

Martine LAGACÉ*
Houssein CHARMARKEH**
Radamis ZAKY***
Najat FIRZLY****

From psychological to digital disengagement: exploring the link between ageism and the ‘grey digital divide’

Abstract

The need for digital literacy is apparent in today’s workplace, driven by strong pressures for constant technological innovation. Previous studies have shown that although older workers make up (and will make up) a great proportion of the workforce, there persists an age-based digital divide in the workplace; and the outcome of such divide is quite negative: at the individual level, older workers feel they’re being marginalized and as such, become dissatisfied and disengage from their workplace; at the organizational level, a pool of skills and expertise is lost as a result of the older worker’s disengagement, putting at risk effective knowledge transfer and mentoring process. Hence, the importance of a deeper understanding of the contextual factors that may feed the ‘grey digital divide’ in the workplace. The goal of this paper is to address such factors moving beyond the ageist claim that a worker’s chronological age is the driving force behind the ‘grey digital divide’.

Keywords: ageism; older workers; workplace; Information and Communication Technology.

Introduction

The “grey digital divide” conceptualized as the lower usage of Information and Communication Technologies (ICT) by older adults (Millward, 2007) in comparison to younger adults, is often explained by age related presumptions. Precisely, one’s chronological age is sometimes perceived as a central factor explaining the discrepancy between younger and older adults in terms of interest and usage of ICT (Cameron, Marquis, & Webster, 2001). On the contrary, chronological age, as argued by Olphert and Damodaran (2013), is not among the factors explaining the divide as many seniors use and enjoy using ICT. Rather, the age-based digital divide can only be understood through a thorough examination of *social* factors that surround older adults’ life. In other words, as stated by Granjon (2009), those who are digitally disadvantaged are often those who are socially disadvantaged. As such, this paper ar-

* University of Ottawa, Canada, mmlagace@uottawa.ca, corresponding author.

** Center on Governance, Canada, hcharmar@uottawa.ca.

*** University of Ottawa, Canada, radamishany@gmail.com.

**** University of Ottawa, Canada, nfirz015@uottawa.ca.

gues that the so called “grey digital divide” can only be addressed by countering the social disadvantage at its source, namely stereotypes and discrimination based on age.

In the context of the workplace, driven by strong pressures for constant ICT innovation, the need for digital literacy is apparent. Taking into account that older workers make up (and will make up) a great proportion of the workforce, the outcomes of an age-based digital divide can be catastrophic (Duchesne, 2004; Rizzuto, 2011): at the individual level, older workers may feel they’re being put aside, marginalized and as such, become dissatisfied; at the organizational level, a pool of skills and expertise may be lost as a result of the older worker’s disengagement, putting at risk effective knowledge transfer and mentoring process. Hence, the importance of a deeper understanding of the contextual factors that may feed the grey digital divide in the workplace.

The goal of this paper is to address such factors moving beyond the claim that a worker’s chronological age is the driving force behind the grey digital divide. In fact, we argue that ageism, although prevalent in today’s workplace, is still under looked in research as the major driver feeding into the grey digital divide. This paper is divided in three sections. First, an overview of the sources and consequences of ageism in the workplace will be presented. The second section will focus on identifying organizational practices toward older workers that actually embody ageist beliefs and discrimination and as such widen the digital divide between young and older workers. Finally, building on empirical findings from studies discussed in sections 1 and 2, a theoretical model designed to counteract the age-based digital divide in the workplace will be presented in section 3. At the core source of this model, lies the issue of ageism. In other words, the argument sustained in this paper is that the workplace digital divide is first and foremost one stemming from stereotypes and discrimination based on age.

Ageism in the workplace: understanding the consequences

Age and most importantly “perceived” age, is a social criteria which plays a significant role in determining one’s beliefs, attitudes and behaviors. A number of studies have shown that in Western societies, the aging process per se and older adults are often the target of age-based prejudice (Hagestad & Uhlenberg, 2005; Nelson, 2005; Palmore, 2001), which in turn, often lead to discriminatory behaviors toward older patients (Kagan & Mellendez-Torres, 2015) or older workers (Brownell & Kelly, 2013; Lagacé & Tougas, 2006; North & Fiske, 2012). Butler (1975) first coined the term “ageism” to describe stereotyping and discriminating specifically against the old. For example, elderly are often perceived as being less attractive, more forgetful, more rigid in thought, less motivated and less dynamic than their younger counterparts (Barrett & Cantwell 2007; Palmore, 2001). Needless to say that the relationship between age and each of these characteristics is more complex: it is either mediated by different factors or simply a non-existent relationship. Beauty and attractiveness are indeed in the eyes of the beholder and as such, are a matter of perception above all. On the other hand, positive stereotypes are also ascribed to older adults, such as being kind and trustful and older workers, as being more loyal than their younger peers. Fiske, Cuddy, Glick and Xu (2002) have captured the ambivalent nature of ageist stereotypes through the Stereotype Content Model (SCM). In essence, this model suggests that interpersonal and intergroup dynamics are strongly determined by the assessment of two core social dimensions: warmth and compe-

