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# **GBA+ GCworkplace**

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# Abstract

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Gender-Based Analysis (GBA) is an analytical process used to assess how diverse groups of women, men and non-binary people may experience policies, programs and initiatives of the Government of Canada (GC). The “plus” in GBA+ acknowledges that this analysis goes beyond biological and socio-cultural differences, and considers many other identity factors such as race, ethnicity, religion, age, and mental or physical disability. This present GBA+ as to limit the area of studies to the impact of office design on individuals with different identity factors (visible minorities, age, people with disabilities, Indigenous people and gender) and the different assumption made on GCworkplace concept, grouped into four themes: Autonomy, Group dynamic, Privacy and Wellbeing.

As GCworkplace concepts differ from open plan environment, this GBA+ highlights the important elements in order to design an optimal GCworkplace. The optimal GCworkplace is an environment providing status-neutral and gender-neutral workspace dynamic. It is an unassigned seating work environment that offers a non-hierarchical framework that is beneficial for term employees, part-time employees and visible minorities including Indigenous employees. Having unassigned seating gives equal access to different furniture, workpoints and enclosed office space regardless of status. In addition, if employees adapt and switch their behaviors from their old working styles, GCworkplace is beneficial for their wellbeing. The use of ergonomic furniture has an important role in the participation of individuals with different abilities or morphologies. By providing a variety of workpoints, the office becomes a flexible, participative, open, and inclusive work environment respectful of differences. Furthermore, this analysis highlights, that because workpoints are not assigned, there is a need for individuals, especially women and Indigenous people, to personalize their work environment. Therefore, it is recommended to allow personalization in common areas and personal storage to build an attachment to the office.

By completely endorsing the GCworkplace concept in the design, the office must include three distinct zones (Quiet, Interactive and Transitional), which allows the employee to choose the work environment that best suits their work style. These three zones are important to provide a variety of work environments, both formal and informal, required to have a welcoming work environment for a multi-generational workforce. In an open area, approachable furniture configurations (circle, face-to-face seating) can help engage discussion, increase collaboration, and share ideas as well as promote socialization between employees among different teams, cultures, and backgrounds. The face-to-face interaction preferred by older workers is encouraged in open areas. One of the issues highlighted by this analysis is the need for visual and auditory privacy, particularly for older employees. Behavior code in order to have quiet zones, an adequate design, good management of acoustics and having a flexible working policy seems to be appropriate solutions. With a flexible working policy, work-life balance is also improved by allowing flexible shift hours and the ability to work from home. The flexibility of this type of working style is particularly useful for caregivers, people with disabilities and Indigenous employees. Flexible working is also an important component of GCworkplace as it contributes to

the wellbeing of employees by reducing stress and providing autonomy. Moreover, through the change in workspace design, the work management culture needs to shift from physical presence of employee to their output. This creates trust and autonomy between the employee and the employer. The office designs and the organizational culture need to catch up to the new ways in which employees actually work.

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# Glossary

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**Activity-based working (ABW):** The key design feature of ABW is the departure from traditional allocated seating to open plan offices with a variety of shared work spaces designed for different work tasks<sup>1</sup>.

**Caregiving role:** Informal caregiving refers to those aged 15 or older who provide unpaid care to a family member or friend with a long-term health condition, a physical or mental disability, or problems related to aging<sup>2</sup>.

**Designated Groups:** Includes women, Indigenous peoples, persons with disabilities and members of visible minorities<sup>3</sup>.

**Environmental sensitivities:** Describes a variety of reactions to chemicals, electromagnetic radiation and other environmental factors at exposure levels commonly tolerated by many people such as volatile organic compounds (VOCs), perfumes, pollens, foods and animals. Specific to the workplace, it can be related to other aspects of the environment, including lighting, humidity, heat, cold and noise<sup>4</sup>.

