

Evidence for an Own-Age Bias in Face Recognition

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The current study examined whether an own-age bias exists in face recognition in adults of various ages. In Experiment 1, younger, middle-aged, and older participants studied photographs of younger, middle-aged, and older adults and were administered a face recognition test. Results showed that adults from each group were more likely to recognize own-age faces compared to other-age faces. Experiment 2 verified this finding with a longer retention interval and a different encoding task. Experiment 2 also demonstrated that the own-age bias is accentuated when subjective ratings of age are taken into account. Results are discussed in terms of current theories of own-race bias and have implications for eyewitness memory.

While researchers have studied age differences in eyewitness memory and face identification extensively, most of these studies have shown that older adults exhibit poorer performance on tests of face recognition than do younger adults (e.g., Adams-Price, 1992; Fulton & Bartlett, 1991; List, 1986; Searcy, Bartlett, & Memon, 2000; Searcy, Bartlett, Memon, & Swanson, 2001). However, this difference may in part result from the stimuli typically used in face recognition studies. Specifically, the majority of studies have tested college-aged participants who were asked to remember the faces of similar-aged targets. Studies evaluating older adults also typically present photographs of college-aged individuals (Wright & Stroud, 2002). Thus, much of the prior work on age differences in face recognition has ignored whether participants demonstrated superior recognition of faces from their own age group (i.e., an own-age bias). However, several investigators have examined this issue by manipulating the age of photographed individuals studied by participants (e.g., Bäckman, 1991; Bartlett & Leslie, 1986; Fulton & Bartlett, 1991; List, 1986; Mason, 1986; Perfect & Harris, 2003; Wright & Stroud, 2002; Yarmey, 1993; see Perfect & Moon, 2005, for a review).

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For example, List (1986) presented fifth graders, college students, and older adults (65-70 year olds) videotapes depicting an individual shoplifting. The videotapes portrayed either a college-aged or middle-aged woman as the shoplifter. Results showed that, overall, older adults were as accurate as younger participants but demonstrated poorer memory performance for information concerning the younger actress. Although List (1986) provided a significant starting point, findings from the study cannot be treated as conclusive with regard to the own-age bias for several reasons. First, participants were not required to explicitly identify the perpetrator but instead were responsible for details concerning the crime and personal characteristics of the shoplifter. Secondly, fifth graders, young adults, and older adults were tested, but the videos depicted a young adult and a middle-aged shoplifter. A design testing participants with photographs of own-aged and different-aged individuals is better suited for investigating potential own-age biases. The current study will utilize such a design.

Wright and Stroud (2002) investigated the own-age bias using younger (18-25 year olds) and middle-aged (35-55 year olds) men. Participants viewed four videotapes depicting either a car or television being stolen by a 21, 23, 48, or 51 year old male perpetrator. A second, similar experiment tested 18-33 year old and 40-55 year old men. Across both experiments results showed that younger participants were more likely to correctly identify the perpetrator in a line-up when the culprit was also young. In addition, middle-aged participants showed a trend for greater accuracy when the perpetrator was also middle-aged, although this finding was not statistically reliable. Thus, these data tentatively suggest that an own-age bias exists for younger witnesses.

Fulton and Bartlett (1991) and Bartlett and Leslie (1986) provided additional studies investigating the own-age bias. They demonstrated that younger adults were more accurate at recognizing young faces than old faces while older adults were equally accurate at recognizing young and old faces. Based on these data, Fulton and Bartlett (1991) suggested that an own-age bias exists for younger adults but is less reliable for older adults. Contrary to Fulton and Bartlett (1991), an own-age bias has been demonstrated in several cases for older adults (Anastasi & Rhodes, in press; Bäckman, 1991; Perfect & Harris, 2003). For example, Bäckman (1991) investigated an own-age bias in young and elderly adults and found that the normal decrease in face recognition accuracy for older adults was reduced when they were presented with older faces. In other words, elderly participants were more accurate when asked to identify faces of other older individuals compared to faces of younger adults. Anastasi and Rhodes (in press) presented similar findings with older adults. Furthermore, Perfect and Harris (2003) showed that older adults

were nearly three times more likely to correctly identify an older adult compared to a younger adult.

