults as cold and mean or capable and intelligent. Video clips were approximately a minute and a half each, ranging from 40 seconds to 2 minutes and 20 seconds.

The video clips were pilot tested to assess if the clips depicted older adults in a way that matched with each condition. A sample of seven ($n = 7$) participants watched each video clip and rated how much they agreed that a series of five adjectives described the older adult in the clip. Participants viewed nine video clips in order to narrow down and assess if the video clips were assigned the intended adjectives the researchers hoped for. Although the sample size was very small, we were able to determine that the participants agreed with the adjectives that matched the condition. In sum, the video clips accurately depicted older adults in stereotype congruent and challenged ways.

Measures (see Appendix D)

Adjective endorsement. Using Fiske and colleagues' (2002) Adjective Endorsement Scale, participants rated the older adult character(s). The scale consists of four warmth items:

“Warmth,” “Gentle,” “Sympathetic,” and “Tender.” The reliability for the warmth endorsement scale at clip one was good with $\alpha = .86$. The reliability for the warmth endorsement scale at clip two was excellent with $\alpha = .90$. The reliability for the warmth endorsement scale when clips one and two were combined was good with $\alpha = .87$. The scale also consists of four incompetence items: “Competent,” “Independent,” “Adaptable,” and “Capable.” All of the incompetence adjectives were reverse coded, so the higher the number was, the more stereotypical the rating was. The reliability for the incompetence endorsement scale at clip one was minimally acceptable with $\alpha = .67$. The reliability for the incompetence endorsement scale at clip two was minimally acceptable with $\alpha = .66$. The reliability for the incompetence endorsement scale when clips one and two were combined was minimally acceptable with $\alpha = .63$. All adjectives were rated from 1 (Strongly disagree) to 5 (Strongly agree).

Cultivation hypothesis. A series of questions was asked to assess the realism and believability of the video clips. Questions also asked participants to report if they had ever seen the show before participating in the current study.

Demographics. Lastly, demographic information such as gender, ethnicity, and age was collected.

Procedure

The participants logged into SONA and chose the study, and then were taken to an external survey system, Qualtrics (Qualtrics Inc., Provo, UT), which contained the study. The current study was completely virtually, which allowed all the participants to participate at their leisure. Researchers provided a written description describing the nature of the study and were instructed to wear headphones while watching the video clips. Informed consent was obtained, and then participants were prompted to watch the first video clip. After viewing the short clip,

participants answered attention checks about the video, and then were instructed to follow the directions and completed each of the assessments. After participants answered the first session of questions, they were prompted to watch the second video clip and repeated the same process. The approximate time to complete all measures of this study was about 30 minutes. Participants received a compensation of 1 SONA participation credit for completing the study.

Participants were randomly assigned to the Stereotype condition (congruent/challenged) and Video Gender condition (male/female). For example, a participant could be randomly assigned to a male/challenge condition so they would see male older adults portrayed as cold and competent. Upon assignment, they viewed two, brief television clips from Netflix's original show, *Grace and Frankie*. The clips were counterbalanced so that some participants would see a warmth or cold clip and others would see a competence or incompetence clip first. Before viewing each clip, participants were instructed to read a short description to give context of the video clips. They were also told which character to focus on while watching the clip, by giving a brief description about what the character was wearing or holding. After each video, participants were then prompted to respond to a manipulation check about the video clip they viewed. Then they answered a series of positive and negative adjectives to rate the older adult they were told to focus on in the video. Attention checks were placed within the adjective endorsement task to make sure participants were paying attention to the adjectives they were rating and not clicking through. Finally, participants answered demographic information questions. Once participants completed the survey, they were debriefed and thanked for their time.

Results

Analysis

The researchers performed data cleaning. Twenty-three participants' data were removed for not completing the survey through the second adjective endorsement task. Eight participants failed to correctly answer two of five manipulation checks, and their data was removed from the dataset. The researchers also deleted nine participants' data from those who completed the survey in under 6 minutes. In total, 40 participants were removed from the dataset. After data cleaning, there were 96 participants remaining.

The current study was a part of a larger study that used the full Adjective Endorsement Scale (Fiske et al., 2002). The scale has 18 items that the researchers extracted six warmth items and six incompetence items. The remaining six did not fit into the warmth or incompetence grouping so they were discarded. The researchers conducted an exploratory factor analysis on the six warmth and the six incompetence items. Using Principal Component Analysis, it was determined that four of the six warmth adjectives loaded onto one factor. It was also determined that four of the six incompetence adjectives loaded onto one factor.

Initially, the researchers proposed that warmth, gentle, tender, and sympathetic items would load together, and competent, independent, capable, and adaptive items would load together, which would result in two main factors (warmth and incompetence). A Direct-Oblimin factor analysis was conducted and the scale converged within five iterations. The factor analysis revealed that there was one factor within the four warmth items at clip one, accounting for 53.73% of the variance, $KMO = .779$, $\chi^2 = 175.53$, $p < .001$. None of the items cross-loaded onto more than one factor. Factor 1 is comprised of items "Warmth," "Gentle," "Sympathetic," and "Tender" from clip one and clip two ($\alpha = .86$; $M = 3.22$, $SD = 0.99$; Eigenvalue = 2.83). These items most accurately reflect warmth adjectives. This factor accounted for 70.79% of the variance. The factor loadings for Factor 1 ranged from .82 to .86.

The factor analysis revealed that there was one factor within the four warmth items at clip two, accounting for 77.36% of the variance. This factor was comprised of items “Warmth,” “Gentle,” “Sympathetic,” and “Tender” from clip two ($\alpha = .90$; $M = 3.23$, $SD = 1.08$; Eigenvalue = 3.09). The factor loadings for this factor ranged from .84 to .92. A table for factor loadings will be provided upon request. The researchers conducted an additional Direct-Oblimin factor analysis to determine if participants reported a similar emotional reactivity to the four items. None of the items cross-loaded onto more than one factor, $KMO = .83$, $\chi^2 = 244.1$, $p < .001$. For this reason, clip one and clip two were combined to make Factor 1 – warmth.