**Flexible working:** Flexible work allow employees to alter, on a temporary or permanent basis, their work schedule, the number of hours they work or the location where they do their work, or

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<sup>1</sup> Arundell, L., Sudholz, B., Teychenne, M., Salmon, J., Hayward, B., Healy, G.N., & Timperio, A. (2018). "The impact of activity based working (ABW) on workplace activity, eating behaviours, productivity, and satisfaction". *International Journal of Environmental Research and Public Health*, Vol. 15, p.1005. DOI: <https://doi.org/10.3390/ijerph15051005>

<sup>2</sup> Sinha, M. (2012). "Portrait of Caregivers, 2012", General Social Survey, Statistics Canada. <http://www.statcan.gc.ca/pub/89-652-x/89-652-x2013001-eng.htm>

<sup>3</sup> Statistic Canada. (2017). "Visible Minority and Population Group Reference Guide, Census of Population, 2016". <https://www12.statcan.gc.ca/census-recensement/2016/ref/guides/006/98-500-x2016006-eng.cfm>

<sup>4</sup> Canadian Human Rights Commission. (2017). "The Medical Perspective on Environmental Sensitivities". [https://www.chrc-ccdp.gc.ca/sites/default/files/envsensitivity\\_en.pdf](https://www.chrc-ccdp.gc.ca/sites/default/files/envsensitivity_en.pdf)

to take leave from work to meet responsibilities outside of work. Flexible working plays an important role in addressing the realities of today's workplace, society and economy<sup>5</sup>.

**Indigenous people:** The Canadian Constitution recognizes three groups of Indigenous peoples: First Nations, Inuit and Métis<sup>6</sup>.

**Invisible disabilities:** Individuals with invisible disabilities such as epilepsy, hemophilia, mental and learning impairment, anxiety and attention deficit disorders and developmental disabilities.

**Open plan:** Office spaces that is open, transparency-enhancing architectures with fewer walls, doors and other spatial boundaries normally contained in traditional office<sup>7</sup>.

**Organizational culture:** Stated values, unwritten rules, mission statements, communication networks, leadership behavior, how people are rewarded and held accountable, and the work-design system play a role in forming an organization's culture<sup>8</sup>.

**Persons with disabilities:** Means persons who have a long-term or recurring physical, mental, sensory, psychiatric or learning impairment and includes persons whose functional limitations owing to their impairment have been accommodated in their current job or workplace<sup>9</sup>.

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<sup>5</sup> Employment and Social Development Canada. (2017). "Flexible work arrangements: What was heard". <https://www.canada.ca/en/employment-social-development/services/consultations/what-was-heard.html>

<sup>6</sup> Indigenous Services Canada. (2019). "Indigenous Services Canada". <https://www.canada.ca/en/indigenous-services-canada.html>

<sup>7</sup> Bernstein, E.S, & Turban, S. (2018). "The Impact of the 'Open' Workspace on human collaboration". *Philosophical Transactions of the Royal Society – Biological Sciences*, Vol. 373, (1753), p.1-7. <https://royalsocietypublishing.org/doi/full/10.1098/rstb.2017.0239>

<sup>8</sup> Lenore Mulligan, K. (2001). "A Culture of Respect; An Examination of Organizational Factors that Optimize the Attraction and Retention of Aboriginal Employees". National Library of Canada. <http://www.collectionscanada.gc.ca/obj/s4/f2/dsk3/ftp04/MQ59511.pdf>

<sup>9</sup> Justice Laws. (1995). "Employment Equity Act". <https://laws-lois.justice.gc.ca/eng/acts/e-5.401/page-1.html>

**Term employee:** Includes casual employee, part-time employee, seasonal employee and students.

**Visible minorities:** Means persons, other than Indigenous peoples, who are non-Caucasian in race or non-white in color<sup>10</sup>. “Persons of Colour” is the more acceptable terminology now, but Visible Minority will continue to be used for alignment with the Employment Equity Act.

## Background

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Through conversations about changing the way we work and its impact on GoC employees, Workplace solutions was mandated to understand Public Services and Procurement Canada (PSPC) clients business and workplace culture to better capture employee needs. During this GoC wide consultation, the following seven fundamentals were defined as the building blocks for a modern workplace: Digital, inclusive, healthy, flexible, efficient, collaborative and sustainable (green). These consultations resulted in the creation of a new Fit-up Project Program, GCworkplace. This new design approach aims to fill the gaps of Workplace 2.0 and promote employee engagement, job satisfaction and personal growth to GoC employees.