tency. In the case of elders, they are perceived as members of groups that are *warm* (kind, sincere, trust worthy) but not very competent (i.e. incapable of achieving their goals). More importantly, these perceptions may result in ageist behaviors such as neglecting, ignoring and patronizing communication (Fiske *et al.*, 2002). For example, Nelson (2005) underlines that in the context of care giving, health professionals may interact with elder patients using “baby talk”/over accommodating language. Moreover, Bowling (2007) states that older individuals receive less aggressive treatment for chronic illness as these are perceived as naturally fitting the path of old age.

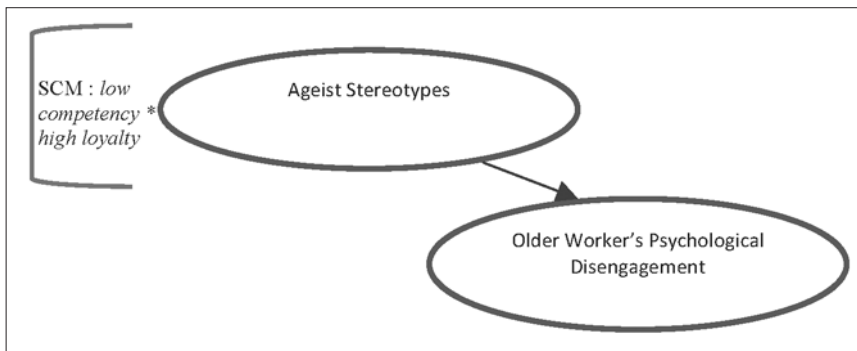
SCM illustrates the ambivalent nature of age-based stereotypes, through the combination of positive views on one dimension (high warmth) and negative views on the other (low competency). Does this mixed combination mitigate the impact of age-based stereotypes on senior’s wellbeing? In the case of ICT precisely, results of a study conducted by Lagacé, Charmarkeh, Laplante and Tanguay (2015) suggest a negative impact. Precisely, the study shows that the more (Canadian retired) seniors internalized ageist messages (such as being nice but not very competent) the less was their interest in learning and using ICT. Such results reveal the insidious impact of age-based stereotypes through a process of “self-fulfilling prophecy”; more importantly, they call upon a reflection as to the psychosocial factors (beyond structural factors) that may partly contribute to the so called grey digital divide.

The current study builds on these results to further explore the link between interest as well as usage of ICT and ageism, focusing on the workplace. As stated previously, two major trends are shaping contemporary organizations: one is the increased reliance on ICT (to process and exchange information as well as to remain competitive in a highly globalized world), the second is the aging of the workforce. For example, in Canada, the National Household Survey (NHS) shows that workers aged 55 years and over accounted for 18.7% of total employment compared to 15.5% in 2006 as a result of the aging of the baby boom generation (Statistics Canada, 2011). In the face of such trends, policies and practices must be put in place to hire, retain and keep older workers up to speed in terms of digital literacy. The digital divide which is at stake in the workplace goes beyond issues of access and connectivity; it is about providing older workers the appropriate skills and abilities to use ICT as well as maintain high levels of motivation to fully engage with these (Zhang, 2005). In doing so, the issue of ageism must be initially addressed as a process which a) legitimizes a *laissez-faire* management approach towards ICT training and older workers; b) lowers older workers’ motivation to engage with ICT. We now turn to studies that suggest a link between the digital divide and ageism in the workplace (either direct or indirect).