Factor two is comprised of items “Competent,” “Independent,” “Capable,” and “Adaptive” from clip one ($\alpha = .67$; $M = 3.42$, $SD = 0.75$; Eigenvalue = 2.06). These items most accurately reflect incompetence adjectives. This factor accounted for 51.58% of the variance. The factor loadings for Factor 2 ranged from .56 to .83. The researchers conducted an additional Direct-Oblimin factor analysis to determine if participants reported a similar emotional reactivity to the four items. None of the items cross-loaded onto more than one factor, $KMO = .67$, $\chi^2 = 68.02$, $p < .001$. The factor analysis revealed that there was one factor within the four items for incompetence comprised of items “Competent,” “Independent,” “Capable,” and “Adaptive” from clip two ($\alpha = .66$; $M = 3.31$, $SD = 0.78$; Eigenvalue = 2.01). These items most accurately reflect incompetence adjectives. This factor accounted for 50.27% of the variance. The factor loadings for Factor 2 ranged from .54 to .85. The researchers conducted an additional Direct-Oblimin factor analysis to determine if participants reported a similar emotional reactivity to the four items. None of the items cross-loaded onto more than one factor, $KMO = .62$, $\chi^2 = 67.05$, $p < .001$. For this reason, clip one and clip two were combined to make Factor 2 - incompetence.

Descriptive Analyses

Descriptive statistics are presented in Appendix A, Table 2, which presents descriptive data (n, mean, and standard deviation) for the main variables of interest. The main variables of interest for the current study were endorsement of warmth ($M = 3.23$, $SD = 0.87$), endorsement of incompetence ($M = 3.31$, $SD = 0.78$), believability of video clips ($M = 3.65$, $SD = 0.75$), and previous viewing of *Grace and Frankie* ($M = 1.91$, $SD = 0.33$). Appendix A, Table 2 also reports bivariate zero-order correlations between all the main variables of interest.

Covariate Determination

All three of the hypotheses stated that the researchers wanted to control for participant gender and believability of the video clips. In order to determine covariance with the adjective endorsement measurement scale, the researchers conducted a bivariate correlation between several of the variables. Warmth adjectives were not significantly correlated with any of the variables entered, gender of participant ($r = -.194$, $p = .06$), believability ($r = .073$, $p = .48$), and previously viewing *Grace and Frankie* ($r = -.036$, $p = .73$). Incompetence adjectives were also not significantly correlated with gender of participant ($r = .070$, $p = .50$), believability ($r = .073$, $p = .48$), and previously viewing *Grace and Frankie* ($r = .123$, $p = .24$). Refer to Appendix A, Table 2 for more information. As a result of there being no correlations present, participant gender and believability were not considered covariates or included in any additional analyses. Additionally, the current study analyzed warmth and incompetence as two separate dependent variables. This was done because the two variables loaded on two different factors. Furthermore, as noted before, warmth and incompetence were not significantly correlated with each other ($r = -0.05$, $p = .64$), giving the researchers further support to run the analyses separately.

Counterbalance

Participants were randomly assigned to their condition, then the videos clips were counterbalanced, such that participants were randomly assigned to what adjective (warm or incompetent) they saw first. Once data collection was complete, the researchers ran a repeated measures ANOVA to determine if there was an order effects present. Results showed that for both warmth and incompetence, there were no significant differences, showing that there was no significant order effects.

Primary Analyses for Warmth

The researchers conducted a Repeated Measures Analyses of Variance (ANOVA) to determine the effects of gender of the older adults represented in the video clip and type of stereotype represented in the video clip (i.e., congruent or challenged) on the relationship of average score of warmth on the adjective endorsement task of clip one and clip two. It should be noted that there was no significant difference found between clip one and clip two ratings of warmth, $F(1, 91) = 0.00$, $p = 0.97$, partial $\eta^2 = 0.00$. It was expected that participants who viewed video clips of older adults that are stereotype congruent (warm and incompetent) would endorse stereotype congruent adjectives about older adults significantly more strongly than those who viewed video clips that challenge stereotypes (cold and competent) about older adults. The main effect of stereotype condition was statistically significant, $F(1, 91) = 84.59$, $p < .001$, partial $\eta^2 = .482$. Participants who viewed video clips that depicted older adults in stereotypically warm ways ($M = 3.77$, $SE = 0.09$) endorsed more warm stereotype adjectives than those who viewed video clips that showed older adults as cold, or in a way that challenged stereotypes ($M = 2.59$, $SE = 0.09$). Please see the ANOVA table in Appendix A (Table 4) for more information.

The researchers also expected that participants who viewed video clips of female older adults would endorse congruent stereotypes more strongly, compared to those who saw male older adults depicted in a stereotype congruent way. The main effect of gender of the older adult in the video clip was statistically significant, $F(1, 91) = 6.47, p = .013, \text{partial } \eta^2 = .067$.

However, the result did not support hypothesis two, because participants who viewed a male older adult being warm in the video clip ($M = 3.35, SE = 0.09$) endorsed more warm stereotypes than those who saw a female older adult being warm in the video clip ($M = 3.02, SE = 0.09$).

Finally, it was expected that those who viewed video clips of female older adults that are stereotype congruent, warm, would endorse congruent stereotypes significantly more strongly, compared to those who view any other video clips of males that are stereotype congruent. There was not a significant interaction observed between the gender of the older adult in the video clips and stereotype condition for the endorsement of warmth stereotypes, $F(1, 91) = 1.18, p = .921, \text{partial } \eta^2 = .013$, which did not support hypothesis three. Refer to Figure 1 for further information.