When the Government of Canada (GoC) launched GCworkplace in 2019, the objective of this initiative was to change the way GoC employee’s worked and viewed their workplace. GoC is taking important steps to create a confident and high performing workforce that embraces new ways of working and mobilizing the diversity of talent to serve the country’s evolving needs. Therefore, PSPC was mandated to provide accommodation and facilities for GoC departments and agencies, that are innovative, modern, flexible, sustainable, efficient and that support a collaborative, a knowledge-based multi-generational workforce, a healthy and productive work environment.

As workplace is a critical element of the strategy to achieve this vision and make it a reality, GCworkplace is an innovative and future-oriented concept that aims to create open and flexible office spaces with new digital mobility tools that promote the concept of being able to work anywhere, anytime with anyone, the way you want. Ultimately, the vision of GoC is to create a harmony between work and home life. Every public servant is a stakeholder in the workplace transformation because this is about the people and their experience of a work environment that encourages collaboration and fosters a culture of health and well-being.

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<sup>10</sup> Idem.



## ACTIVITY BASED WORKING CONCEPT

Activity-based working (ABW) is a design concept that understands that, throughout the course of a day, an employee will engage different activities that may require a work environment with different characteristics to support their task. In this type of work environment, there is no assigned seating which allows to have a palette of posture, in the workspace, making it more efficient, effective and enjoyable. ABW concept is employee-focused and provides options on how to work, where to work, when to work, which tools to use and with whom to collaborate to get the work done<sup>11</sup>.

Both ABW and open plan concept promote collaboration, flexibility, mobility and sustainability in the workplace. ABW environments aim to elevate these concepts to a new standard by empowering employees through a variety of work settings and tools that better suit their needs. This approach also encourages management and executives to manage based on output and not on employee presence, which fosters a climate of trust between employers and employees<sup>12</sup>.

## GCWORKPLACE CONCEPT

The vision for GCworkplace is to create a modern work environment that gives employees a positive and productive experience by addressing employee needs and preferences through design. GCworkplace uses ABW fundamentals that give employees the ability to choose where they work and make small adjustments to workstations like moving computer monitors, turning on a task light, adjusting task chair components, stand-up the desk and orienting mobile furniture to suit their working preferences. As GCworkplace typically features more enclosed and private workpoints than the average open plan work environment, it suit better to different way of working. In addition, the GCworkplace implementation goes beyond space, towards an integrated project delivery model that includes functional area experts in space, information technology, security, interior design, information management, sustainability and human resources<sup>13</sup>.

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<sup>11</sup> Public Services and Procurement Canada. (2018). "Activity based workplace". <https://www.tpsgc-pwgsc.gc.ca/biens-property/mt-wp/mtaa-abw-eng.html>

<sup>12</sup> Idem.

<sup>13</sup> Public Services and Procurement Canada. (2018). "GCworkplace: A modern workplace for the new public service". <https://www.tpsgc-pwgsc.gc.ca/biens-property/mt-wp/mt-wp-eng.html>

# 1. Preliminary Assessment of Gender + Equality Impact

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GCworkplace is an evolution of the Workplace 2.0 Fit-Up Standards, adapted to the needs and expectations of a modern workforce. It is built on seven dimensions, which are reinforced through the design strategy. GCworkplace is digital, inclusive, healthy, flexible, efficient, collaborative and sustainable work environment. Based on user experience, these modern workplaces are designed around activities, providing a diverse and user-centered environment. By ensuring equal access to a variety of workpoints and empowering employees to choose the setting that best suits their needs, GCworkplace aims to contribute to a workplace experience that considers the needs of specific groups and promotes equity in a diverse workforce.

Building on a previous gender-based analysis on the Workplace 2.0 initiative, this analysis will further explore the workplace implications relating to a wider range of identity factors and the potential impacts of GCworkplace on these groups. Otherwise the consideration outlined in the previous Workplace 2.0 GBA still apply. Further examination of GCworkplace design implications on the basis of gender and other identity factors will explore the following four themes: Autonomy, Groups dynamics, Privacy and Wellbeing.