Although pervasive in the workplace, ageism is seldom recognized as a prejudice; *de facto*, neither are its negative outcomes. This may be partly explained by the fact that many employers themselves (including older managers) subscribe to beliefs such as older workers are less flexible, less creative, less productive and harder to train than younger workers (Chiu, Chan, Snape, & Redman, 2001; Barth, 2000). Hence, as noted by Walker (2002), ageist stereotypes reduce the possibility for older workers of being reemployed or finding a new job. The negative impact of ageism on older workers’ wellbeing has also been documented. For example, Lagacé, Tougas, Laplante & Neveu (2008, 2010) have conducted a series of studies to assess the repercussions of ageism on Canadian health care workers aged 45 years and above. Amongst the findings is that the more older workers perceived they were the target of ageist stereotypes (such as being denied training or excluded from decisional process, being depicted as resistant to change because of their age), the more psychologically disengaged

they became from their workplace which in turn lowered their self-esteem. Psychological disengagement has been defined as a coping strategy used by individuals who are the target of negative stereotypes and prejudice (Major, Spencer, Schmader, Wolfe, & Crocker, 1998). The coping occurs through a process of psychological detachment where one's domain (and/or the people in that domain) becomes less and less important. For example, older workers disengage from their workplace by devaluing the importance of work domain in their life and/or by dismissing performance feedback when they perceive they are the victims of ageist beliefs and attitudes. Although initially conceptualized as a defense mechanism, results of empirical studies suggest that psychological disengagement can actually damage one's self-esteem (Lagacé et al., 2008, 2010; Tougas, Beaton, Rinfret, & de la Sablonnière, 2005). Moreover, from a social perspective, it is plausible that disengagement inadvertently reinforces the (pseudo) legitimacy of negative stereotypes which are at the source of the process.

Figure I. Psychological disengagement as a response to ageism in the workplace.



As can be seen from the previous studies, the cost of ageism in the workplace is high and multi-level. At the individual level, it puts at risk older worker's engagement and wellbeing; at the organizational level, it deprives an organization from the experience and expertise of older workers who have psychologically disengaged from their workplace and in turn, may contemplate the idea of retirement (Tougas et al., 1998). Keeping in mind the context of labor participation declines and labor shortages as well as the increased reliance on ICT, few organizations can afford the cost of ageism, in its pervasiveness and persistence.

In the aim of a better understanding of age-based stereotypes in the workplace, Posthuma and Campion (2009) have conducted a thorough review of such stereotypes and analyzed 117 scholarly articles and books. Stereotypes were combined into clusters such as "poor performance" (older workers have lower ability, are less motivated, and are less productive than younger workers); "resistance to change" (older workers are harder to train, less adaptable, less flexible, and more resistant to change), "lower ability to learn" and "more dependable" (older workers are more stable, dependable, trustworthy and loyal). Looking back at the bi-dimensional Stereotype Content Model (Fiske et al., 2002), we can see that these clusters of stereotypes clearly position older workers as « less competent » but « more sincere/loyal » persons than younger workers. Posthuma and Campion have also documented the impact of ageist stereotypes in terms of age-based discriminatory practices in terms employment-related decisions such as *lower performance evaluation, fewer promotions and training opportunities, lower retention and more frequent lay-offs for older workers*.

Building on the results of the above studies (Lagacé et al., 2008, 2010; Posthuma et al., 2009), we hypothesize that the grey digital divide in the workplace is partly the outcome of ageist stereotypes who's impact is mediated by factors such as older worker's disengagement and discriminatory practices. Precisely, from the perspective of older workers, when these workers subscribe to ageist stereotypes such as being less productive and more resistant to change than younger colleagues because of age, Lagacé and al.,(2008, 2010) have shown that psychological disengagement follows. Let us recall that this concept refers to a defense mechanisms in response to a threat to self-esteem; in other words, in responding to ageist attitudes, the older worker psychologically disengages from his/her work domain. From there, we can postulate that psychological disengagement is the step towards digital disengagement: in substantially reducing the importance and the value of the work domain in his/her life, the older worker may also lose motivation to engage with ICT which, assuredly widens the digital divide. From a managerial perspective, Posthuma et al., (2009)'s meta-analysis suggests that when managers agree with ageist stereotypes they tend to favor organizational practices that mirror these stereotypes and as such, offer less promotion/training opportunities and provide more negative performance feedback to older workers in comparison to younger workers. Plausibly, having less opportunities for promotion and training can, in the long run, render the older worker's knowledge obsolete, which again, widens the digital divide.

Figure II. Ageist stereotypes paving the way to the grey digital divide.

