

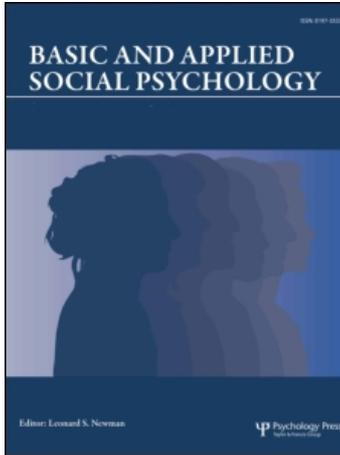
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(In)validating Stereotypes About Older Workers Influences Their Intentions to Retire Early and to Learn and Develop

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(In)validating Stereotypes About Older Workers Influences Their Intentions to Retire Early and to Learn and Develop

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Although many governments of the Organization for Economic Cooperation and Development are currently trying to retain older workers in the workforce, numerous stereotypes question their motivation and ability to work, learn, and develop. In two studies, we examined the influence of age-related stereotypic information on Belgian older workers' aspirations in the work domain. In Study 1, early retirement intentions were lower following exposure to positive stereotypic information than following exposure to negative or no stereotypic information. In Study 2, older workers confronted with positive stereotypic information were less willing to retire early and more motivated to learn and develop than those confronted with negative stereotypic information. Results suggest that communicating positive information about older workers' ability may boost their work aspirations.

Nowadays, most Western countries face the challenge of an aging population. In Belgium, although the population older than 65 was a little more than 25% of the population of 20 to 64 year olds in 2000, it will rise to 50% by 2050 (Organization for Economic Cooperation and Development [OECD], 2003). In response to this demographic challenge, Belgium's 2005 pension reform¹ gave priority to extending people's working lives to maintain the financial viability of the social security system in the long term. For example, the Belgian government is currently tightening up rules to get access to early retirement, increasing incentives to remain in paid employment for longer (e.g., improving the financial benefit of staying in the workforce and making work arrangements more flexible and attractive), and communicating positive information about older workers' ability to encourage them to remain in the workforce longer and to convince organizations of

their value in the workplace. Numerous OECD governments have chosen such a strategy to deal with their aging population (Jespén, Foden, & Hutsebaut, 2002; OECD, 2006). However, it is not certain that raising employment levels among older people will be easy in countries such as Belgium, where the low proportion of over-55s working (32.5%; OECD, 2007) is in part due to their strong inclination to take voluntary early retirement (Vandenbroucke & vander Hallen, 2002). Keeping people who want to stop work but are not allowed to do so in the workforce might be detrimental not only to the individuals themselves (i.e., their well-being) but also to the organization (i.e., its efficiency). Therefore, in considering reforms of the ways in which careers can be ended, it is important to understand why some workers wish to retire early and to examine how their learning and development intentions might be improved.

Although behavioral research on the causes of the decision to retire early has investigated variables related to the worker him- or herself and to his or her work and family lives (Barnes-Farrell, 2003), it has widely neglected variables related to the current use of the adjective "older" to describe workers older than 50 (or even 45 in Belgium) in organizations and in employment policies. According to Sterns and Miklos (1995), the label "older workers" refers to a psychosocial definition

¹In 2005, in Belgium, the government, employers' organizations, and employees' associations formed an agreement (entitled "Le Contrat de Solidarité entre Générations") aimed at retaining older workers in the workforce. The complete French text of this agreement can be downloaded from http://premier.fgov.be/fr/051011_contrat_solidarite_generations.pdf

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of older workers that is susceptible to activate ageist attitudes in organizations. Surprisingly, despite theoretical propositions that emphasize the importance of the psychosocial approach of aging at work (e.g., Faurie, Fraccaroli, & Leblanc, 2008; Sterns & Miklos, 1995) and despite numerous data that attest to ageist stereotypes in work settings (see the meta-analysis of Kite, Stockdale, Whitley, & Johnson, 2005, and the review by Finkelstein & Farrell, 2007), very little attention has been paid to the influence of age-related stereotypes on older workers' attitudes toward work.

Desmette and Gaillard (2008; Gaillard & Desmette, 2008) have recently examined the relationships between self-definition as an "older worker" and early retirement intentions. These authors found that the more (Belgian) workers aged 45 to 59 identified (i.e., thought of themselves) as older workers, the more willing they were to retire early. On the basis of the stereotype threat approach (Steele, Spencer, & Aronson, 2002), it seems plausible that self-definition as an older worker triggers negative stereotypes about older workers and consequently affects their attitudes toward the work domain where those stereotypes apply.

The goal of the present research was to examine, after controlling for some personal, family, and organizational variables, the influence of age-related stereotypes on older workers' early retirement intentions and on their learning and development intentions.