## POTENTIAL GROUPS AFFECTED

- Government of Canada employees
  - Multi-generational Workforce
  - Term workers (consultants, students and temporary employees)
- Designated Groups
  - Gender
  - Indigenous people
  - Visible minorities
  - People with disabilities including physical disabilities, environmental sensitivities and invisible disabilities
- Identity Factors
  - Caregiving role

## 2. Outcomes, Goals and Objectives

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### GCWORKPLACE ASSUMPTION

**Autonomy:** In the context of workplace design, autonomy refers to an individual's ability to make choices related to their functional needs and desired workplace experience. The workplace should empower occupants and promote equity with respect to access to resources and the choices available to them.

- Choice of workpoint setting promotes autonomy, and will particularly benefit those with invisible disabilities and environmental sensitivities as they will have the ability to choose a more private or darker workpoint to suit their needs
  - May also present barriers to same group re: distracted environments, etc.
- Less predictability/routine in the workplace as a result of unassigned seating may disadvantage those with anxiety disorders
- Zoning of areas on a floor as either quiet or interactive (one of the principles of GCworkplace design) could present barriers to people with visual impairments unless other methods of communicating changes in zone can be implemented
  - Zoning benefits those needing reduced distractions

**Group Dynamics:** The workplace design should promote group dynamics that aim to foster an environment of inclusion, collaboration and equity among gender and identity groups.

- Workplaces that facilitate virtual connectivity will increase inclusion of those who may be less likely to engage in group collaboration, such as teleworkers, and may also benefit those with limited mobility (providing options to collaborate from the environment of their choosing) or those in caregiving roles (by allowing greater schedule flexibility)
  - Statistics around caregiving roles to be explored further, may no longer have gender bias but may have cultural/ethnic bias and age bias (caregivers of young children or of elderly family)
- Look at culture of individual ownership of space versus group and correlation to group dynamics

**Privacy:** Privacy is a key component in employees' workplace experience and their ability to effectively contribute to their organization's productivity, particularly in the realms of knowledge-work and innovation. The workplace should promote equal access to this resource.

- Access to enclosed spaces for privacy (whether for focused work, confidential conversations, or mental regeneration) will particularly benefit those groups who are statistically less represented in executive positions (previously assigned dedicated enclosed offices)

**Wellbeing:** In the context of workplace design, wellbeing can be supported by providing access to and promoting the use of spaces designed to support stress-reduction or active movement.

- Access to support spaces that promote wellness, such as quiet reflection rooms or treadmill desks, will benefit those who are most prone to stress/anxiety in the workplace
  - Statistics to be explored – gender or other differences in reporting of workplace stress
  - Look at impact to those with invisible disabilities, as well as generational differences

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## 3. Research

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### AUTONOMY

Recent research in the fields of psychology and neuroscience confirm that autonomy is a basic need all people share and that its fulfillment at work can increase job satisfaction, creativity, and commitment<sup>14</sup>. Autonomy in the workplace is defined as the ability to make self-determined choices about how to complete tasks for work. Autonomy can be achieved in a number of ways, the most common way is by providing freedom and flexibility to employees through giving options on when to work, how to work and where to work across different alternative locations, including offices and home.

#### Flexible Working

Increasing autonomy in workers regarding their use of alternative work locations (Home, offices, co-working space, etc.) is a trend in larger corporate structures. Initially, there was skepticism surrounding the idea as many managers felt if they could not physically see their employees, they must not be working. However, more recently there has been a shift to the focus from inputs and processes used in traditional methods, to results, with the intention of strengthening accountability to key stakeholders.

### MENTAL HEALTH

As 1 in 5 people will personally experience a mental health problem or illness each year, in Canada<sup>15</sup>, flexible working can offer a moment of rest away from the distractions of the office. A research led by the Mental Health Commission of Canada demonstrated that there are some differences to note in the prevalence of certain mental illnesses among men and women, varying in age. For example, the prevalence of mood disorders and anxiety is more than double for women than for men. Prevalence of mood and anxiety disorders peak while women are in their 20s and peak while men are their 30s. By age 40, about 50% of the population will have, or have had a mental illness<sup>16</sup>. Those elements are important as GoC workforce is composed of 55.1% of women<sup>17</sup>. Therefore, the ability to work in various different locations can also be

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<sup>14</sup> Herman Miller. (2017). "Autonomy at Work: Create workplaces that give people the freedom to choose where and how they accomplish their goals". <https://www.hermanmiller.com/research/categories/white-papers/autonomy-at-work/>

<sup>15</sup> Mental Health Commission of Canada. (2013). "Making the case for investing in mental health in Canada". [https://www.mentalhealthcommission.ca/sites/default/files/2016-06/Investing\\_in\\_Mental\\_Health\\_FINAL\\_Version\\_ENG.pdf](https://www.mentalhealthcommission.ca/sites/default/files/2016-06/Investing_in_Mental_Health_FINAL_Version_ENG.pdf)

<sup>16</sup> Idem.