Primary Analysis for Incompetence

Next, the researchers conducted an additional Repeated Measures ANOVA to determine the effects of gender of the older adults and type of stereotype on relationship of average score of incompetence on the adjective endorsement task of clip one and clip two. It should be noted that there was no significant difference found between clip one and clip two ratings of incompetence, $F(1, 91) = 0.91, p = .34, \text{partial } \eta^2 = 0.01$. It was expected that participants who viewed video clips depicting older adults as incompetent would more strongly endorse incompetent adjectives compared to those saw video clips of older adults that challenged stereotypes. The main effect of stereotype condition was statistically significant, $F(1, 91) = 25.73, p < .001, \text{partial } \eta^2 = .220$,

which supported hypothesis one. Participants who saw video clips that challenged stereotypes ($M = 2.37, SE = 0.07$) endorsed stereotypes less strongly than those who saw video clips depicting older adults in stereotypical ways ($M = 2.86, SE = 0.07$).

The researchers expected that participants who viewed video clips of incompetent female older adults would endorse incompetence adjectives more strongly compared to those who viewed male older adults depicted as incompetent. The main effect of gender of the older adult in the video clip was statistically significant, $F(1, 91) = 5.74, p = .019$, partial $\eta^2 = .058$, which did support hypothesis two. Participants who viewed female older adults depicted as incompetent ($M = 2.7, SE = 0.07$) endorsed more stereotypes than those who viewed male older adults depicted as incompetent ($M = 2.50, SE = 0.07$).

Finally, it was expected that participants who view video clips of male older adults that were stereotype challenged would more strongly endorse competence adjectives competent to those who viewed any other video clips of females that were challenged. There was a significant interaction observed between the gender of the older adult in the video clips and stereotype condition for the endorsement of incompetence stereotypes, $F(1, 91) = 12.74, p < .001$, partial $\eta^2 = .121$. This finding did support hypothesis three. Refer to Figure 2 for further information. The results also showed that when the older adult was a male depicted as competent, participants endorsed more stereotype challenged adjectives, compared to those who saw a female older adult depicted as competent. Please see the ANOVA table in Appendix A (Table 5) for more information.

An independent samples t-test was conducted as a means of a post hoc analysis. The average adjective endorsement of incompetence in regards to female older adults ($M = 3.15, SD = 0.47$) is significantly higher than the average adjective endorsement of incompetence for those

who saw male older adults, $t(49) = -4.29, p < .001, d = 0.57$. This continues to support hypothesis three, that participants who viewed female older adults in stereotype congruent video clips would endorse stereotypes more strongly.

Discussion

The purpose of the current study was to explore if priming stereotypes through television media impacts the endorsement of stereotypes regarding older adults. The stereotype content model (Fiske et al., 2007) is the current theoretical model used to discuss stereotypes surrounding a variety of different groups, including older adults who are categorized as warm and incompetent. Using video clips from Netflix's *Grace and Frankie*, the researchers were able to manipulate the way participants responded to a portion of the adjective endorsement task (Fiske et al., 2002). The researchers were able to capture the endorsement of stereotypes when exposed to a video clip depicting older adults in stereotypical ways. Thus, we were able to verify that the task used in this study (i.e., television media) is able to prime individuals to endorse aging stereotypes. Of particular interest was the finding that in both conditions, stereotype challenge and stereotype congruent, endorsements of male incompetence remained high and comparable, thus suggesting a potential established stereotype content (i.e., video manipulation failed to change this potentially strongly held stereotype across conditions). Additional experimental research using media to prime and test for established stereotype content is warranted.

For the first set of hypotheses, the researchers expected there to be a main effect for stereotype condition, such that participants who viewed video clips of older adults that are stereotype congruent (warm and incompetent) would endorse stereotype congruent adjectives about older adults significantly more strongly than those who viewed video clips that challenge

stereotypes (cold and competent) about older adults. The rationale behind this hypothesis was from Fiske and colleagues' (2007) stereotype content model, which found that worldwide, older adults are most often categorized as warm and incompetent. This hypothesis was supported for both the warmth condition and the incompetence condition. Participants who viewed video clips that depicted older adults in stereotypical warm and incompetent ways endorsed more warmth and incompetent stereotype adjectives compared to participants who viewed video clips that showed older adults as cold and competent. This adds to the literature on the stereotype content model, in support for the model, showing that when shown older adults who act as people expect them to, people will endorse those stereotypes much more than when people see older adults acting in a way different than they expected.

In regards to the second set of hypotheses, the researchers expected a main effect for video gender on endorsement of warmth and incompetence adjectives, such that those who viewed video clips of female older adults would endorse aging stereotypes more strongly than those who viewed older males. The rationale behind this hypothesis was from Fiske and colleagues (2002), who found that when participants were asked about gender, females were rated as significantly more warm and incompetent compared to males. Males on the other hand were rated as significantly more cold and competent. This hypothesis was partially supported for both for both male and female older adults. Participants who viewed female older adults portrayed as incompetent (stereotype congruent) endorsed more stereotypes than those who viewed male older adults portrayed as incompetent. This finding falls in line with the stereotype content model, as women and older adults are generally categorized as low on competence. It is also possible that the video clip of the older female adult fell more in line with a stereotype most people believe about older adults: They don't know how to operate technology. However,

participants who viewed male older adults portrayed as warm (stereotype congruent) endorsed more stereotypes than those who view female older adults portrayed as warm. The researchers speculate that this may be due to the depictions of the older adults in the video clips, for example in the male warmth condition, the male older adult cries in the video and says some very endearing things to the other character in the video. The video clip of the female older adult showed the older adult being friendly, but the tone of her voice may have been interpreted as less warm than hoped for.