The current empirical evidence on own-age bias has been fairly mixed and inconclusive. In some studies, an own-age bias was found with younger adults but not with older adults (Bartlett & Leslie, 1986; Fulton & Bartlett, 1991; Wright & Stroud, 2002). In other studies, older adults demonstrated the own-age bias but younger adults failed to demonstrate the effect (Perfect & Harris, 2003). To further complicate the issue, Bäckman (1991) demonstrated an own-age bias for both younger and older adults (63-70 year olds) but failed to find an own-age bias for the oldest adults (76-85 year olds). Comparisons between these studies and the discrepant findings are further complicated by the varying methodologies that have been used in each of these studies. For example, some studies have presented participants with a video of a crime where memory for the perpetrator was tested using a photo lineup (Perfect & Harris, 2003; Wright & Stroud, 2002) whereas others presented numerous target faces and tested memory using a yes/no recognition test (Bäckman, 1991; Bartlett & Leslie, 1986; Fulton & Bartlett, 1991; Mason, 1986). Overall, there is no clear pattern in the existing research to predict when an own-age bias would be found and when it would be absent.

The purpose of the current study was to focus the study of the own-age bias by testing participants with photographs of same-aged or different-aged individuals. We also utilized a multiple-photograph presentation, as this provides greater statistical power to evaluate the existence of an own-age bias. The current study also employed two different encoding manipulations. In Experiment 1, participants were asked to evaluate the attractiveness of the photographed individuals while in Experiment 2 they were instructed to sort the photographs into one of the age ranges. Having participants sort the photographs into the various age ranges not only provides a different orienting task but may also amplify the importance of age and lead participants to explicitly consider the age of the individual in the photograph. Furthermore, it allows a focus on the subjective age estimate, which provides a novel approach compared to previous studies. This will be discussed in more detail in Experiment 2.

EXPERIMENT 1

Experiment 1 investigated the own-age bias using three age groups consisting of younger, middle-aged, and older individuals. Recognition memory for photographs of younger, middle-aged, and elderly adults was tested. If an own-age bias exists, participants should be most accurate

when identifying individuals from their own age group and less accurate when identifying individuals from different age groups.

Method

Participants. Participants were 94 Caucasian individuals from three age groups (18-25 year olds, 35-45 year olds, and 55-78 year olds). The youngest age group was made up of 42 students from Arizona State University at the West Campus who participated as part of a class research requirement. These individuals had an average age of 21.2 ($SD = 2.3$) years. The second group consisted of 20 students from Arizona State University at the West Campus who participated as part of a class research requirement. These individuals had an average age of 38.4 ($SD = 2.6$) years. The third group consisted of 32 individuals from local retirement communities and had an average age of 65.7 ($SD = 6.2$). Older participants received \$5 for their participation. All participants were active, healthy, and reported no history of physical or mental health problems. Participants were run individually or in groups of up to 4 individuals.

Materials. Forty-eight photographs of Caucasian individuals were taken from the Arizona State University main campus and the surrounding Phoenix community using a Sony Mavica FD95 digital camera. Care was taken to avoid photographing individuals from the same locales where participants would be recruited from for the current study.¹ Photographs were taken of each individual with the same white background, consisted of only their head and shoulders, and were cropped such that all were approximately the same size. There were 16 photographs of individuals from each of three age groups (18-25, 35-45, and 55-75 year olds), with an equal number of males and females. The 48 photographs were randomly split into two groups. Each group consisted of 24 photographs with 8 photographs from each age range divided equally among males and females. Twenty-four of the photographs were used as target items on the recognition test while the remaining 24 served as distractor items. Each group of photographs served equally often as targets and distractors.

Photographs were presented to participants using Microsoft PowerPoint on a 15-inch computer monitor. The approximate size of the photographic image on the monitor was 7.5 x 6 inches. The PowerPoint program was run from one computer and sent to multiple monitors using a Belkin 8-port ExpandView.