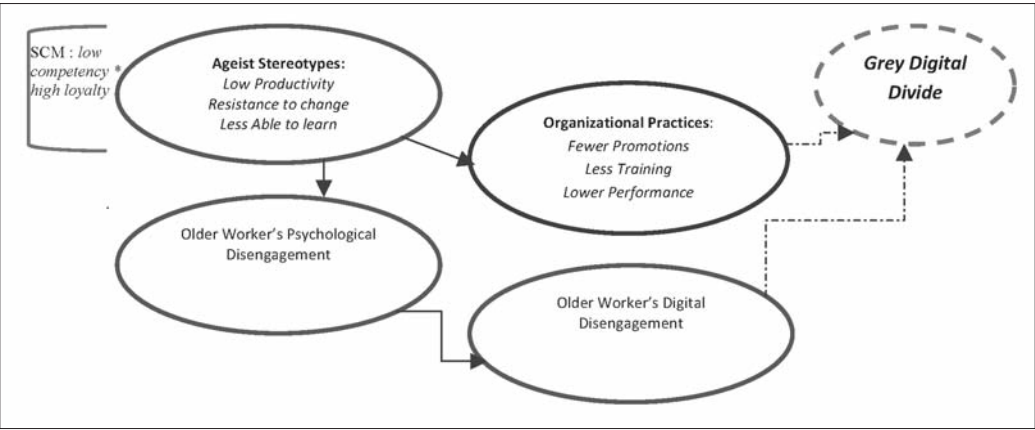


Figure II illustrates the different paths leading to the grey digital divide, which all stem from a subscription to ageist stereotypes, either on the part of older workers or of managers. It is important to note that taken separately, the components and links in the postulated model are derived from previous empirical studies; however, the entirety of this model has yet to be tested in future studies.

Countering the grey digital divide in the workplace: communication as a central force

Communication, conceptualized as a process that involves the exchange of information and most importantly the interpretation of such information (Barnlund, 2008), is highly influenced by perceptions. Indeed, when two people exchange information, the meaning given to such information is filtered by each person's own perceptions. From a social perspective, perceptions refer to the mental schemas that people form about the world, about society, about people; such schemas can, by nature, be biased as they stem from social categorizations. For example, if a person perceives that age (precisely old age) is negatively correlated with a worker's ability to learn new things, communication patterns will then be filtered by such perception and adjusted accordingly. Precisely, Communication Accommodation Theory (Giles & Coupland, 1991) postulates that during social encounters people modify their communication patterns (speech, voice, gestures, etc.) according to how they perceive one another, precisely the degree of positivity or negativity attributed to group membership. When negative stereotypes are ascribed to the interlocutor's group membership, communication will be adjusted in such a way as to reinforce and confirm stereotypes.

When it comes to age-based stereotypes, communication in the workplace is a driving force that can either counteract or reinforce negative outcomes of such stereotypes. What is communicated, who communicates, when and how it is communicated have been shown to impact older worker's sense of well being as well as workplace collaboration between different generations (Brownell & Kelly, 201; Leisink & Knies, 2011). For example, as stated previously, when workplace communication practices toward older employees rely on patronizing and controlling components (mirroring the stereotype of low competency among others), these become dissatisfied, disengage from the workplace and contemplate the idea of retirement (Lagacé et al., 2008, 2010). More often than seldom, ageist communication patterns and practices can be subtle: at the micro level, the older worker a) is not kept in the loop as far as important decisions or decisional process in the organization; b) is being talked down by colleagues and/or managers through condescending and patronizing verbal and non-verbal language (often taking the form of downgrading humour about one's age); c) is denied opportunities for training/learning as well as promotions. At the macro level, organizational norms, which embrace the way the organization brands itself, its mission and vision, may not value the older worker's contribution, experience and expertise but rather, focus exclusively on the added-value of young employees. An example of this is when employers indicate that they "want/need/are looking to rejuvenate their workforce": such language disseminated either externally or internally, implicitly suggests that older workers are a less valuable resource to invest in than are younger workers. Here again the grey digital divide can be partly explained by the underestimation of older worker's capabilities.

Although workplace communication can be a powerful transmitter of ageist stereotypes it can also be an important leveraging tool in counteracting ageism and de facto, in narrowing the digital divide between young and old. Some studies, such as the ones conducted by Iweins, Desmette, Yzerbyt and Stinglhamber (2013), indeed suggest that workplace communication practices that foster intergenerational contacts and multi-age perspective can reduce ageism and improve attitudes at work. Precisely, their work shows that a) quality age-based intergroup contacts lead to positive perceptions of older workers on the part of younger workers, such that the former are depicted as trustworthy *but also* as competent, effective and

adaptable; b) workplace norms and culture that emphasize the added-value of multiple age groups also contribute to positive perceptions of older workers, enhancing in turn, collaboration and facilitation behaviors (Iweins et al., 2013). Top managers as well as middle managers are key players in fostering these two processes. As argued by Collette, Schneider and Legris (2003), how managers communicate and what they communicate in regards to aging in the workplace and older workers can either facilitate or impede a change of culture, hence of intergenerational contacts.