<sup>17</sup> Treasury Board of Canada Secretariat. (2018). "Demographic Snapshot of Canada's Federal Public Service, 2017". <https://www.canada.ca/en/treasury-board-secretariat/services/innovation/human-resources-statistics/demographic-snapshot-federal-public-service-2017.html>

beneficial to those who suffer from anxiety and other mental disorders, such as post-traumatic stress disorder, as they gain comfort from the ability to choose to work from home when they feel like they need to<sup>18</sup>. Also, flexible working also mean to be able to choose into different room with different furniture and setting to suit to their personal preferences and task to accomplish. For example, by having control over the noise conditions through choosing where to work, employees are likely to have increased job and environmental satisfaction, as well as reduced stress symptoms<sup>19</sup>. In addition, flexible working can be beneficial in building more inclusive teams and leverage skills from a variety of employees from any location in the country.

An emerging trend in flexible working within the GoC is allowing employees to have remote work access and the ability to work from home. Research demonstrates that workers high in need for autonomy preferred location-independent working and reported a higher satisfaction with ABW environments<sup>20</sup><sup>21</sup>. Studies show that individuals who have remote work access have improved mental and physical health as well as improved productivity. Therefore, workers who feel a greater level of autonomy over their professional lives and who have more control over how and where they work are more satisfied and less likely to suffer from stress or take time off sick<sup>22</sup>.

## CAREGIVERS

72% of women caregivers aged 45 to 65 in Canada are employed. As women are spending more time by providing care, women reported experiencing a variety of employment impacts as a result of their caregiving responsibilities: 30% reported missing at least one full day of work, 6.4% retired early, quit or lost their paid job, and 4.7% turned down a job offers or promotions<sup>23</sup>. As women still perform time-consuming tasks that have been considered “traditionally female”, women were twice as likely as men to provide personal care (29% and 13%, respectively)<sup>24</sup>. Therefore, among women caregivers who have access to flexible work

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<sup>18</sup> Takao, M., & Tietze, S. (2012). "From anxiety to assurance: concerns and outcomes of telework", *Personnel Review*, Vol. 41, (4), p.450-469,

<sup>19</sup> Kupritz, V.W. (2005). "The Impact of Architectural Privacy Features on Performance, Stress and Informal Learning: Phase III Study". Haworth. <http://media.haworth.com/asset/28578/The-impact-of-architectural-privacy-features-on-performance-stress-and-informal-learning-phase-31.pdf>

<sup>20</sup> Van Yperen, N., Rietzschel, E., & De Jonge, K. (2014). "Blended Working: For Whom It May (Not) Work". *PLoS ONE*, Vol.9, (7), p.1-8. <https://doi.org/10.1371/journal.pone.0102921>

<sup>21</sup> Van Yperen, N., & Wörtler, B. (2017). "Blended working". Hertel G, Stone D, Johnson R, & Passmore J, *The Wiley-Blackwell Handbook of The Psychology of the Internet at Work*. <https://doi.org/10.1002/9781119256151.ch8>

<sup>22</sup> Lucas, S. (2018). "Flexible Working, Solid Facts". Regus. [http://vastgoedberichten.nl/wp-content/uploads/2018/10/181017-Regus\\_FlexibleWorkingSolidFacts\\_SummaryReport.pdf](http://vastgoedberichten.nl/wp-content/uploads/2018/10/181017-Regus_FlexibleWorkingSolidFacts_SummaryReport.pdf)

<sup>23</sup> Research on Aging, Policy and Practice. (2011). "Employment Consequences of Family/Friend Caregiving in Canada". University of Alberta. <https://rapp.ualberta.ca/wp-content/uploads/sites/49/2018/04/2011EmploymentConsequencesFFCaregiving.pdf>

<sup>24</sup> Fast, J. (2015). "Caregiving for Older Adults with Disabilities: Present Costs, Future Challenges". Institute for Research on Public Policy Study. <http://bit.ly/2jAH6yv>

arrangements (e.g. flexible schedules, telework), nearly half (47%) said that they feel they cannot utilize these options without having a negatively impact their careers<sup>25</sup>. However, we think that the negative stigma of working from home can be diminished if flexible working is allowed to every employee. As flexible working a central and essential part of the GC workplace concept, it will help caregivers to balance their work and their responsibilities at home.