The filler video used in the current study was entitled "The Human Face: Emotions, Identities, and Masks" (Silver & Archer, 1996) and lasted approximately 15 minutes. The recognition test consisted of all 48 photographs and was presented using Microsoft PowerPoint. Twenty-

four of the photographs (8 from each age range with an equal number of males and females) had been presented earlier in the experiment while the remaining 24 photographs (8 from each age range with an equal number of males and females) were new.

Procedure. Participants were initially welcomed to the experiment and asked to read and sign an informed consent document. A portion of the informed consent document asked participants to indicate their age and gender. Prior to the study presentation, participants were told that they would be presented with photographs of both males and females of various ages at a 7-second rate and were instructed to make an attractiveness rating for each of the individuals in the photographs using a rating sheet provided. The rating sheet had 24 items, each with a 1-9 scale, where "1" corresponded to a rating of "Very Unattractive" and "9" corresponded to "Very Attractive." Participants were instructed to circle their attractiveness rating for each individual and were encouraged to use the entire scale. Several presentation rates were pilot tested on younger and older adults and the 7-second rate was selected since it allowed both groups of participants to successfully complete the attractiveness ratings.

Following the study presentation, participants were shown the 15-minute video and were instructed to pay attention to the video for a later test. Immediately following the video, participants were given 3 minutes to complete a short, 10-question comprehension test for information from the video. Following the video test, participants were administered the photograph recognition test. They were instructed that they would be

the Participant Age x Photograph Age interaction, $F(4, 182) = 2.79$, $MSE = 0.02$. Planned comparisons revealed that younger adults were marginally more accurate at recognizing photographs of younger adults ($M = .90$) compared to photographs of older individuals ($M = .85$), $t(41) = 1.66$, $p = .10$. However, younger adults recognized photographs of younger adults as accurately as photographs of middle-aged adults ($M = .87$), $t(41) = 1.03$, $p = .31$. Middle-aged adults recognized photographs of middle-aged adults ($M = .93$) marginally better than photographs of younger ($M = .85$), $t(19) = 1.84$, $p = .08$, and older adults ($M = .87$), $t(19) = 1.75$, $p = .09$. Older adults recognized photographs of older adults ($M = .66$) significantly better than photographs of younger adults ($M = .56$), $t(31) = 2.02$, $p = .05$, but recognized photographs of middle-aged adults ($M = .62$) as accurately as photographs of older adults, $t(31) < 1$. Overall, each age group demonstrated some evidence for an own-age bias.

TABLE 1 Mean Proportion of Hits, False Alarms, and Corrected Recognition by Photograph Age and Participant Age for Experiment 1

<u>Participant Age</u>	<u>Hits</u>	<u>False Alarms</u>	<u>Corrected Recognition</u>
Younger Participants			
Younger Photo	.93 (.11)	.03 (.06)	.90 (.14)
Middle-Aged Photo	.89 (.15)	.02 (.04)	.87 (.16)
Older Photo	.91 (.10)	.06 (.10)	.85 (.17)
Middle-Aged Participants			
Younger Photo	.90 (.16)	.05 (.10)	.85 (.17)
Middle-Aged Photo	.93 (.12)	.01 (.03)	.93 (.14)
Older Photo	.95 (.09)	.08 (.08)	.87 (.14)
Older Participants			
Younger Photo	.71 (.23)	.15 (.13)	.56 (.27)
Middle-Aged Photo	.70 (.21)	.08 (.09)	.62 (.24)
Older Photo	.79 (.18)	.13 (.12)	.66 (.24)

Note. Standard deviations are in parentheses.

These data indicate that younger, middle-aged, and older adults demonstrated evidence of an own-age bias with the corrected recognition data. Furthermore, these data indicate that the own-age bias was less robust for younger adults. Effect size estimates indicate that older adults demonstrated a stronger own-age bias when evaluating younger faces ($d = .40$) compared to middle-aged faces ($d = .17$). Middle-aged adults showed sizeable effect sizes for younger ($d = .53$) and older faces ($d =$

.44). However, younger participants showed fairly weak effect sizes for middle-aged ($d = .20$) and older faces ($d = .26$).