Drawing from results of previous studies, we can plausibly postulate that workplace communication, in its micro and macro level aspects, is a key component when it comes to addressing ageism and ultimately, in countering the grey digital divide. As stated previously, communication relies on perceptions, which in turn are shaped by psychological, sociological, economical and political factors. As microcosms of society, organizations often mirror the negative, or at the very least, the ambivalent societal discourse around aging and relay it through communication practices that tend to downplay the contribution of the older worker. Countering such social trend means that organizations must create a work climate that not only values older workers but fully integrates them into core components, such as vision and mission. Communication is the first step in doing so.

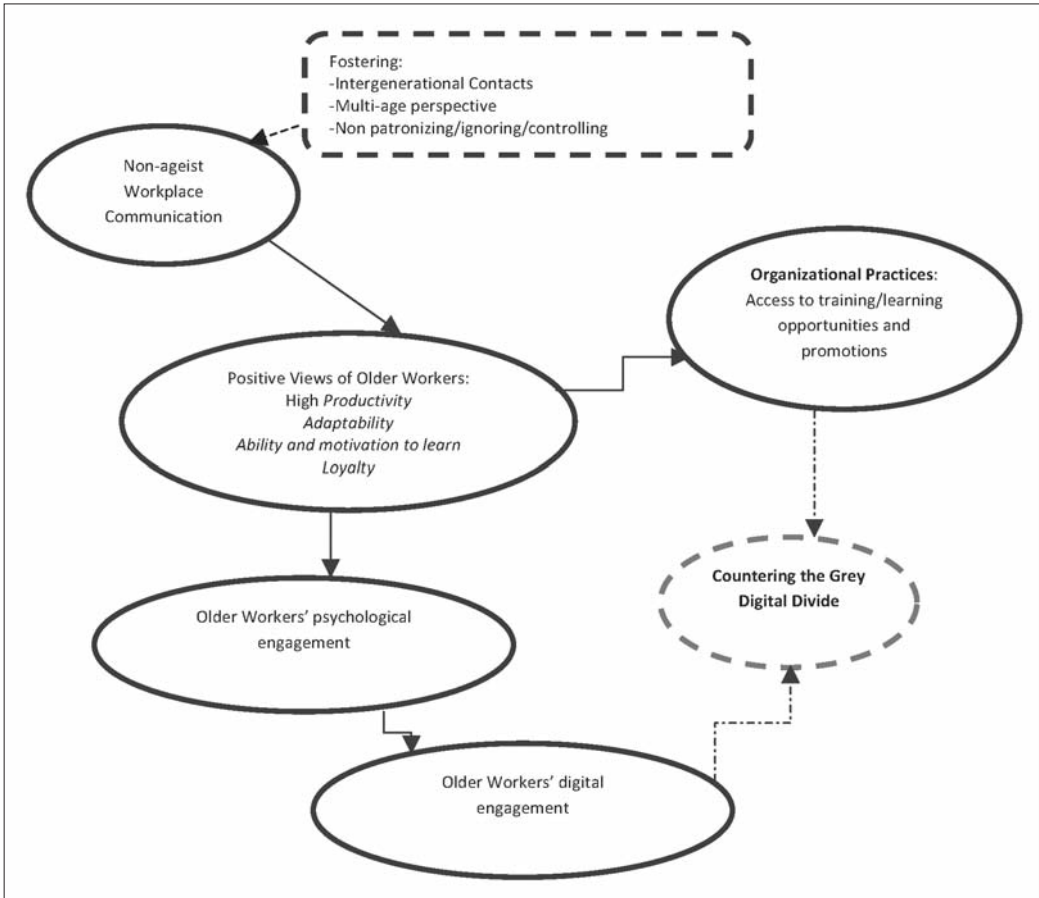
Integrated model: communication, ageism and the grey digital divide in the workplace

Combating the age-based digital divide in the workplace as well as one of its *modus operandi*, ageism, starts with an understanding of the way older workers are perceived as well as of the negative outcomes of such perceptions. As individuals who largely embody and shape the culture of an organization, managers (especially human resources managers) are key factors in this process (Brownell & Kelly, 201; Leisink & Knies, 2011). As such, they must first become aware of what ageism is¹ and acknowledge the threat it poses to an organization's sustainability; this initial step is a "condition sine qua non" for a change of perception in regards to older workers and the experience of aging in the workplace. Managers should then address workplace communication practices; indeed, as stated before, communication is a powerful vehicle of perceptions and as such, who communicates, what is communicated and the modes through which it is communicated can either exacerbate ageist stereotypes toward older workers or counter these, which in turn, can widen or narrow the digital divide. For example, what kind of discourses (informal and formal) do managers carry in regards to older workers and age-group dynamics? Are these discourses (inadvertently or intentionally) ageist driven? To what extent do work policies reflect an inclusive/exclusive workplace climate when it comes to age and fostering positive views of older workers?