STEREOTYPES ABOUT OLDER WORKERS

In Western societies, stereotypes about the elderly include both negative and positive components (e.g., Hummert, 1999). Elderly are negatively valued regarding their competence: They are perceived as less capable, less intelligent, and less skilled than younger adults. Conversely, they are positively valued on their warmth: Elderly are perceived as friendly, sincere, and warm (Cuddy & Fiske, 2002; Cuddy, Norton, & Fiske, 2005). Research on stereotypes about older individuals in the workplace has supported mixed content of age-related stereotypes (Chiu, Chan, Snape, & Redman, 2001; DeArmond et al., 2006; Finkelstein & Farrell, 2007; McCann & Giles, 2002; Shore & Goldberg, 2005). Like for retirees, older workers' warmth is positively valued in the workplace: Older workers are perceived as more reliable (Metcalf & Thompson, 1990) and as having better interpersonal skill (Rosen & Jerdee, 1976) than younger workers. Regarding their competence, despite being perceived as experienced and able to make fewer job mistakes than younger workers (Finkelstein, Higgins, & Clancy, 2000; Gaillard & Desmette, 2007), older workers are predominantly subject to negative assumptions about their motivation

and ability to work, learn, and develop. For example, older workers are perceived as waiting for retirement (Gaillard & Desmette, 2007); more resistant to applying new technologies, less trainable, and slower at processing information (Rosen & Jerdee, 1976; Taylor & Walker, 1994); less able to remain up-to-date in their jobs (Warr & Pennington, 1993); and less flexible and creative (Metcalf & Thompson, 1990; Vrugt & Schabracq, 1996) than their younger colleagues.

Although negative stereotypes about older workers are widespread in organizations and often invoked to explain age discrimination in the workplace (Finkelstein & Farrell, 2007; Shore & Goldberg, 2005; Taylor & Walker, 1994), research has ignored the question of whether older workers' early retirement intentions may be affected by those stereotypes. Moreover the analysis of the effects of *positive* stereotypes about older workers seems also well indicated, as many OECD governments are currently putting efforts into communicating positive information about older workers' ability to encourage them to remain in the workforce for longer (OECD, 2006).

Therefore, the goal of the present research was to examine the influence of negative versus positive age-related stereotypes on older workers' early retirement intentions and learning and development intentions. Like previous studies supporting the notion that the activation of contextual cues related to negative stereotypes can have detrimental effects on the behavior of individuals targeted by those stereotypes (e.g., women's leadership aspirations: Davies, Spencer, & Steele, 2005; older adults' memory performance: Hess, Auman, Colcombe, & Rahhal, 2003), we investigated this question within the stereotype threat approach (Steele et al., 2002).

STEREOTYPE THREAT

In a situation where individuals perceive that negative stereotypes associated with one of their own group memberships are relevant to interpret their behavior in a given domain, stereotype threat refers to those individuals' awareness and concern that they risk being judged by, or treated in terms of, those stereotypes. As a result of this situational predicament, the performance and aspirations of those individuals in any alleged stereotype-relevant domain can be undermined (Steele, 1997; Steele et al., 2002). Of importance, susceptibility to stereotype threat does not require that individuals believe in the validity of negative stereotypes about one of their group memberships but that they just know those stereotypes and the domains where they apply. Moreover, research has shown that stereotype threat effects are most likely to occur when individuals are

highly identified with the stereotype-relevant domain (Aronson et al., 1999; Hess et al., 2003; Steele et al., 2002).

Research has demonstrated that stereotype threat results in performance deficits among a variety of groups and performance domains such as African Americans in the intellectual domain (e.g., Steele & Aronson, 1995), women in mathematics (e.g., Spencer, Steele, & Quinn, 1999), and older adults performing memory tasks (e.g., Hess et al., 2003).

In contrast to the profusion of research about the effects of stereotype threat on *performance* outcomes, only a few studies have paid attention to the consequences of stereotype threat on individuals' aspirations. With respect to individual's aspirations in the work domain, Davies, Spencer, Quinn, and Gerhardtsein (2002) reported that stereotype threat (i.e., exposure of women to TV commercials with negatively stereotyped women in them) undermined women's leadership aspirations (i.e., they avoided leadership roles in favor of subordinate roles). Bourguignon, Desmette, Yzerbyt, and Herman (2007) showed that stereotype threat (i.e., recalling their employment status) led unemployed people to disengage from job application (i.e., participants reported fewer intentions to search a job when the context made salient their status of unemployed people). In other words, stereotype threat can lead individuals to escape the domain where negative self-relevant stereotypes apply to avoid being associated with those stereotypes. Because negative stereotypes about older workers question their motivation and ability to work, learn, and develop, they should be susceptible to stereotype threat in the workplace.

Although research on stereotype threat has mainly focused on the influence of negative stereotypes on performance, a few studies have investigated both negative and positive stereotypes to assess their specific impact on performance outcomes. Because positive stereotypes are expected to reduce stereotype threat (Hess et al., 2003), we may hypothesize that the activation of ingroup positive stereotype can lead to better outcomes than when negative stereotype are activated. Moreover, Levy's work on positive stereotypes leads one to expect some positive effects of the activation of positive stereotypes related to age. As an example, in comparison with negative stereotypes, positive stereotypes on age have been shown to be associated with better recovery health (Levy, Slade, May, & Caracciolo, 2006), better memory performance, and more positive attitudes toward ingroup members (Levy, 1996) among older adult samples.

On this basis, we hypothesized that, like women (Davies et al., 2002), older workers who were exposed to ingroup negative stereotypes will avoid the work domain. Specifically, we predicted that the activation of negative age-related stereotypes could undermine

their aspirations in the work domain, whereas the activation of more positive age-related stereotypes could boost their work aspirations.

Work-related aspirations were studied through intention to retire (Studies 1 and 2) and interest for learning and developing at work (Study 2). Regarding the early retirement measure, participant's preferences or intentions with respect to early retirement have been used as indicators of the decision to retire early (Barnes-Farrell, 2003). Indeed there are both empirical and theoretical arguments justifying the study of retirement preferences and intentions. On one hand, empirical studies have shown a strong consistency between retirement intentions and actual retirement behavior 1 or 2 years later (Henkens & Tazelaar, 1994; Prothero & Beach, 1984). On the other hand, most behavioral research on the decision to retire is based on models developed by Beehr (1986) and Feldman (1994), according to which voluntary retirement can be conceptualized as a process. That is, people's preferences and intentions with regard to retirement are affected by personal and environmental (family- and work-related) variables and are the precursors of the actual act of retirement.