Lastly, in the third set of hypotheses, the researchers expected an interaction between stereotype condition and video gender, such that those who viewed video clips of female older adults that are stereotype congruent (warm and incompetent) endorsed congruent stereotypes significantly more strongly, compared to those who viewed any other video clips of males that are stereotype congruent and females that are stereotype incongruent. The rationale for the third hypotheses came from research on the SCM (Fiske et al., 2002), which found that older females are rated more strongly on both positive and negative congruent stereotypes while older males were rated less strongly on congruent stereotypes. Hypothesis three was partially supported. Support for hypothesis three was found with regards to incompetence. Participants who viewed video clips of female older adults that are stereotype congruent (incompetent) endorsed congruent stereotypes significantly more strongly, compared to those who viewed any other video clips of males that are stereotype congruent (incompetent). However, this effect was not found in the stereotype challenged condition (competence); in this case, men and women were viewed similarly.

There was not an interaction present with regards to warmth; therefore, hypothesis three was not fully supported. Participants who viewed video clips of female older adults that were

warm, stereotype congruent, did not endorse congruent stereotypes significantly more strongly, compared to those who saw any other video clips of males that are stereotype congruent. Instead, participants who saw male older adults in the stereotype congruent video clip endorsed stereotype congruent adjectives more strongly than any other stereotype congruent video clip.

The main theory to support the current study and hypotheses within the study was the SCM (Fiske et al., 2002). The model was first proposed in 2002 and suggests that different groups of people (e.g., older adults, Blacks, males, Jews, etc.) fall between the dimensions of warmth and competence. Research done by Susan Fiske in 2018 found that the SCM findings hold across both time and different cultures. For example, a study by Bergsieker and colleagues (2012) had participants rate different groups on a series of 84 adjectives at four different times, across a 70-year time period. This study found that the majority of ratings were consistent with the warmth and competence mapping of the SCM. Bergsieker and colleagues (2012) also continued to find support for the SCM as it found that regardless of time of testing and exposure to different groups, participants continued to stereotype the different groups the same. Now almost 20 years later, the current study continues to find support for the SCM. Older adults who were depicted as stereotype congruent were rated much higher on warmth and competence.

Similarly, Eckes (2002) found further support for the gender stereotypes proposed in the SCM. Within the model, men are more often categorized as low on warmth and high on competence, while women are more often categorized as high on warmth and low on competence. Correlational evidence was found to support that a group's status, in this case male or female, can help predict the perceptions of competence people hold toward that group, which in turn can also help predict perceived warmth as well (Eckes, 2002). The current study found partial support for the mixed stereotyping of genders. Females were rated high on incompetence

(low on competence) and in the middle for warmth, while males were rated higher on warmth and lower on incompetence (high on competence). It is possible that this could be a result of the video clips and the way they depicted the older adults. As mentioned previously, in the warmth condition, the male older adult cries, which could explain why participants rated him as warmer, compared to the female older adult clip. Although the current study only found partial support for the SCM, Eckes (2002) believed that the model is as predictable as the process of stereotyping itself.

The current study did not find support for the influence of believability of the video clips participants watched on the endorsement of stereotypes. However, the scores on believability encompassed a decent range of responses. Previous research by Robinson and colleagues (2008) found that young adult participants exposed to advertisements that portrayed older adults in stereotypical ways rated the advertisements as more harmful. One of the participants even remarked about how the more stereotypes are shown, the more likely people are to believe that those stereotypes are accurate representations of older adults. It is easy to see how the media has the ability to influence peoples' beliefs and perceptions of others, especially when groups are portrayed negatively. Bishop and Krause (1984) also argued that when older adults are depicted as stereotypical in the media, it becomes a source for cultural images that creates a standard within society. Believable or not, society has been trained to take information from the media and hold it as true. Mass media has become the place people turn to, to shape their values, beliefs, and perceptions of the world (Berger, 2017), so when older adults are constantly shown in stereotype congruent ways, it is more likely that people will incorporate those images into their belief system. Although the current study did not find support for believability impacting perceptions of warmth and incompetence, more research is still required. It is possible that using

video clips longer than 2 minutes may make a difference in believability. For example, having participants watch a full episode or binge watch a television series could influence participants' believability ratings because they would have more context and character development to go off of.

Strengths and Limitations

One strength of this study is that pilot testing was conducted to justify selecting the video clips used in the final study. The pilot testing also ensured the researchers that the participants understood the video clips and matched the intended adjectives to the video clips. Pilot testing also allowed the researchers to ensure the video clips and timers were working properly. Based on the feedback provided by the volunteers and the results acquired from the pilot testing, the researchers were able to select the video clips that best fit the purpose of the study, as well as modify the instructions of the survey.

Another strength of the current study was that it utilized an experimental study design. There was ample control within the study. Participants were randomly assigned to the video condition they viewed. A timer was put in place so participants could not move forward and skip the video clip. The timer unlocked after a designated time had passed but did not force participants to move on, in case anyone wanted to watch the clip multiple times. A description of the video clip was also provided to give context of the scene and to ensure participants understood the video clip better. Finally, participants were instructed which person in the video clip to pay attention to and a brief description of what the older adult looked like or was wearing was given to ensure the participant knew exactly who they wanted to devote attention to. Additionally, because an experimental design was used, future researchers could easily replicate the current study using the same or similar video clips as were used in the current study. A causal

claim can also be made from the current study. The researchers can say with reasonable certainty that the video clips in the study influenced the adjectives endorsed toward older adults.

Finally, the current study was able to control for potential order effects due the use of counterbalancing the video clips. Participants were randomly assigned to their condition and within their random assignment they were also randomly assigned to what adjective (warm or incompetent) they saw first. Given the nature of the study the researchers were able to run a repeated measures ANOVA to determine if there was an order effect. For both warmth and incompetence, there were no significant differences. This told the researchers that there was no significant order effect.