Building on the results of previous studies on ageist stereotypes (Fiske et al., 2002, Fiske, Thomas & Vescio, 2007; Posthuma et al., 2009), their negative outcomes on older workers (Lagacé and al., 2008, 2010), and the key role that workplace communication plays in countering such outcomes (through a top to bottom process), we postulate the following: the more managers endorse (through their own discourse and actions) a workplace culture a) that thrives on the added-value of intergenerational contacts; b) that favors a multi-age perspective and c) that excludes age-based patronizing messages, the more positive will be the views about older workers. In turn, such positive views may increase, at the individual level, older work-

er's psychological engagement to the workplace which in turn can reinforce digital engagement (for example, through a will to learn ICTs); at the organizational level, when managers subscribe to positive views about aging in the workplace and older workers they may facilitate opportunities for learning/training as well as career development for these workers. Ultimately, non-ageist workplace communication, one that stresses the added-value of older workers instead of emphasizing the “problem” of managing an aging workforce can lead to a reduction of the aged-based digital divide (see Figure III).

Figure III. Countering the grey digital divide through non-ageist workplace communication.



Let us recall that the starting point of this proposed model is communication, precisely non-ageist communication practices, including intergenerational contacts, multi-age perspective and non-patronizing/ageist messages. In concrete terms, this means that managers must encourage the creation of workgroups that are diverse in terms of age. Pettigrew and Tropp (2006) have shown that intergroup contact is a powerful mean to reduce bias, especially when it is strongly supported by authority (in this case, by managers). Simultaneously, as stated by Iweins et al. (2013), managers must foster a multi-age perspective by stressing the value of age diversity in the workplace, through their formal and informal discourses. In line with the positive effect of intergroup contact hypothesis, Ely and Thomas (2001) argue that the endorse-

ment of a diversity perspective is a powerful tool in reducing intergroup biases but also in terms of increasing innovation and performance. It is important to underline that positive outcomes of intergenerational contacts and multi-age perspective can only be attained if overall organizational discourses discard allusions to negative age-based stereotypes. Managers and human resources experts should especially set the tone through discourses that value younger *as well* as older workers. On a more informal level, needless to say that downgrading age-based humour, which nurtures and legitimizes ageism (Ciampa & Chernesky, 2013; Cuddy & Fiske, 2002; Middlemiss, 2007) should be forbidden. As stated previously, although the different components and links proposed in this model rely on previous empirical studies, the entirety of the model has yet to be tested.

Conclusion

The goal of this paper was to reflect on the factors that may contribute to the grey digital divide in the workplace. Although structural factors, such as access to ICT, have been thoroughly addressed in previous studies, psychosocial components that may actually feed the divide have yet to be fully explored and this paper contributes to this exploration. Building on previous studies that have shown the pervasiveness of ageism in Western societies and its negative outcomes in the workplace particularly, we hypothesized that age presumptions/ perceptions are one of the driving factors behind the digital divide. Without confronting such perceptions, little can be done to address (at least partly) this divide. As communication is a powerful vehicle of perceptions, we proposed a theoretical model whereby the fostering of communication practices that are age aware and that value a multi-age climate is the starting point in addressing the grey digital divide. We postulated that non ageist communication practices will lead to more positive views of older workers, fostering psychological and digital disengagement as well as facilitate access to learning/training and career development opportunities, key elements in keeping older workers up to date in a changing workplace. More so, managers play a central role in this sequence of links as attitude change on their part can foster a culture change among all workers, young *and* old. Such culture change should be one of inclusiveness based on age which, we argue, is a core component in narrowing the grey digital divide.

Note

¹ Managers are often not aware of ageist practices and when they are, many subscribe to such practices (Dennis & Thomas, 2007).

References

1. Barrett, A.E. Cantwell, L.E. (2007). Drawing on Stereotypes: Using Undergraduates Sketches of Elders as a Teaching Tool". *Educational Gerontology*, 33(4), 327-348. DOI:10.1080/03601270701198950
2. Barnlund, D. C. (2008). A transactional model of communication. In C. D. Mortensen (Eds.), *Communication theory* (pp. 47-57). New Brunswick, New Jersey: Transaction.