EXPERIMENT 2

The purpose of Experiment 2 was to replicate the findings of Experiment 1 using an alternate set of photographs, a different encoding task, and a longer retention interval. The middle-aged participants were also dropped in Experiment 2 in order to employ an extreme age-groups design, which may be more likely to produce an own-age bias in face recognition.

One potential concern from Experiment 1 is that all previously seen photographs on the recognition test were identical to those presented in the study phase. It is unclear whether participants recognized the individuals in the photographs or simply detected specific cues or details within the actual photographs. For example, Bartlett and Leslie (1986) demonstrated that older adults have more difficulty distinguishing between previously presented and new photographs when the facial expression or pose was different from those studied. Read, Vokey, and Hammersley (1990) have reported a similar pattern with younger participants, as they demonstrated lower memory accuracy when photographs at retrieval were of the same studied individual but taken two years later. Therefore, Experiment 2 addressed this issue by utilizing photographs of individuals with two different poses, one presented during the encoding phase and the other during the recognition test.

A second purpose of Experiment 2 was to provide participants with an alternative encoding task. In Experiment 1, participants made attractiveness ratings for each photograph. In Experiment 2, participants were asked to determine the age of the individual in each photograph. This alternative rating task was used for two reasons. First, it permitted results from Experiment 1 to be generalized to a different orienting task. Second, and more importantly, the age determination allows for subjective assessments of age to be evaluated in conjunction with memory performance. For example, a participant might believe that an individual in a photograph was from the participant's own-age range when that individual was, based upon their chronological age, from a different age range. Most studies investigating an own-age bias separate the presented photographs into different age groups based upon the chronological age of the photographed individuals. Some studies even pre-test groups of photographs to verify that the photographs, as a group, fit the assigned age range (see Fulton & Bartlett, 1991). Consequently, the photographs, as a whole, are verified as belonging to this age range. However, certain photographed individuals may not belong to this age range. A second problem with this pre-testing procedure is that it does

not account for individual differences in the participants' subjective age assignments. In the current procedure, an age estimate is provided at encoding which will place the viewed photograph into either the same or a different perceived age range as the participant. Recognition performance can then be assessed for individuals who are perceived to be from the same or different age range as the participant. Thus, the subjective age estimates provide an alternative means of assessing the own-age bias that more closely reflects the viewer's personal perception of age.

Experiment 2 also employed a 48-hour retention interval in order to diminish the ceiling effects evident in younger participants' levels of hits ($M = .91$) and their near floor performance for false alarms ($M = .04$) in Experiment 1. A longer retention interval will also permit a determination of whether a delay will differentially affect the own-age bias for younger and older individuals.

Method

Participants. Participants were 88 Caucasian individuals from two age groups (18-25 and 55+ year olds). The younger age group was made up of 44 students from Arizona State University at the West Campus who participated as part of a class requirement for research participation. These individuals were between 18 and 25 years of age with an average age of 20.9 years ($SD = 2.5$). The second group of participants consisted of 44 individuals from retirement communities in the Phoenix metropolitan area. Each of these individuals was between 55 and 91 years of age with an average age of 69.5 ($SD = 10.8$). Older adults received \$5 for their participation. All participants were active, healthy, and reported no history of physical or mental health problems. Participants were run individually or in groups of up to 4 individuals.

Materials. The 96 photographs used in the current experiment were of the same general format and size as those used in Experiment 1 and were collected in the same locales using Caucasian individuals. The primary difference was that two photographs were taken of each individual. The individuals were smiling in one of the photographs and not smiling in the other photograph. Participants were presented with a total of 24 photographs at encoding as target photographs (8 from each age range divided equally among males and females).

The recognition test presentation consisted of 48 photographs and was presented to participants using PowerPoint. Twenty-four of the photographs (8 from each age range with an equal number of males and females) were the alternate-pose photographs of individuals that participants viewed during the encoding phase while the remaining 24 photographs (8 from each age range with an equal number of males and

females) had not been studied. Each group of 24 photographs served equally often as the target group and as the distractor group and photograph version (smiling or not smiling) was counterbalanced.