One limitation of the current study was that the video clips in the study were not correlated with believability, and therefore did not impact participants' endorsement of stereotypes. Although the show was supposed to illustrate older adults' experiences and what life looks like after retirement, that may not have come through in the video clips that were chosen for the experiment. It is possible that because participants viewed clips from a television show, they may have believed they were only responding to hypothetical events, instead of possible events that could occur in the real world.

Another limitation of the current study is similar to the previous limitation, with regards to the video clips used for the study. Unfortunately, the videos were not congruent in the type of depictions of older adults. For example, some of the video clips depicted older adults as physically incompetent, while others showed older adults as cognitively incompetent. It is possible that the results are reflective of these differences in representation of older adults. From the example above, this could be seen in the incompetence condition. In the condition where the male older adult was shown as incompetent, the male older adult had just returned from a protest

and falls into the fridge from physical exhaustion, but in the condition that shows a female older adult as incompetent she cannot figure out how to set up a laptop. These differences in portrayals could explain the pattern of results found in the current study.

Finally, the current study relied on convenience sampling through the university's online research portal. SONA has become a major source of data collection in experimental research on college campuses, mostly because of the convenience of collecting data from introductory psychology students. It is possible that college campuses can offer a unique or representative population; however, it may be hard to generalize. College attracts a certain group of people and leaves those who do not attend institutions out of the research. On the same note, the average age of the sample used in the current study was 19.86, indicating that young adults (30 to 44 years old) and established adults (45 to 65 years old) were left out. Men were also significantly underrepresented in the sample; this could be because they do not enroll in psychology as frequently as females do (Clay, 2017). It is possible that having a more representative sample with regards to gender, age, and education level could have changed the results of the current study. Due to the convenience sample, the researchers are hesitant to generalize the current findings to the population level and suggest further research on the topic be done.

On a similar note, the current study was only able to detect medium effect sizes because the study was underpowered. Originally, the researchers hoped to have a minimum of 30 participants per condition, but again, due to convenience sampling, the current study was unable to collect enough data to find smaller effect sizes. The larger effects that the current study was able to capture had to do with the type of stereotype the participants were viewing, either congruent or challenged. Fortunately, there was a large difference between those who saw the stereotype congruent clips such that they endorsed stereotypical adjectives about older adults

more strongly, compared to those who viewed clips that challenged stereotypes. However, when it comes to gender differences and the interactions, the effect sizes are much smaller, suggesting that the current study was too underpowered to know if the differences found would replicate. It is worth repeating that due to the use of convenience sampling and the lack of power, the researchers are hesitant to generalize the current findings.

Future Directions and Implications

Research on ageism in the media is a relevant topic of study today especially with the growth of social media and consumption of television media (Chaffey, 2021). Future studies should assess attitudes toward older adults portrayed in movies such as the Harry Potter series or Bad Grandpa. This would allow for more long-term character development, which could see if people stereotype considering all aspects of the older adult. Additionally, continuing work similar to Lee and colleagues' (2007) study on commercial clips could add to the literature on how older adults are portrayed in stereotypical ways. Future studies should try to assess attitudes towards older adults after viewing commercials for medications or insurance policies. This could add to the literature on examining the different visual sources and impact on a person's attitudes.

To my knowledge, there have been no studies done examining depictions of older adults on social media platforms such as Tik Tok, Facebook, or Instagram. For example, on Snapchat there is an account run by a grandmother and her grandson called Gangster Granny. The pair do crazy stunts and play pranks on each other for comedic entertainment; however, these behaviors go against the normal stereotypes of how older adults should behave. Researching real adults' accounts could help combat stereotypes since these are real older adults showing their lives, not actors playing a role of an older adult. This would assist in understanding the role of social media in spreading information and depictions of older adults.

The lasting effects of priming are still unknown and a topic of research that has consumed cognitive psychologists. Lowery and colleagues (2007) found that priming has the potential to have long-term effects on real-world behaviors, as well as attitudes. Future research should conduct a longitudinal study assessing attitudes towards older adults after being primed with a media source.

Previous research has found cultural differences in attitudes toward older adults. North and Fiske (2015) found that there are differences between collectivistic and individualistic societies in shaping attitudes toward older adults. Future research should expose different cultural groups to depictions of older adults in stereotype congruent and stereotype challenged ways to see if there are differences in endorsements of those stereotypes.

The goal of the current study was to identify the conditions (stereotype congruent or challenged) under which exposure to male and female older adults in the media can influence endorsement of stereotypes. The findings from the present study give further support that male and female older adults are viewed differently in response to viewing stereotype congruent and incongruent depictions of said older adults. The results of the current study suggest that exposure to stereotypes in the media can impact an individual's attitudes towards older adults depicted in media. It is possible that television media could be useful in challenging stereotypes regarding older adults, when portrayed in ways that go against stereotypes.

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Appendix A – Tables and Figures

Table 1
Participant Demographics

Demographic	Subsections	n	%
Age	18	36	37.5
	19	20	20.8
	20	11	11.5
	21	14	14.6
	22	6	6.3
	23	1	1.0
	24	2	2.1
	26	2	2.1
	32	1	1.0
	38	1	1.0
Ethnicity	White	61	63.5
	African American	20	20.8
	Asian	4	4.2
	Hispanic or Latino	8	8.3
	Other	2	2.1

Gender	Female	69	71.9
	Male	26	27.1
Previous Viewing	Yes	10	10.4
	No	84	88.4

Table 2*Zero Order Correlations and Descriptive Data for Main Variables*

	1	2	3	4	5
1. Warmth					
2. Incompetence	.049				
3. Believability	.073	.009			
4. Participant Gender	.19	-.07	.06		
5. Previous Viewing	-.04	.12	-.07	-.18	-
Mean	3.23	3.31	3.65	-	1.91
SD	0.87	0.78	0.75	-	.329
n	95	95	95	95	95

Note. * = $p \leq .05$, ** = $p \leq .01$, *** = $p \leq .001$.