3. Barth, M. C. (2000). An Aging Workforce in an Increasingly Global World. *Journal of Aging & Social Policy*, 11(2-3), 83-88. DOI:10.1300/J031v11n02_09
4. Bowling, A. (2007). Honour Your Father And Your Mother: Ageism in Medecine. *British Journal of General Practice*, 57, 347-348.
5. Brooke, L., Taylor, P. (2005). Older workers and employment: managing age relations. *Ageing and Society*, 25, 415-429. DOI: 10.1017/S0144686X05003466
6. Brownell, P. & Kelly, J.J. (2013). *Ageism and Mistreatment of Older Workers, Current Reality, Future Solutions*. New York: Springer.
7. Butler, R. N. (1975). *Why survive? Being old in America*. New York: Harper & Row.
8. Cameron, D., Marquis, R., Webster, B. (2001). Older adults perceptions, experiences and anxieties with emerging technologies, *Australasian Journal on Ageing*, 20 (2), 50-56.
DOI: 10.1111/j.1741-6612.2001.tb00399.x
9. Chiu, W. C., Chan, A. W., Snape, E., & Redman, T. (2001). Age Stereotypes and Discriminatory Attitudes towards Older Workers: An East-West Comparison. *Human Relations*, 54(5), 629-661.
DOI: 10.1177/0018726701545004
10. Ciampa, E. & Chernesky, R. (2013). Creating Supportive Workplace Environments for Older Workers In P. Brownell and J. J. Kelly (Eds.), *Ageism and Mistreatment of Older Workers, Current Reality, Future Solutions* (pp. 93-110). New York: Springer.
11. Colletette, P., Schneider, R., Legris, P. (2003). La gestion du changement organisationnel. Cinquième partie : Communication et changement. *ISO Management Systems*, mai-juin, 48-57.
12. Cuddy, A.J.C. & Fiske, S.T. (2002). Doddering But Dear: Process, Content, and Function in Stereotyping of Older Persons. In T.D. Nelson (Ed.), *Ageism, Stereotyping and Prejudice Against Older Persons* (pp. 3-26). Massachusetts: The MIT Press.
13. Dennis, H. & Thomas, K. (2007). *Ageism in the Workplace. Generations*, 1, 84-89.
14. Duchesne, D. (2004). More seniors at work. Perspectives, *Statistics Canada-catalogue*, no. 75-001-XIE, 5-16.
15. Ely, R.J. & Thomas, D.A. (2001). Cultural Diversity at work: The effect of diversity perspectives on work group processes and outcomes. *Administrative Science Quaterly*, 46, 229-273. DOI: 10.2307/2667087
16. Fiske, S. T., Cuddy, A. J., Glick, P., & Xu, J. (2002). A model of (often mixed) stereotype content: Competence and warmth respectively follow from perceived status and competition. *Journal of Personality and Social Psychology*, 82(6), 878-902. DOI: 10.1037/0022-3514.82.6.878
17. Fiske, S. T., Thomas, M., and Vescio, T. K. (2007). Universal dimensions of social cognition: warmth and competence. *Trends Cogn. Sci.* 11, 77-83. DOI: 10.1016/j.tics.2006.11.005
18. Giles, H., Coupland, J. & Coupland, N. (1991). Accommodation Theory: Communication, Context, and Consequence. In H. Giles., J. Coupland & N. Coupland (Eds.). *Contexts of Accommodation* (pp. 1-68). New York, NY: Cambridge University Press.
19. Granjon, F. (2009). Les inégalités numériques et la reconnaissance sociale. Des usages populaires de l'informatique connectée. *Les cahiers du numérique*, 1 (5), 19-44. DOI:10.3166/LCN.5.1.19-44
20. Hagestad, G.O. & Uhlenberg, P. (2005). The Social Separation of Young and Old: a Root of Ageism. *Journal of Social Issues*, 61(2), 343-360. DOI: 10.1111/j.1540-4560.2005.00409.x
21. Iweins, C., Desmette., D., Yzerbyt, V., Stinglhamer, F. (2013). Ageism at work: The impact of intergenerational contact and organizational multi-age perspective. *European Journal of Work and Organizational Psychology*, 22 (3), 331-346. DOI:10.1080/1359432X.2012.748656
22. Kagan, S. H. & Melendez-Torres, G. J. (2015). Ageism in Nursing. *Journal of Nursing Management*, 23, 644-650. DOI: 10.1111/jonm.12191
23. Lagacé, M. & Tougas, F. (2006). Les répercussions de la privation relative personnelle sur l'estime de soi : une étude du rôle du désengagement psychologique auprès de travailleurs de la santé de plus de 45 ans. *Cahiers internationaux de psychologie sociale*, 69, 59-69.
24. Lagacé, M., Tougas, F., Laplante, J. & Neveu, J-F. (2008). Les répercussions de la communication âgiste sur le désengagement psychologique et l'estime de soi des infirmiers de 45 ans et plus. *Revue canadienne du vieillissement*, 27(3), 285-299. DOI : 10.3138/cja.27.3.241