Moreover we controlled for some personal (age, health, wealth, marital status) and organizational variables (autonomy in the job). Indeed, research on (early) retirement has shown that at the personal level, health and wealth are the strongest predictors of retirement decisions (Barnes-Farrell, 2003; Beehr, 1986; Shultz & Taylor, 2001). That is, people are more likely to retire when they are in poor health and/or financially well-off. Other personal variables have been shown to be involved in the decision to retire. Adams and Beehr (1998; Adams, Prescher, Beehr, & Lepisto, 2002) documented a positive relationship between age and retirement intentions. Talaga and Beehr (1995) pointed out that the role of gender in the decision to retire had to be examined in relation to marital status because of the potential influence of the spouse's work/retirement status, health, and wealth on a worker's retirement decision. At the organizational level, research has shown that employment in jobs characterized by low autonomy and/or physically demanding work is associated with earlier retirement (Blekesaume & Solem, 2005; Hayward, Grady, Hardy, & Sommers, 1989).

STUDY 1

Study 1 was designed to test the influence of negative versus positive age-related stereotypes on older workers' early retirement intentions. Participants were confronted with a newspaper-type article presenting either negative or positive stereotypic information about older workers' ability. On the basis of the stereotype threat

approach (Steele et al., 2002), we hypothesized that older workers confronted with negative age-related stereotypic information would be more likely to report intending to retire early than those exposed to more positive age-related stereotypic information. In addition to these two conditions, we included a control condition in which participants were not confronted with any stereotypic information about older workers' ability. Based on Hess et al. (2003), we hypothesized that age-related stereotypes would be activated in the control condition because of the reminder of participants' age (in the beginning of the questionnaire in all conditions). Therefore, because negative stereotypes about older workers are prevalent in organizations (e.g., McCann & Giles, 2002), the activation of negative stereotypes about older workers could be the same in control condition as in the condition where participants were presented with negative age-related stereotypic information. Thus, older workers in the control condition would not be expected to differ from those exposed to negative age-related stereotypic information with respect to early retirement intentions, whereas they could be more likely to want to retire early than those exposed to more positive age-related stereotypic information.

We also predicted that the effect of age-related stereotypic information on early retirement intentions would be more pronounced among older workers who were highly identified with the work domain (Aronson et al., 1999; Hess et al., 2003). Because some personal, family, and organizational variables have proved to be significant predictors of the decision to retire (Barnes-Farrell, 2003), the influence of age-related stereotypic information on early retirement intentions was examined after controlling for age, gender, marital status, health, wealth, and autonomy in job tasks.

Method

Participants

In three Belgian organizations² (i.e., a bank, an insurance company, and a mutual society) with no financial difficulties (e.g., no downsizing) and with a working convention allowing for voluntary early retirement at the age of 58, 180 questionnaires were distributed to French-speaking, white-collar workers older than 45 years old by managers of the organization. Of these, 78 (43%) were returned. Participants were 40 male and 38 female workers, ranging in age from 46 to 58 years (M age = 50.83, SD = 3.84). Most of the participants (78%) were married or living with a partner.

²The organization variable was not significantly related to early retirement intentions, and inclusion of this variable in the analyses did not alter the observed results.

Procedure

The questionnaire was accompanied by a cover letter, which was signed by the researchers and indicated that the purpose of the study was to examine "People's attitudes towards the relationships between work and quality of life." An envelope addressed to the researchers was provided with each questionnaire. Participants returned the completed questionnaire in the sealed envelope to the manager who had previously distributed the questionnaire to them. Simultaneously, the manager gave them a letter, which was signed by the researchers and served for debriefing. Next the manager sent the envelope (containing the completed questionnaire) to the researchers at their office. This debriefing procedure was implemented because the questionnaires were anonymous and the debriefing letter could not be sent directly to the participants. Researchers' e-mail addresses and phone numbers were mentioned in the debriefing letter, and participants were invited to contact them if they wished to receive further information about the study.

Participants were randomly assigned to one of three conditions. In a *negative stereotypic information* (NSI) condition, a newspaper-type article presenting negative information about older workers' ability was included in the questionnaire. In a *positive stereotypic information* (PSI) condition, a newspaper-type article presenting positive information about older workers' ability was included in the questionnaire. In a *control* condition, no newspaper-type article was included in the questionnaire. Among the 180 questionnaires that were distributed to workers older than 45, there were 60 questionnaires of each condition. Twenty-nine participants in the PSI condition, 20 participants in the NSI condition, and 29 participants in the control condition returned the questionnaire.

The questionnaire addressed the control variables first, followed by participants' identification with the work domain. Next participants in the NSI and PSI conditions were invited to read the newspaper-type article (which was included in the questionnaire and which served as the stereotypic information manipulation) on an ostensible study on Belgian workers' ability; participants in the control condition did not read any newspaper-type article. Following that, the questionnaire addressed participants' early retirement intentions. Afterward, participants in the NSI and PSI conditions completed the manipulation check.