Procedure. As in Experiment 1, participants were initially welcomed to the experiment and indicated their age and gender on the informed consent document. Participants were then told that they would be presented with several photographs of both males and females of various ages at a 7-second rate. Participants were instructed to categorize the individuals in the photographs using the following three age ranges: 18-25, 35-45, or 55-75 year olds. They were also instructed to provide an exact age estimate for each of the individuals. Upon completion of the photograph presentation, participants were excused from the experiment and reminded to return at the same time 48 hours later.

The recognition test was administered when participants returned. Participants were instructed that they would be presented with 48 photographs at a 7-second rate. They were informed that some individuals had been presented two days earlier while others had not been seen previously. Participants were instructed to indicate whether each individual was presented by circling either "yes" or "no" on the recognition test. The photographs were presented in a random order at a 7-second rate.

Results and Discussion

The results of Experiment 2 were analyzed in two different ways. First, younger and older participants' recognition of photographs from the different age ranges was analyzed based upon the chronological age of the individuals in the photographs. Second, correct recognition for both age groups was analyzed based upon the participant's subjective age classification of the individuals in the photographs.

Recognition Data - Chronological Age. Recognition data based on the chronological age of the individuals in the photographs are presented in Table 2. Corrected recognition (i.e., hits - false alarms) was examined using a 2 (Participant Age: young, old) x 3 (Photograph Age: younger, middle-aged, older) mixed-factor ANOVA. Results showed that recognition accuracy was significantly better for younger adults ($M = .78$) compared to older adults ($M = .36$), $F(1, 86) = 85.41$, $MSE = 0.14$. Results also revealed a main effect of Photograph Age, $F(2, 172) = 3.96$, $MSE = 0.03$. However, a Participant Age x Photograph Age interaction was not present, $F(2, 172) < 1$. Planned comparisons indicated that younger adults did not demonstrate an own-age bias, as recognition of younger photographs ($M = .77$) was equal to recognition of photographs of middle-aged ($M = .77$), $t(43) < 1$, and older individuals ($M = .82$), $t(43) = 1.64$, $p = .11$. Older adults, in contrast, did exhibit an own-age bias

as they were more accurate with photographs of older adults ($M = .42$) compared to younger adults ($M = .31$), $t(43) = 2.13$; However, they showed equivalent recognition to middle-aged adults ($M = .34$), $t(43) = 1.35$, $p = .19$.

Effect size estimates clearly indicate that older adults demonstrated a stronger own-age bias than younger adults. Similar to Experiment 1, older adults demonstrated larger effect sizes when evaluating younger faces ($d = .32$) compared to middle-aged faces ($d = .18$), whereas younger participants showed extremely weak effect sizes for middle-aged ($d = .00$) and older faces ($d = -.26$).

TABLE 2 Mean Proportion of Hits, False Alarms, and Corrected Recognition by Photograph Age and Participant Age for Experiment 2

<u>Participant Age</u>	Hits	False Alarms	Corrected Recognition
Younger Participants			
Younger Photo	.88 (.13)	.11 (.15)	.77 (.24)
Middle-Aged Photo	.83 (.15)	.06 (.09)	.77 (.18)
Older Photo	.90 (.10)	.08 (.09)	.82 (.14)
Older Participants			
Younger Photo	.63 (.21)	.32 (.23)	.31 (.30)
Middle-Aged Photo	.59 (.22)	.25 (.22)	.34 (.32)
Older Photo	.70 (.20)	.28 (.23)	.42 (.34)

Note. Standard deviations are in parentheses.