## TRADITIONAL ACTIVITIES

As Indigenous people of Canada represent 4.9% of the total of population<sup>26</sup>, GoC makes strong efforts to set policy to introduce Indigenous people into the labor market. However, the unemployment rate for Indigenous people was 15.3% compared to 7.4% for non-Indigenous people, in 2016<sup>27</sup>. Therefore, for Indigenous GoC employees, flexible working is beneficial to ensure their participation in traditional activities without worries<sup>28</sup>. Also, as traditional activities can differs from statutory holiday, having a flexible work help Indigenous employee to practice their traditional culture<sup>29</sup>. However, due to limited data available, it is difficult to find strong data on why flexible working is important for Indigenous people excepted for cultural expression. These conclusions can be transposed for any religious activities.

## IT

Information Technology (IT) is considered a driving force behind autonomous working. New state-of-the-art technology provides an effective mechanism to address inherent organizational concerns of internal processes, such as managing information, communication, and collaboration support regardless of geographic location. With the introduction of this new technology and IT support, generational communication styles must be addressed. For example, millennials prefer social-networking and technology based communication methods whereas as baby boomers prioritize face-to-face communication. As GoC is a multi-generational workforce with 71,026 employees falling under baby boomer generation, 93,638 Generation X and 98,032 millennials and younger<sup>30</sup>, using tools such as Instant Messaging (IM) and WebEx are beneficial to millennial employees as they feel they can be creative, productive and easily

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<sup>25</sup> Employer Panel for Caregivers. (2015). "When Work and Caregiving Collide: How Employers Can Support Their Employees Who Are Caregivers". Employment and Social Development Canada. [http://publications.gc.ca/collections/collection\\_2015/edsc-esdc/Em12-8-2015-eng.pdf](http://publications.gc.ca/collections/collection_2015/edsc-esdc/Em12-8-2015-eng.pdf)

<sup>26</sup> Organisation for Economic Co-operation and Development. (2018). "Indigenous Employment and Skills Strategies in Canada". DOI: <https://doi.org/10.1787/9789264300477-5-en>

<sup>27</sup> Idem.

<sup>28</sup> Lenore Mulligan, K. (2001). "A Culture of Respect; An Examination of Organizational Factors that Optimize the Attraction and Retention of Aboriginal Employees".

<sup>29</sup> Indian Affairs and Northern Development. (2003). "Aboriginal Workforce Participation Initiative (AWPI) Employer Toolkit". <https://www.seda.sk.ca/images/File/employer-resources/aboriginal-toolkit.pdf>

<sup>30</sup> Treasury Board of Canada Secretariat. (2018). "Demographic Snapshot of Canada's Federal Public Service, 2017".

connected to other workers<sup>31</sup>, whereas baby boomers may be less satisfied with this type of working approach. Therefore, implementing training and having IT services readily available can help mitigate some of the stress associated with learning new technology for baby boomers<sup>32</sup>. In addition, to benefits while in the office, IT also allows flexible working (flexible shifts and hours, condensed work hours) by using virtual workspace tools such as laptops instead of desktops, Voice over Internet Protocol (VoIP) phones instead of fixed phone line and cloud networking to access information instead of direct connection to the server.

As mentioned earlier, working off-site helping people responsible of caregiving<sup>33</sup> and those IT elements help to achieve this goal of mobile workforce. As 28% of Canadians (8.1M) report having provided care to a family member or friend with a long-term health condition, disability or aging need in the past year<sup>34</sup>. GoC workforce will faced more caregiving responsibility into business work hours because of the aging population, why the need of flexible IT and technology.