Materials

Stereotypic information manipulation. Stereotypic information was manipulated using a procedure commonly used in stereotype threat research (e.g., Hess et al., 2003). Two brief newspaper-type articles were

constructed. These two articles discussed findings of an extensive study on Belgian workers' ability. One of these articles presented negative information about older workers' ability (NSI condition) by discussing findings that supported two negative stereotypes about older workers (i.e., their slowness to process information and their lack of flexibility) and that invalidated one positive stereotype about older workers (i.e., their ability to solve problems with experience). The other article presented positive information about older workers' ability (PSI condition) by discussing findings that invalidated the two negative stereotypes about older workers and that supported the positive stereotype about older workers. Each of these two articles was 215 words in length. Excerpts of each article are presented in Appendix A. As in Hess et al.'s (2003) study, each of these two articles was printed in newspaper-width columns and then cut out and pasted on a clean sheet of white paper. To suggest that the articles were actual newspaper articles, this paper was reproduced using a copy machine.

Except for the demographic variables (age, gender, and marital status) and the manipulation check, responses were recorded on a 7-point scale with endpoints labeled 1 (*strongly disagree*) and 7 (*strongly agree*) and were scored so that a higher score indicated higher standing on the measure.

Control variables. Participants were asked to indicate their age, gender, and current marital status (i.e., whether or not they were married or living with a partner). To assess participants' perceived health, they were asked to indicate how much they agreed with the following two statements: "Lately, I have been feeling very healthy" and "Lately, I have been in good health." Because these two statements were positively correlated ($r = .89$), we computed an average perceived health score. To measure participants' expected financial resources, they were asked to indicate how much they agreed with the following two statements (reflecting satisfaction with expected early retirement remuneration): "Financially, I can afford to retire" and "If I were to retire, I would have enough income." We computed an average expected financial resources score ($r = .90$). To assess participants' autonomy in job tasks, they were asked to indicate how much they agreed with the following two statements: "I can usually plan my tasks during the day" and "I feel free to decide how to do my job." We computed an average autonomy in job tasks score ($r = .77$).

Domain identification. To assess participants' identification with the work domain, they were asked to indicate how much they agreed with the following two statements: "Doing my job well is very important

to me" and "Occupational success is very important to me." Because these two statements were positively correlated ($r = .53$), we computed an average domain identification score.

Early retirement intentions. To assess participants' early retirement intentions, they were asked to indicate how much they agreed with the following three statements (adapted from Gaillard & Desmette, 2008): "I would like to retire early if I can afford to," "I would like to stop working as soon as possible," and "I expect to retire early in the near future." We computed an average early retirement intentions score (Cronbach's $\alpha = .93$).

Manipulation check. Participants in the NSI and PSI conditions were presented with three questions that referred to the stereotypic differences between older and younger workers that had been induced by the experimental manipulation: "According to the results of the study that I previously read, workers between the age of 45 and 59 are: (A) *slower/faster* at processing information than workers between the age of 25 and 39," (B) "*less/more flexible* than workers between the age of 25 and 39," (C) "*less/more able* to solve problems with experience than workers between the age of 25 and 39." For each question, responses were recorded on a 7-point scale with endpoints labeled with the italicized words.

Results

Preliminary Analyses and Manipulation Check

We first considered the control variables and found that the experimental factor (i.e., stereotypic information) was not significantly related to participants' age, gender, marital status, perceived health, expected financial resources, and autonomy in job tasks. Second, we considered participants' identification with the work domain and found that scores on this measure ranged from 5 to 7 ($M = 6.12$, $SD = .66$). This indicates that all participants were highly identified with the work domain, which is a boundary condition to demonstrate strong stereotype threat effects (Aronson et al., 1999). The high scores generally reported by our participants resulted in a restricted range of scores on this measure, which made it impossible to conduct any meaningful analyses including this variable as a moderator.

To verify if the perception of the stereotypic differences between older and younger workers which had been induced by the experimental manipulation differed between the NSI and PSI conditions, each of the three manipulation check measures was submitted to an

analysis of variance with stereotypic information (NSI vs. PSI) as the between-subjects factor. The effect of stereotypic information was significant on participants' recall of differences between older and younger workers with respect to their information-processing speed, $F(1, 47) = 14.24$, $p < .001$; their flexibility, $F(1, 47) = 5.53$, $p < .03$; and their ability to solve problems with experience, $F(1, 47) = 13.01$, $p < .01$. Participants in the NSI condition recalled that the article stated that older workers (relative to younger workers) were slower at processing information ($M = 3.00$, $SD = 1.02$), less flexible ($M = 3.30$, $SD = 1.30$) and less able to solve problems with experience ($M = 4.25$, $SD = 1.51$) than participants in the PSI condition (respectively, $M = 3.93$, $SD = .70$; $M = 4.10$, $SD = 1.08$; $M = 5.48$, $SD = .87$). In other words, consistent with the stereotypic differences between older and younger workers, which had been induced by the experimental manipulation, the two negative stereotypes about older workers were more strongly supported in the NSI condition than in the PSI condition, whereas the positive stereotype about older workers was more strongly supported in the PSI condition than in the NSI condition.

Early Retirement Intentions

Early retirement intentions were submitted to an analysis of covariance with stereotypic information (NSI vs. PSI vs. control) as the between-subjects factor and age, gender, marital status, perceived health, expected financial resources, and autonomy in job tasks as covariates. In addition to significant covariates—perceived health ($B = -.38$), $F(1, 69) = 4.28$, $p < .05$, $\eta^2 = .06$; expected financial resources ($B = .31$), $F(1, 69) = 5.11$, $p < .03$, $\eta^2 = .07$; autonomy in job tasks ($B = -.28$), $F(1, 69) = 5.04$, $p < .03$, $\eta^2 = .07$ —this analysis revealed a significant effect of stereotypic information, $F(2, 69) = 5.52$, $p < .01$, $\eta^2 = .14$. Bonferroni multiple comparison tests ($p < .05$) revealed that early retirement intentions were significantly lower in the PSI condition ($M = 4.27$, $SD = 1.67$) than in both the NSI condition ($M = 5.38$, $SD = 1.47$) and the control condition ($M = 5.42$, $SD = 1.77$) which did not significantly differ from each other.