Table 3*Zero Order Correlations and Descriptive Data for Main Variables*

	1	2	3	4	5	6	7
1. Warmth Clip 1							
2. Warmth Clip 2	.43**						
3. Incompetence Clip 1	-.29**	.19					
4. Incompetence Clip 2	.34**	-.12	.10				
5. Believability	.11	.01	-.13	.13			
6. Participant Gender	-.12	-.20	-.11	.00	.06		
7. Previous Viewing	-.05	-.01	-.09	-.09	-.07	-.18	
Mean	3.22	3.23	2.58	2.69	3.65	-	1.91
SD	0.99	1.07	0.75	0.78	0.75	-	0.33
n	95	95	95	95	95	95	95

Note. * = $p \leq .05$, ** = $p \leq .01$, *** = $p \leq .001$.

Table 4
Repeated Measures ANOVA

Source	SS	<i>df</i>	<i>F</i>	η^2_p	<i>p</i>
Adjective Endorsement - Warmth					
Between Subject					
Stereotype	66.09	1	84.59***	.48	.00
Gender	5.05	1	6.47*	.07	.01
Interaction	0.92	1	1.18	.01	.28
Between Error	71.10	91			
Within Subject					
Warmth (clips 1 and 2)	0.00	1	0.00	.00	.97
Warmth x Stereotype	0.09	1	0.14	.00	.71
Warmth x Gender	1.19	1	1.92	.02	.17
Warmth x Stereotype x Gender	0.00	1	0.00	.00	.96
Within Error	56.35	91			

Table 5
Repeated Measures ANOVA

Source	SS	<i>df</i>	<i>F</i>	η^2_p	<i>p</i>
Adjective Endorsement – Incompetence					
Between Subject					
Stereotype	11.39	1	25.73	.22	.00
Gender	2.54	1	5.74	.06	.02
Interaction	5.64	1	12.74	.12	.00
Between Error	40.27	91			
Within Subject					
Incompetence (clips 1 and 2)	0.48	1	0.91	.01	.34
Incompetence x Stereotype	0.38	1	0.72	.01	.40
Incompetence x Gender	0.84	1	1.59	.02	.21
Incompetence x Stereotype x Gender	0.03	1	0.06	.01	.87
Within Error	56.35	91			

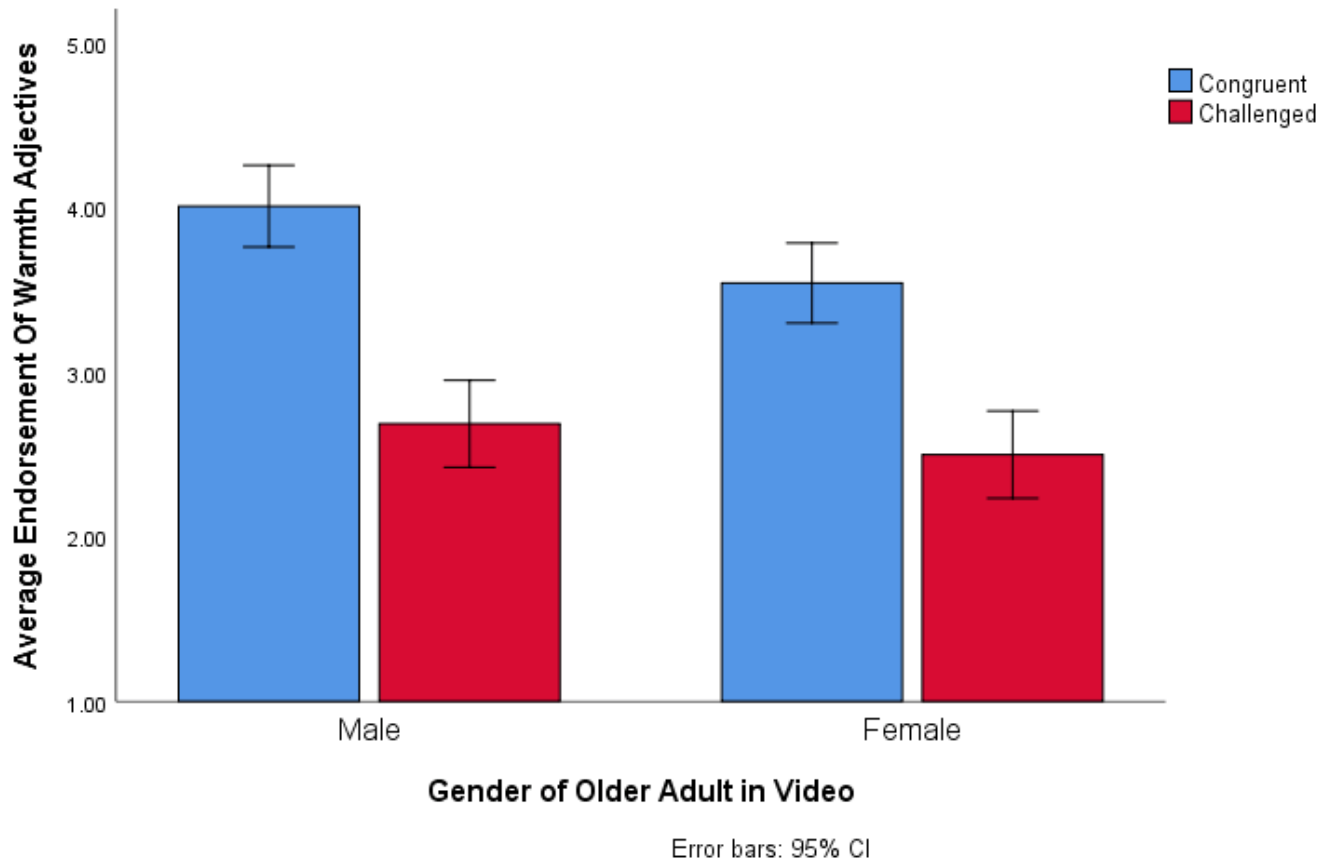


Figure 1. The graph shows the main effect of average warmth adjective endorsement on the gender of the older adult and stereotype condition. Scores ranged from 1 (Strongly disagree) to 5 (Strongly agree) on an adjective endorsement task about stereotypes surrounding older adults in a video clip. Error bars reflect 95% confidence intervals.