## Unassigned Seating

As workforces become increasingly blended with a range of full-time, part-time, contract, and remote workers, unassigned seating has become a popular alternative to 1:1 cubicle farm seating that has traditionally been used when designing office spaces. Designing office environments that offer different furniture and technology, allows people to choose their best-suited work environment. Research shows that such variety may create stronger social groups capable of producing greater business results<sup>35</sup>. Indeed, the GoC workforce includes many different types of employees which include: casual, part-time, seasonal, students and indeterminate. As of March 31, 2017, there were 84.7% indeterminate employees, 10.0% term employees, and 5.3% casual employees and students in the GoC workforce<sup>36</sup>. Research suggests that, despite their contributions, there is a difference in treatment between term employees and indeterminate employees that have negative impacts on practices, attitudes and work behaviors within organizations. These consequences include a lack of knowledge sharing between term and indeterminate employees and low organizational citizenship behaviors that

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<sup>31</sup> Ferri-Reed, J. (2014). "Millennializing the Workplace". *The Journal for Quality and Participation*, Vol. 37, (1), p.13-14. <https://search.proquest.com/openview/ac4198575af0de1c6f17622737bba2b6/1?pq-origsite=gscholar&cbl=37083>

<sup>32</sup> Sox, C.B., Campbell, J.M, Kline, S.F., Strick, S.K., & Crews, T.B. (2016). "Technology use within meetings: a generational perspective". *Journal of Hospitality and Tourism Technology*, Vol. 7, (2), p.158-181

<sup>33</sup> Employer Panel for Caregivers. (2015). "When Work and Caregiving Collide: How Employers Can Support Their Employees Who Are Caregivers".

<sup>34</sup> Sinha, M. (2012). "Portrait of Caregivers, 2012".

<sup>35</sup> Patel, T. (2016). "Exploring the effectiveness of non-territorial workspace at alternate workplaces". Graduate Theses and Dissertations. <https://lib.dr.iastate.edu/etd/15990>

<sup>36</sup> Treasury Board of Canada Secretariat. (2018). "Demographic Snapshot of Canada's Federal Public Service, 2017".



could lead to unconscious silo works, and lack of teamwork which could be counterproductive<sup>37</sup>. Having GCworkplace aims to help lower these risks by creating an even playing field which eliminates visual hierarchy for resources and seating with the unassigned work environments. This creates a more open and approachable workspace where knowledge can be shared more easily because of the status-neutral work environment.

## WORKPLACE PERSONALIZATION

Research indicates that the less mobile an employee was, in term off-site, the more likely they were to personalize their workstation<sup>38</sup>. As GCworkplace is an unassigned, personalization of a workstation is not allow as desk are shared. Therefore, according to some research, women are less satisfied than men regarding the unassigned seating environments because they can't personalize their workspace<sup>39/40</sup>. In fact, personalized a workstation would provide a level of familiarity in the office as women tend to personalize with personal items, showing personal achievements or family attachments whereas men tended to personalize with symbols of their sport achievements or sports team attachment<sup>41</sup>. Also, women were more likely to personalize their workstation to improve the "feel" of the workplace as they wanted to make their workplace look nicer<sup>42</sup>. Women employees may also tend to personalize their work environments to express their identities and their individuality. This could be due to the workplace being seen as a male aura in which men feel that the workplace belongs to them, therefore, not feeling the need to personalize and make it their own<sup>43</sup>. As personalization is generally considered a form of territorial behavior by which people use their personal belongings to mark and defend their territories and to regulate their social interactions<sup>44</sup>, those evidences prove the need to allow personalization in the office. That being said, as GCworkplace allows personalization in common areas. Therefore, the amount of room available for displaying personal items is associated with workers' satisfaction with the physical work environment<sup>45</sup>. Workplace personalization will be an important element to take care of when designing an office just like colors and material choices to avoid designing a "male" workplace. Also, as ABW offices are non-territorial offices, due to the unassigned seating part of the concept,

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<sup>37</sup> Zimmerman, T., Gavrilova-Aguilar, M., & Cullum, P. (2013). "Rethinking Human Resource Strategies: A Shift in the Treatment of Contingent Workers". *International Journal of Business and Management*, Vol. 8, (7), p.28-34. <http://www.ccsenet.org/journal/index.php/ijbm/article/view/24181/15905.html>