Discussion

Consistent with the hypothesis regarding the difference in early retirement intentions between the negative and positive stereotypic information conditions, Study 1 revealed that older workers' early retirement intentions were higher following exposure to negative age-related stereotypic information than following exposure to more positive age-related stereotypic information after controlling for age, gender, marital status, health, wealth, and autonomy in job tasks. Moreover,

compared to older workers in the control condition, those exposed to negative age-related stereotypic information were not more willing to retire early, whereas those confronted with positive age-related stereotypic information were less motivated to retire early. This finding is consistent with the hypothesis that negative stereotypes about older individuals would be predominantly activated when age was made salient (participants had to indicate their age) and in the absence of active attempts to induce positive age-related stereotypic information like in Hess et al.'s (2003) study.

Although the results of Study 1 supported the hypothesis that age-related stereotypic information could affect older workers' early retirement intentions, one important issue was not addressed. The aim of Study 1 was to compare the effects of negative and positive age-related stereotypic information on an attitude reflecting avoidance of the work domain. Because numerous OECD governments seek to extend people's working lives, it seems to be also relevant to examine older workers' interest in actively remaining in the workforce. To address this issue, in Study 2, we investigated the influence of age-related stereotypic information not only on older workers' early retirement intentions but also on their learning and development intentions.

STUDY 2

The goal of Study 2 was to replicate and extend the findings observed in Study 1. First, in addition to examining the influence of age-related stereotypic information on older workers' early retirement intentions, we also investigated their learning and development intentions, that is, an attitude reflecting their interest in remaining in the workforce in an active way. We hypothesized that exposure to positive age-related stereotypic information would result in lower early retirement intentions and higher learning and development intentions than exposure to negative age-related stereotypic information. Second, we added a second positive stereotype about older workers to have the same number of negative and positive stereotypes. Moreover, because early retirement intentions did not differ between the control and negative stereotypic information conditions in Study 1, we did not include the control condition in Study 2.³ Finally, as in Study 1, the moderating role of domain identification

³In Study 2, because stereotypes about older workers are mixed (both positive and negative), we replaced the control condition by a mixed stereotypic information condition (MSI) supporting both negative and positive age-related stereotypes. Early retirement intentions ($M = 4.58$, $SD = 1.69$) and intention to learn and develop ($M = 5.28$, $SD = .79$) in the MSI condition fell in between the PSI and NSI conditions and were not significantly different from either one. Further analyses of this condition are not included in the article.

was investigated and the influence of age-related stereotypic information on early retirement intentions and learning and development intentions was examined after controlling for age, gender, marital status, health, wealth, and autonomy in job tasks.

Method

Participants

In three Belgian organizations⁴ (i.e., an information technology company, an electricity transmission company, and a railway company) with no financial difficulties (e.g., no downsizing) and with a working convention allowing for voluntary early retirement at the age of 58, 140 questionnaires were distributed to French-speaking, white-collar workers older than 45 by managers of the organization. Of these, 60 (43%) were returned. Participants were 27 male and 33 female workers, ranging in age from 46 to 58 years (M age = 52.88, SD = 4.30). Most of the participants (70%) were married or living with a partner.

Procedure

With respect to the distribution and return of the questionnaires and the debriefing of participants, the same procedure as in Study 1 was used. Participants were randomly assigned to an NSI condition or a PSI condition. As in Study 1, stereotypic information about older workers' ability was presented in a newspaper-type article, which was included in the questionnaire. Among the 140 questionnaires, which were distributed to workers from 45 to 59 years old, there were 70 questionnaires representing each condition. Thirty-two participants in the PSI condition and 28 participants in the NSI condition returned the questionnaire.

The questionnaire addressed the control variables first, followed by participants' identification with the work domain. Next, participants were invited to read a newspaper-type article (which was included in the questionnaire and which served as the stereotypic information manipulation) on an ostensible study on Belgian workers' ability. Following that, the questionnaire addressed participants' early retirement intentions and their learning and development intentions. Afterward, participants completed the manipulation check.

Materials

Stereotypic information manipulation. Stereotypic information was manipulated using the same procedure

⁴The organization variable was not significantly related to dependent variables (i.e., early retirement intentions and learning and development intentions), and inclusion of this variable in the analyses did not alter the observed results.

as in Study 1. Two brief newspaper-type articles discussing findings of an extensive study on Belgian workers' ability were constructed (excerpts of each article are presented in Appendix B). In the NSI condition, the same two negative stereotypes about older workers as in Study 1 (i.e., their slowness to process information and their lack of flexibility) were supported, whereas the same positive stereotype about older workers as in Study 1 (i.e., their ability to solve problems with experience) and another positive stereotype about older workers (i.e., the low amount of job mistakes they make) were invalidated. In the PSI condition, the two negative stereotypes about older workers were invalidated, whereas the two positive stereotypes about older workers were supported. Each of these two articles was 223 words in length. Articles were printed in newspaper-width columns and then cut out and pasted on a clean sheet of white paper, which was reproduced using a copy machine to suggest that they were actual newspaper articles.