Recognition Data - Subjective Estimates. As noted, recognition data were also analyzed based on participants' own judgments of photograph age.³ Table 3 presents these subjective data. Hits were analyzed using a 2 (Participant Age: young, old) x 3 (Photograph Age: younger, middle-aged, older) mixed-factor ANOVA.⁴ Results indicated that younger adults ($M = .88$) demonstrated greater recognition accuracy than older adults ($M = .63$), $F(1, 85) = 68.75$, $MSE = 0.05$. In addition, there was a main effect of Photograph Age, $F(2, 170) = 10.39$, $MSE = .02$, as participants were less likely to remember photographs classified as middle-aged individuals ($M = .71$) compared to individuals classified as younger ($M = .75$) or older ($M = .82$). More importantly, results revealed a Participant Age x Photograph Age interaction, $F(2, 170) = 3.25$, $MSE = .02$. Planned comparisons confirmed that an own-age bias was present for both younger and older adults. That is, younger adults exhibited superior recognition for faces classified as own-age ($M = .90$) in comparison other-age faces ($M = .85$), $t(43) = 2.58$. In addition, this

pattern was also evident for older adults, as they recognized significantly more own-age faces ($M = .72$) than other-age faces ($M = .60$), $t(43) = 3.39$. Examination of effect size indices confirmed that the magnitude of the own-age bias for the hit data was greater for older adults ($d = .60$) than for younger adults ($d = .46$).

TABLE 3 Mean Proportion of Hits for Photographs Classified as Young, Middle-aged, and Older for Experiment 2

Participant Age	Photograph Classification		
	Younger	Middle-Aged	Older
Younger Participants	.90 (.09)	.82 (.14)	.91 (.13)
Older Participants	.60 (.24)	.60 (.19)	.72 (.26)

Note. Standard deviations are in parentheses.

Overall, Experiment 2 failed to replicate all of the findings of Experiment 1. In particular, while older adults again showed an own-age bias with the chronological age data, younger adults did not exhibit an own-age bias in Experiment 2. However, the subjective data tell a

GENERAL DISCUSSION

Consistent with a number of other studies (Adams-Price, 1992; Anastasi & Rhodes, in press; Bartlett & Leslie, 1986; Bastin & Van der Linden, 2003; Fulton & Bartlett, 1991), results from the current study demonstrated that older adults demonstrated less accurate face recognition than younger adults. More importantly, the findings of the current study conclusively showed that an own-age bias exists in facial recognition for older adults. However, younger adults did not consistently exhibit this own-age bias, contrary to previous findings (Bartlett & Leslie, 1986; Fulton & Bartlett, 1991; Wright & Stroud, 2002). Furthermore, when older and younger participants were required to estimate the age of the individuals in the photographs, both groups showed a pronounced own-age bias.

Several explanations have been offered to account for the own-race bias that may help explain the own-age bias. For example, the differential experience or contact hypothesis (Brigham & Malpass, 1985; Slone, Brigham, & Meissner, 2000) suggests that the more contact one has with individuals from an out-group, the better one's memory will be for those individuals and, consequently, the smaller the own-race bias. Conversely, the less contact one has with another race, the larger the own-race bias. In a similar manner, the perceptual learning hypothesis posits that individuals differ in the amount of expertise they have acquired for same-race and other-race faces (Levin, 1996; Valentine, 1991). Specifically, it suggests that as individuals more frequently encounter own-race faces, they acquire expertise at processing those faces, and thus exhibit better memory for those faces. However, this sort of expertise would not develop with other-race faces that are encountered less frequently.

Data from the current study do not distinguish between these explanations. That is, older participants tested were primarily from community recreation centers located in retirement communities while the younger participants were university students. Presumably, the more consistent own-age bias present in the current study for older participants may be due to their immersion in retirement communities that are somewhat homogenous due to age restrictions on eligibility to live in these communities. This more frequent exposure to other older adults may also provide some degree of expertise for the faces of other older adults. Conversely, university students would be more likely to come into contact with other students, professors, as well as family members of various ages, affording them some degree of expertise for faces of other ages. This may also explain the null effects for the middle-aged adults tested by Wright and Stroud (2002). Specifically, these individuals may have more frequent exposure to individuals across a breadth of age ranges which would lead to little own-age bias.