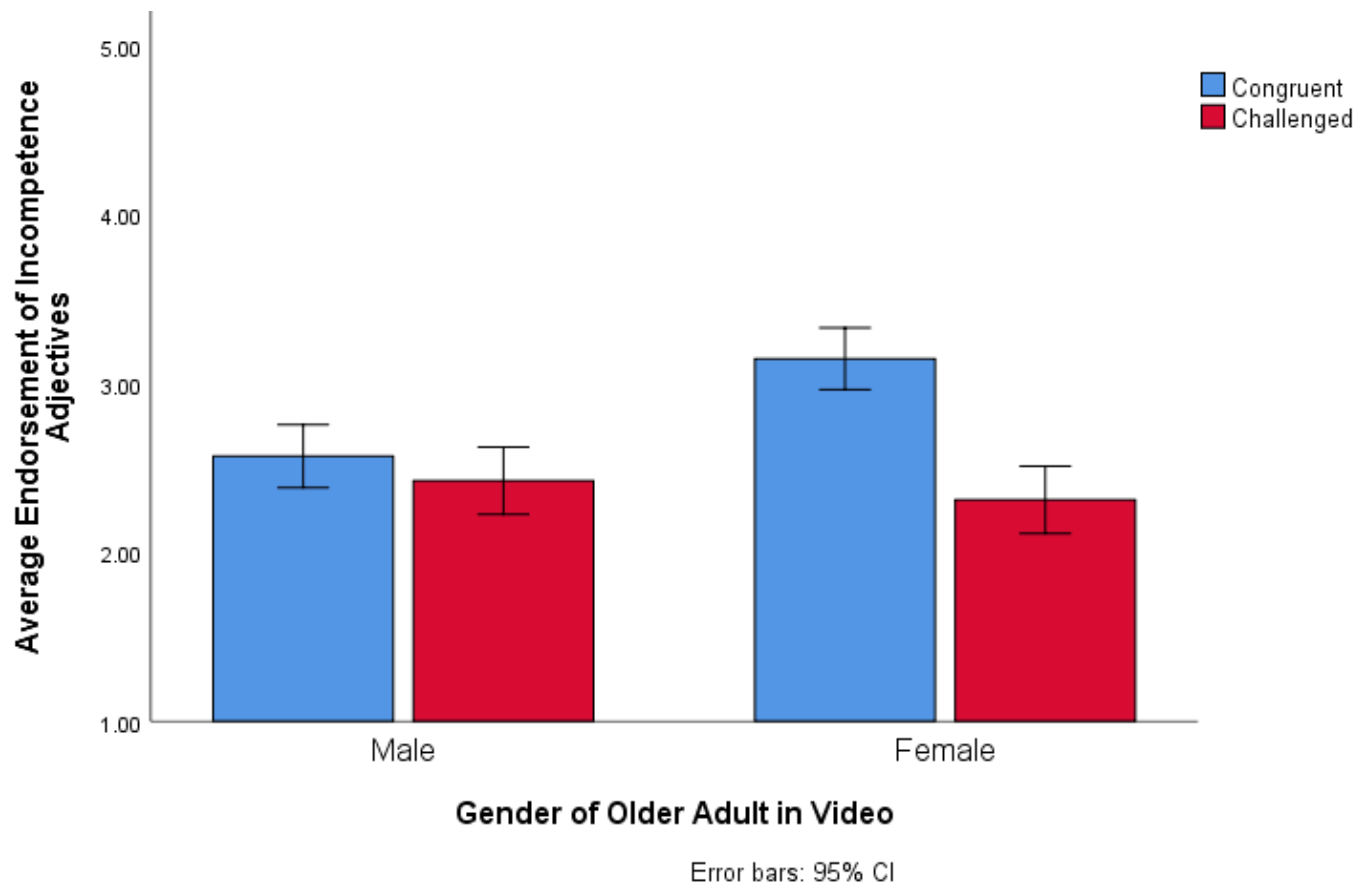


Figure 2. The graph shows the interaction of average incompetence adjective endorsement on the gender of the older adult and stereotype condition. Scores ranged from 1 (Strongly disagree) to 5 (Strongly agree) on an adjective endorsement task about stereotypes surrounding older adults in a video clip. Error bars reflect 95% confidence intervals.

Appendix B – Informed Consent

You are invited to participate in a research study, entitled “Impact of Media on Endorsing Aging Stereotypes.” The study is being conducted by Carly Pullen as a requirement for her master’s degree in experimental psychology. This study is being supervised by Dr. Jenessa Steele in the Department of Psychology.

The purpose of this study is to examine how media depicts both stereotype congruent and stereotype challenged portrayals of older adults. Your participation in the study will contribute to a better understanding of how people feel toward older adults. We estimate that it will take no more than 30 minutes of your time to complete the entire study. You are free to contact the investigator at the above e-mail address to discuss the survey.

Risks to participants are considered minimal. There will be no costs for participating, however, you will earn 1 SONA credit, for which your course instructor may choose to give extra credit for earning the SONA credit, for participating. Qualtrics will be set to record no IP addresses, meaning all responses will be anonymous. A limited number of research team members will have access to the data during data collection.

Your participation in this survey is voluntary. You may decline to answer any question and you have the right to withdraw from participation at any time without penalty. If you wish to withdraw from the study or have any questions, contact the investigator listed above.