The demographic variables (age, gender, and marital status), domain identification⁵ ($r = .57$), perceived health ($r = .91$), expected financial resources ($r = .88$), autonomy in job tasks ($r = .82$), and early retirement intentions (Cronbach's $\alpha = .93$) were measured in the same way as in Study 1.

Learning and development intentions. To assess participants' learning and development intentions, they were asked to indicate how much they agreed with the following three statements: "I am willing to learn new things for my job," "I am interested to take part in a vocational training in the near future," and "I am ready to develop new skills to keep up with new developments in my job." Responses were recorded on a 7-point scale with endpoints labeled 1 (*strongly disagree*) and 7 (*strongly agree*) and were scored so that a higher score indicated higher standing on the measure. An average learning and development intentions score was computed (Cronbach's $\alpha = .92$).⁶

Manipulation check. Participants were presented with four questions that referred to the stereotypic

⁵As in Study 1, all participants were highly identified with the work domain (i.e., scores on this measure ranged from 5 to 7; $M = 6.10$, $SD = .78$). The high scores generally reported by our participants resulted in a restricted range of scores on this measure which made it impossible to conduct any meaningful analyses including this variable as a moderator.

⁶Principal components analysis with Varimax rotation was conducted on the items related to both the early retirement intentions and the learning and development intentions. The analysis suggested a two-factor solution, with all items loading much higher on their expected factor than on the other one. Finally, results indicated that the two factors are negatively correlated ($r = -.423$).

differences between older and younger workers, which had been induced by the experimental manipulation. The first three questions were the same as in Study 1. The fourth question was, "According the results of the study that I previously read, workers between the age of 45 and 59 make *fewer/more mistakes* in their job than workers between the age of 25 and 39." Responses were recorded on a 7-point scale with endpoints labeled 1 (*fewer mistakes*) and 7 (*more mistakes*).

Results

Preliminary Analyses and Manipulation Check

We first considered the control variables and found that the experimental factor (i.e., stereotypic information) was not significantly related to participants' age, gender, marital status, perceived health, expected financial resources, and autonomy in job tasks. Next, to verify if the perception of the stereotypical differences between older and younger workers that had been induced by the experimental manipulation differed between the experimental conditions, each of the four manipulation check measures was submitted to an analysis of variance with stereotypic information (NSI vs. PSI) as the between-subjects factor.

The effect of stereotypic information was significant on participants' recall of differences between older and younger workers with respect to their information-processing speed, $F(1, 58) = 19.43, p < .001$; their flexibility, $F(1, 58) = 32.78, p < .001$; their ability to solve problems with experience, $F(1, 58) = 49.53, p < .001$; and the amount of job mistakes they make, $F(1, 58) = 124.62, p < .001$. Participants in the NSI condition recalled that the article stated that older workers (relative to younger workers) were slower at processing information ($M = 2.75, SD = 1.40$), less flexible ($M = 2.64, SD = 1.31$), less able to solve problems with experience ($M = 3.32, SD = 1.94$), and made more mistakes in their job ($M = 3.75, SD = .80$) than participants in the PSI condition (respectively, $M = 4.19, SD = 1.12$; $M = 4.40, SD = 1.07$; $M = 5.90, SD = .69$; $M = 1.66, SD = .65$). In other words, consistent with the stereotypic differences between older and younger workers, which had been induced by the experimental manipulation, the two negative stereotypes about older workers were more strongly supported in the NSI condition than in the PSI condition, whereas the two positive stereotypes about older workers were more strongly supported in the PSI condition than in the NSI condition.

Early Retirement Intentions and Learning and Development Intentions

Early retirement intentions and learning and development intentions were separately submitted to an analysis

of covariance with stereotypic information (NSI vs. PSI) as the between-subjects factor and age, gender, marital status, perceived health, expected financial resources, and autonomy in job tasks as covariates.

With respect to early retirement intentions, in addition to significant covariates—perceived health ($B = -.63$), $F(1, 52) = 11.40, p < .01, \eta^2 = .18$; expected financial resources ($B = .36$), $F(1, 52) = 5.50, p = .03, \eta^2 = .10$ —this analysis revealed a significant main effect for stereotypic information, $F(1, 52) = 12.42, p < .01, \eta^2 = .19$, which indicated that early retirement intentions were significantly lower in the PSI condition ($M = 3.46, SD = 1.67$) than in the NSI condition ($M = 5.07, SD = 1.66$).

With respect to learning and development intentions, in addition to significant covariates—perceived health ($B = .60$), $F(1, 52) = 18.31, p < .001, \eta^2 = .26$; expected financial resources ($B = -.25$), $F(1, 52) = 4.64, p < .04, \eta^2 = .08$ —there was a significant effect of stereotypic information, $F(1, 52) = 12.15, p < .01, \eta^2 = .19$, which revealed that learning and development intentions were significantly higher in the PSI condition ($M = 6.18, SD = 1.22$) than in the NSI condition ($M = 4.99, SD = 1.43$).

Discussion

Study 2 corroborated and extended the findings obtained in Study 1 by demonstrating that age-related stereotypic information can affect older workers' aspirations in the work domain after controlling for age, gender, marital status, health, wealth, and autonomy in job tasks. Like in Study 1, older workers who had been exposed to positive age-related stereotypic information were less willing to retire early than those exposed to negative age-related stereotypic information. Moreover, in the positive condition, participants were more motivated to learn and develop in their job than in the negative condition. In other words, positive stereotypic information on age both contributed to reduce an avoidance behavior in the work domain (i.e., early retirement intentions) and supported engagement in work (i.e., learning and development intentions).