It should be noted that such familiarity-based explanations have received mixed support within the own-race literature. For example, Meissner and Brigham's (2001) meta-analysis of 39 studies of the own-race bias concluded that contact with members of other races accounted for approximately 2% of the variability in the own-race bias across participants. In addition, a familiarity-based explanation appears to be particularly difficult to apply with respect to age. For example, older adults have been members of other age groups at different points in their lifetime and should have acquired sufficient levels of familiarity with other age groups to make identifications. Thus, it is unclear how older adults would develop a recognition advantage for older faces based on familiarity alone. One possibility is that the own-age bias is not the product of familiarity *per se*, but reflects different processing strategies for in-group versus out-group faces. Such a premise is behind Sporer's (2001) in-group/out-group model (IOM) of face processing.

Sporer proposes that in-group faces are processed automatically with configural coding that reflects perceptual expertise for such faces. In contrast, out-group faces are first categorized for out-group status with the possibility that processing does not extend beyond initial categorization (cf., Rodin, 1987). If additional processing does occur, these processes give "attentional weight to distinguishing out-group from in-group members...at the expense of dimensions that may be more suitable to differentiate members of a particular out-group" (Sporer, 2001; pp. 83-84). As Sporer notes, the IOM model predicts recognition differences for individuals within several out-groups, including those based on age.

Thus, the own-age bias reported in the current study may result from different processing strategies applied to in-group and out-group faces. In fact, in-group/out-group distinctions may have been encouraged by encoding instructions to estimate the age of the individual in each photograph, with the attendant processing differences outlined in Sporer's (2001) IOM model. Further, this suggests that the own-age bias may be eliminated or weakened when encoding instructions do not engender a focus on age. Anastasi and Rhodes (in press) asked participants to sort the photographs into age ranges at encoding and found reliable own-age biases. However, several studies, including our Experiment 1, contradict this assumption. For example, own-age biases have been reported following encoding tasks that require judgments of pleasantness (Bartlett & Leslie, 1986; Fulton & Bartlett, 1991) or simply instruct participants to remember faces for a later memory test (Bäckman, 1991; Mason, 1986; Wright & Stroud, 2002). Bartlett and Leslie (1986; Experiment 1) told participants that they were interested in how people of various ages perceive the female face. Each of these studies, with various

encoding tasks, demonstrated significant own-age biases. These data would seem to be predicted by the IOM model. That is, the IOM model suggests that face processing is preceded by an obligatory judgment of whether a face belongs to an in- or out-group, which in turn dictates the nature of face processing. Therefore, the specific encoding task may not be as important as the initial judgment that a face belongs to an in- or out-group. Evidence directly comparing the own-age bias across different encoding tasks and age groups is presently lacking so this assumption must be regarded as tentative.

Knowledge of the own-race bias has been crucial in the legal system where the possibility of identification errors is likely (e.g., Barkowitz & Brigham, 1982; Brigham & Malpass, 1985; Meisner & Brigham, 2001; Sporer, 2001). The current study supports a similar memory bias that may lead to eyewitness misidentification when witnesses, particularly older witnesses, must identify individuals of a different age. The own-age bias has obvious implications for law enforcement as well as the justice system with regard to eyewitness testimony. As noted by Wright and Stroud (2002), most studies investigating eyewitness identification have used younger or middle-aged perpetrators and have ignored the importance of the perpetrator's age. Those studies that have focused on the age of the witness have typically shown that memory performance of elderly witnesses is poorer than that of younger witnesses (Adams-Price, 1992; Bartlett & Leslie, 1986; Bastin & Van der Linden, 2003; Fulton & Bartlett, 1991). The current findings demonstrate that the age of the witness and the age of the perpetrator are both crucial factors when evaluating an individual's ability to remember previously seen faces.

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Footnotes:

¹ None of the participants reported knowing any of the individuals depicted in the photographs when they were asked at the conclusion of the experiment.

² Overall, younger participants ($M = 83.1\%$ accuracy, $SD = 8.95$) were more likely to accurately judge the age of individuals depicted in the photographs than older participants ($M = 73.3\%$ accuracy, $SD = 10.94$), $t(88) = 4.61$, $p < .05$. Specifically, younger participants ($M = 92.5\%$) sorted the younger photographs

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