25. Lagacé, M., Tougas, F., Laplante, J. & Neveu, J.-F. (2010). Communication âgiste au travail : une voie vers le désengagement psychologique et la retraite des infirmières d'expérience? *Revue internationale de psychologie sociale / International Review of Social Psychology*, vol.23 (4), 91-121.
26. Lagacé, M., Charmarkeh, H., Laplante, J., & Tanguay, A. (2015). How Ageism Contributes to the Second-Level Digital Divide: The case of Canadian Seniors. *Journal of Technologies and Human Usability*, 11 (4), 1-13.
27. Leisink, P.L.M. & Knies, E. (2011). Line managers' support for older workers. *The International Journal of Human Resource Management*, 22 (9), 1902-1917. DOI:10.1080/09585192.2011.573969
28. Major, B., Spencer, S., Schmader, T., Wolfe, C. & Crocker, J. (1998). Coping with Negative Stereotypes about intellectual Performance: The Role of Psychological Disengagement. *Personality and Social Psychology Bulletin*, 24 (1), 34-50. DOI: 10.1177/0146167298241003
29. Middlemiss, S. (2007). Legal Regulation of Harassment on the Ground of Age: Lessons from America? *International Journal of Discrimination and the Law*, vol. 9, 57-65. DOI:10.1177/135822910700900104
30. Millward, P. (2003) The "grey digital divide": perception, exclusion and barriers of access to the Internet for older people. *First Monday* (online), 8 (7).
http://www.firstmonday.org/issues/issue8_7/millward/index.html. (Retrieved on February 2nd, 2016).
31. Nelson, T. D. (2005). Ageism: Prejudice Against Our Feared Future Self. *Journal of Social Issues / Social Issues*, 61(2), 207-221. DOI: 10.1111/j.1540-4560.2005.00402.x
32. North, M. S. & Fiske, S.T. (2012). An Inconvenienced Youth? Ageism and Its Potential Intergenerational Roots. *Psychological Bulletin*, 138 (5), 982-997. DOI: 10.1037/a0027843
33. Olphert, W. & Damodoran, L. (2013). Older people and digital disengagement: a fourth digital divide? *Gerontology*, 59, 564-570. DOI: 10.1159/000353630
34. Palmore, E. D. (2001). The ageism survey, First findings. *The Gerontologist*, 41 (5), 572-575. DOI:10.1093/geront/41.5.572
35. Pettigrew, T.F., Tropp, L.R. (2006). A meta-analytic test of intergroup contact theory. *Journal of Personality and Social Psychology*, 90, 751-783. DOI: 10.1037/0022-3514.90.5.751
36. Posthuma, R.A. & Campion, M.A. (2009). Age Stereotypes in the Workplace: Common Stereotypes, Moderators, and Future Research Directions. *Journal of Management*, 35 (1), 158-188. DOI: 10.1177/0149206308318617
37. Rizzuto, T. E. (2011). Age and technology innovation in the workplace: Does work context matter? *Computers in Human Behavior*, 27(5), 1612-1620. DOI:10.1016/j.chb.2011.01.011
38. Statistics Canada. (2011). *2011 National House Hold Survey*. Retrieved from <https://www12.statcan.gc.ca/nhs-enm/2011/as-sa/99-012-x/2011002/tbl/tbl04-eng.cfm>
39. Tougas, F., Beaton, A., Rinfret, N. & de la Sablonnière (2005). Policewomen Acting in Self-Defense: Can Psychological Disengagement Protect Self-Esteem From the Negative Outcomes of Relative Deprivation? *Journal of Personality and Social Psychology*, 88 (5), 790-800. DOI: 10.1037/0022-3514.88.5.790
40. Walker, A. (2002). A strategy for active ageing. *International Social Security Review*, 55(1), 121-139. DOI: 10.1111/1468-246X.00118
41. Zhang, Y. (2005). Age, gender, and Internet attitudes among employees in the business world. *Computers in Human Behavior*, 21, 1-10. DOI: 10.1016/j.chb.2004.02.006