GENERAL DISCUSSION

A wealth of research has documented that stereotypes about older workers consist of some positive but predominantly negative aspects (Chiu et al., 2001; McCann & Giles, 2002; Shore & Goldberg, 2005). On the basis of stereotype threat research (Davies et al., 2002; Davies et al., 2005; Hess et al., 2003), we hypothesized that negative versus positive stereotypic information about older workers' ability could undermine versus boost

older workers' aspirations in the work domain after controlling for some personal, family, and organizational variables. Study 1 revealed that exposure to positive age-related stereotypic information resulted in lower early retirement intentions than exposure to negative or no age-related stereotypic information. Study 2 verified that older workers exposed to positive age-related stereotypic information were less willing to retire early. Moreover, older workers who were exposed to positive age-related stereotypic information condition were more willing to learn and develop than those exposed to negative age-related stereotypic information.

These studies complement nicely previous research on aging and stereotype threat that has mainly investigated the influence of *negative* age-related stereotypes on older adults' *memory performance* (for a review, see Hess, 2005). First, like a few earlier studies (e.g., Hess et al., 2003), we considered both negative and positive age-related stereotypes and found that positive age-related stereotypic information reduced the detrimental effects of negative age-related stereotypic information. Second, in line with recent work by Abrams, Eller, and Bryant (2006) documenting stereotype threat effects on older adults' intellectual ability and supporting the notion that older adults are targeted by negative stereotypes on many abilities other than their memory such as their ability to work, learn, and develop (e.g., Chiu et al., 2001; McCann & Giles, 2002), we discovered age-related stereotypic information effects in the work domain. Third, based on the idea that stereotypes threat can undermine both the performance and aspirations of individuals in any stereotype relevant domain (Steele et al., 2002), the present studies moved beyond the performance outcomes to demonstrate age-related stereotypic information effects on older workers' aspirations.

The added value of the present studies to previous research on the causes of the decision to retire early (Beehr, 1986; Barnes-Farrell, 2003) is that, by focusing on stereotypes activated by the label "older workers" (Sterns & Miklos, 1995) and by varying stereotypic information about older workers' ability as in previous research on stereotype threat (e.g., Hess et al., 2003), we discovered that early retirement intentions were lower following exposure to positive age-related stereotypic information than following exposure to negative or no age-related stereotypic information. In line with the distinction between personal identity and social identity as outlined in self-categorization theory (Turner, Hogg, Oakes, Reicher, & Wetherell, 1987), we consider this finding to be a significant contribution to the understanding of the retirement decision-making process. Indeed, this speaks to the fact that, in addition to self-definition as an older worker (see Desmette & Gaillard, 2008; Gaillard & Desmette, 2008), other variables associated with the social identity of older workers

(i.e., the perception of contextual cues about the alleged value of older workers to organizations) play a role in the decision to retire early. Moreover, the evidence for an effect of age-related stereotypic information on older workers' learning and development intentions suggests that, in addition to early retirement intentions, other work avoidance reactions (e.g., low interest in learning and developing) are liable to be held by older workers confronted with negative age-related stereotypic information. These work avoidance reactions reflect some negative stereotypes about older workers' motivation to work, learn, and develop (e.g., Chiu et al., 2001; McCann & Giles, 2002). Accordingly, there is reason to assume that the adoption of these work avoidance reactions creates a self-fulfilling prophecy for older workers exposed to negative age-related stereotypes and thereby reinforces the alleged validity of those stereotypes in the workplace.

The reduction in early retirement intentions and the improvement in learning and development intentions observed among older workers exposed to positive information about their ability (relative to those exposed to no or negative information) suggest that the strategy of communication positive information about older workers' ability to encourage them to remain in the workforce for longer, which is currently developed by numerous OECD governments, can be successful. In future research, it could be interesting to explore other strategies for reducing age-related stereotype threat in the organizations. This issue could be related to recent work by Rosenthal and Crisp (2006; Rosenthal, Crisp, & Suen, 2007) documenting reduced stereotype threat effects among women who thought about characteristics shared (i.e., similarities) between men and women. For example, future research could compare the consequences of organizational interventions designed to activate similarities between older and younger workers on older worker's aspirations and performance in the work domain with the effects of the activation of negative or positive age-related stereotypic information.

Some limitations have to be acknowledged regarding our studies. First, because we didn't measure particular processes that are likely to mediate the effects of stereotype threat on performance and/or aspirations, such as anxiety (e.g., Spencer et al., 1999), performance expectancies (e.g., Cadinu, Maass, Frigerio, Impagliazzo, & Latinotti, 2003) or dejection (e.g., Keller & Dauenheimer, 2003), we may not affirm that participants experienced stereotype threat rather than just stereotype activation. Nevertheless, we think that both stereotype activation and stereotype threat combine to produce the outcomes of the stereotypic information manipulation. Indeed, the analyses performed on the manipulation check measures revealed that participants in the experimental

conditions were aware of differences between older and younger workers in a way consistent with the stereotypic information presented in the experimental manipulation. This finding speaks for the activation of negative versus positive age-related stereotypes in the experimental conditions. However, we think that participants did also experience stereotype threat. First, unlike stereotype activation (e.g., Bargh, Chen, & Burrows, 1996), stereotype threat is likely to be experienced only when people are targeted by the negative stereotypes, like the older worker samples of the present studies. Second, similar to Steele and Aronson's (1995, Study 4) research, which revealed that the mention of race was enough to induce stereotype threat in African American students, and as in Hess et al.'s (2003) study, simply reminding participants of their age (i.e., the control condition) had the same detrimental effects as the presentation of explicit negative stereotypic information about the age group. In other words, we think that the activation of age category in all conditions could have triggered stereotype threat. Consequently, the positive stereotypic condition should be conceived as reducing stereotype threat rather than automatically activating the assimilated (positive) behavior as suggested by Levy and her colleagues (Levy, 1996; Levy et al., 2006). However, on the basis of Davies et al. (2005), who reported that stereotype activation mediated stereotype threat effects on women's leadership aspirations, we might hypothesize that the activation of age-related stereotypes mediates the effects of the threat related to the age-group membership on older workers' aspirations in the work domain. Future work should elaborate on the relationships between stereotype activation and stereotype threat with respect to age and work.