If you have any questions, please call Dr. Jenessa Steele at (540) 831-5256 or send an email to jcsteele@radford.edu. You may also request a hard copy of the survey from the contact information above.

This study was approved by the Radford University Committee for the Review of Human Subjects Research. If you have questions or concerns about your rights as a research subject or have complaints about this study, you should contact Dr. Ben Caldwell, Institutional Officer for Research and Dean of the Arts College of Science and Technology, Radford University, bcaldwell13@radford.edu, 1-540-831-5724.

If you agree to participate, please press the arrow button below to continue. If you do not wish to participate, simply close out of the browser window.

Thank you.
Carly Pullen

Appendix C – Video Clip Description

Stereotype congruent, Warmth, Male

Robert's (male older adult) mother has just passed away. His ex-wife, Grace, and him go shopping for an outfit to bury the mother in. Robert begins to cry and apologize to Grace for all the years of their marriage he lied to her.

Stereotype congruent, Competent, Male

Sol (male older adult) comes home from the mall where he has been protesting. While going to get a drink from the fridge he falls over in the fridge. After being helped out of the fridge and to a chair, the older adult male talks with his husband about their failing bodies.

Stereotype congruent, Warmth, Female

Frankie (female older adult) has been considering moving away with her boyfriend. Grace (female older adult) has told her not to go and upset Frankie. To make it up to Frankie, Grace has fulfilled her dream and got her a hot air balloon and the two discuss how much they would miss each other if Frankie were to move.

Stereotype congruent, Competent, Female

Frankie (female older adult) has just gotten a new laptop and is struggling to get it set up and ready to use. Her roommate, Grace (female older adult) attempts to help her.

Stereotype challenge, Warmth, Male

Robert (male older adult) and Sol (male older adult) have recently sent out their wedding invitations. Sol's ex-wife hasn't received one which makes Sol believe Robert intentionally didn't send her an invitation. The two get in a heated argument.

Stereotype challenge, Competent, Male

Sol (male older adult) believes the hospital has unfairly charged them for Robert's surgery. He decides to talk to his lawyer friends to see what can be done. He then talks to the hospital's billing representative and tells him all he has learned, then threatens to sue the hospital.

Stereotype challenge, Warmth, Female

Grace (female older adult) and Frankie (female older adult) are struggling to find someone to marry their ex-husbands, Robert and Sol, before Robert goes in for heart surgery. When the rabi says he doesn't do interfaith marriages, Grace loses it.

Stereotype challenge, Competent, Female

Grace's daughter is working on a business deal for their company, Say Grace. Grace (female older adult) comes in to see how things are going. She decides to step in and navigate the meeting.

Appendix D – Scales and Measures

Adjective Endorsement (8 items; 1 = strongly disagree, 5 = strongly agree) (Fiske, Cuddy, Glick, & Xu, 2002)

1. Warmth
2. Competent
3. Gentle
4. Capable
5. Tender
6. Independent
7. Adaptable
8. Sympathetic

Cultivation Hypothesis (5 items; 1 = strongly disagree, 7 = strongly agree)

1. I find the video clip I just viewed as comparable to what might happen in the real life of older adults.
2. I have you seen this show before?
3. On average, how many hours do you spend watching television in a week?
4. What is your main source of television viewing?
5. I find the video clips I saw are comparable to real life situations. .
6. The clips I saw are events that could happen in real life.

Demographic Survey (Please select the answer that most applies to you.)

1. What is your gender?
 1. Male
 2. Female
 3. Other (Display logic: please specify)
2. Please type your **age** in the box below.
3. What is your ethnicity?
 1. White
 2. Black or African American
 3. American Indian or Alaska Native
 4. Asian
 5. Native Hawaiian or Pacific Islander
 6. Hispanic or Latino
 7. Other (Display logic: please specify)

Manipulation check (Please select the answer that most applies to the video you just viewed.)

1. In the scene you just viewed who cries?
 1. Grace
 2. Robert
2. In the scene you just viewed, why did Sol go to the fridge?

1. To get a drink
2. To get his dinner
3. In the scene you just viewed, why doesn't Grace want Frankie to leave?
 1. She dislikes Frankie's boyfriend
 2. She would miss Frankie
4. In the scene you just viewed, why did Frankie get a laptop?
 1. She wanted to be a part of the conversation
 2. She wanted to set up an online dating profile
5. In the scene you just viewed, who are Sol and Robert arguing about?
 1. Grace
 2. Frankie
6. In the scene you just viewed, what did Sol find out the hospital was known for?
 1. Malpractice
 2. Adding surprise charges to patients bills
7. In the scene you just viewed, why wont the Rabi marry Robert and Sol?
 1. He doesn't do interfaith marriages
 2. He doesn't do gay marriages
8. In the scene you just viewed, Grace believes that without what, their company has no future?
 1. Company name on the packaging
 2. More money for the deal

Attention check (1 = strongly disagree, 5 = strongly agree)

1. Answer somewhat disagree
2. Answer somewhat agree
3. Answer Agree

Appendix E – Debriefing Statement

Thank you for participating in the study. We appreciate your time and effort while completing all questionnaires.

If you found a part of this study upsetting, or have any questions regarding the research being conducted, you can contact her principal investigator, Carly Pullen (cpullen3@radford.edu) or her supervisor, Jenessa Steele, Ph.D. (jcsteele@radford.edu).

We want to remind you that all of your information, including answers to the questionnaires, will be kept confidential. This information will never be linked to you in any way. Additionally, all researchers are bound by confidentiality and will never discuss your participation. Your participation and that of other people will contribute to a greater understanding of how benevolent and hostile ageism is predicted in college students.

You will be compensated with 1 SONA research participation credits. If you have any questions, feel free to ask us. Thank you again for your time and participation.