Second, although we consider this to be a necessary step to verify the effects that we hypothesized, the operationalization of the stereotypic information manipulation was relatively strong in both studies. It would be interesting in future work to activate more subtle contextual cues about negative or positive age-related stereotypes, and to examine their effects on older workers' aspirations and/or performance. For example, on the basis of results reported by Desmette and Gaillard (2008; Gaillard & Desmette, 2008), who have shown positive correlations between spontaneous self-categorization as an older worker and avoidance of the work domain, future research should experimentally induce self-categorization either as a worker or as an older worker (e.g., by presenting the study either as addressing all workers or as focusing on older workers) to analyze the role of stereotypes associated with each activated social identity in the relationships between self-categorization and work aspirations.

Third, consistent with previous research on the variables involved in retirement decisions (Barnes-Farrell, 2003; Beehr, 1986), health and wealth proved to be significant predictors of early retirement intentions in both studies. In addition, in Study 2, perceived health was positively linked to learning and development intentions, whereas expected financial resources were negatively related to this attitude. Nevertheless, we acknowledge that other personal (e.g., education), family (e.g., the partner's work/retirement status), and organizational (e.g., physical job strains) variables could be controlled in future research. In particular, because individual retirement planning was shown to be a part of a process of couple retirement (Pienta & Hayward, 2002), future work should examine more carefully the role of spouse's retirement plans in the worker's retirement decision. However, we would like to stress the fact that the effect of age-related stereotypic information on older workers' early retirement intentions was significant in both studies over and above the effects of health and wealth (i.e., the two strongest influences on retirement decisions; Barnes-Farrell, 2003).

Finally, we would like to note that care should be taken when generalizing the results of the present research to other contexts. On the one hand, negative stereotypes about older workers' motivation and ability to work, learn, and develop seem to be held more in Western societies than in Eastern societies (Chiu et al., 2001). Accordingly, the strength and direction of age-related stereotypic information effects in Western and Eastern societies could differ. On the other hand, the work avoidance reactions examined in the present research seem to reflect social norms toward aging, which prevail in countries characterized by a culture of early retirement such as Belgium, France, Germany (Guillemard, 2003), and to a lesser extent the United Kingdom (Taylor & Walker, 2003). Indeed, in these countries, employment policies include relatively few provisions for integrating, or reintegrating, 50- to 64-year-olds into the workforce. In contrast, countries such as Japan and Sweden are characterized by an age culture that reflects employment policies aimed at retaining the older adults in the workforce (Guillemard, 2003). Thus, it might be the case that work avoidance reactions to negative age-related stereotypic information are less likely to be triggered in countries such as Sweden or Japan.

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APPENDIX A

Stereotypic Information Manipulation in Study 1

The following excerpt illustrates how two negative stereotypes about older workers' ability were supported and how one positive stereotype about older workers' ability was invalidated in the NSI condition:

The first findings of the study have demonstrated that, consistent with the commonly held view, workers between the ages of 45 and 59 are slower at processing information and are less flexible than workers between the ages of 25 and 39. Moreover, contrary to what is commonly believed, this study has also shown that workers between the ages of 45 and 59 are not more able to solve problems with experience than workers between the ages of 25 and 39.

The following excerpt illustrates how two negative stereotypes about older workers' ability were invalidated and how one positive stereotype about older workers' ability was supported in the PSI condition:

The first findings of the study have demonstrated that, contrary to what is commonly believed, workers between the ages of 45 and 59 are not slower at processing information and are not less flexible than workers between the ages of 25 and 39. Moreover, consistent with the commonly held view, this study has also shown that workers between the ages of 45 and 59 are more able to solve problems with experience than workers between the ages of 25 and 39.

APPENDIX B

Stereotypic Information Manipulation in Study 2

The following excerpt illustrates how two negative stereotypes about older workers' ability were supported and how two positive stereotypes about older workers' ability were invalidated in the NSI condition:

The first findings of the study have demonstrated that, consistent with the commonly held view, workers between the ages of 45 and 59 are slower at processing information and are less flexible than workers between the ages of

25 and 39. Moreover, contrary to what is commonly believed, this study has also shown that workers between the ages of 45 and 59 are not more able to solve problems with experience and do not make fewer mistakes in their job than workers between the ages of 25 and 39.

The following excerpt illustrates how two negative stereotypes about older workers' ability were invalidated and how two positive stereotypes about older workers' ability were supported in the PSI condition:

The first findings of the study have demonstrated that, contrary to what is commonly believed, workers between the ages of 45 and 59 are not slower at processing information and are not less flexible than workers between the ages of 25 and 39. Moreover, consistent with the commonly held view, this study has also shown that workers between the ages of 45 and 59 are more able to solve problems with experience and make fewer mistakes in their job than workers between the ages of 25 and 39.