<sup>38</sup> Leesman. (2017). "The rise and rise of Activity Based Working". [http://www.leesmanindex.com/The\\_Rise\\_and\\_Rise\\_of\\_Activity\\_Based\\_Working\\_Research\\_book.pdf](http://www.leesmanindex.com/The_Rise_and_Rise_of_Activity_Based_Working_Research_book.pdf)

<sup>39</sup> Hoendervanger, J.G., Ernst, A.F., Albers, C.J., Mobach, M.P., & Van Yperen, N.W. (2018). "Individual differences in satisfaction with activity-based work environments". *PLoS ONE*, Vol. 13, (3). DOI: <https://doi.org/10.1371/journal.pone.0193878>

<sup>40</sup> Wells, M. (2000). "Office Clutter or Meaningful Personal Displays: The Role of Office Personalization on Employee and Organizational Well-Being". *Journal of Environmental Psychology*, Vol. 20, (3), p.239-255. DOI: <https://doi.org/10.1006/jevp.1999.0166>

<sup>41</sup> Idem.

<sup>42</sup> Idem.

<sup>43</sup> Idem.

<sup>44</sup> Idem.

<sup>45</sup> Idem.

personalization will be an element of dissatisfaction compared to past office trends where employee reside before moving into the new office. Interestingly, personalization appeared to be more important for productivity than for wellbeing at work<sup>46</sup>.

Also, personalization of the workspace will be an important element of inclusivity for Indigenous employees, as it provides welcoming organizational culture by incorporating Indigenous culture into the physical environment. In fact, there is evidence that allowing personalization is a solution to optimizing attraction and retention of Indigenous employees<sup>47</sup>.

## INCLUSIVITY

Evidence shown that unassigned seating is an effective method to approach diversity and inclusivity by providing a racially and disability integrated work environments as it minimizes the experience of inequalities and discrimination<sup>48</sup>. In the GoC workforce, people with disabilities represent 5.5%<sup>49</sup>. Despite the attempts to include people with disabilities at work, the GoC number of such people in workforce remains low. In addition, the proportion of people with disabilities, visible and invisible, are expected to increase with the aging of the population<sup>50</sup>. In 2012, over 2 million women aged 15 or older (nearly 15% of women in Canada) reported at least one disability that limited their daily activities in 2012. This was also the case for 1.7 million men<sup>51</sup>. Furthermore, research indicates that one of the main difficulties faced by persons with disabilities, is entering the workplace with misconceptions about their ability to perform<sup>52|53|54</sup>.

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<sup>46</sup> Haapakangasa, A., Hallman, D.M., Mathiassena, S.E., & Jahncke, H. (2018). "Self-rated productivity and employee well-being in activity-based offices: The role of environmental perceptions and workspace use". *Building and Environment*, Vol. 145, p.115–124. DOI: <https://doi.org/10.1016/j.buildenv.2018.09.017>

<sup>47</sup> Lenore Mulligan, K. (2001). "A Culture of Respect; An Examination of Organizational Factors that Optimize the Attraction and Retention of Aboriginal Employees".

<sup>48</sup> Stainback, K., & Irvin, M. (2012). "Workplace racial composition, perceived discrimination, and organizational attachment". *Social Science Research*, Vol. 41, p.657-670

<sup>49</sup> Treasury Board of Canada Secretariat. (2017). "Employment Equity in the Public Service of Canada for the fiscal year 2016 to 2017: Statistical tables". <https://www.canada.ca/en/-board-secretariat/services/values-ethics/diversity-equity/employment-equity-annual-reports/employment-equity-public-service-canada-2016-2017-statistical-tables.html>

<sup>50</sup> Schur, L., Colella, A., & Adya, M. (2016). "Introduction to special issue on people with disabilities in the workplace". *The International Journal of Human Resource Management*, Vol. 27, (14), p.1471-1476. DOI: 10.1080/09585192.2016.1177294

<sup>51</sup> Statistics Canada. (2017). "Study: Women in Canada: Women with Disabilities". <https://www150.statcan.gc.ca/n1/daily-quotidien/170529/dq170529a-eng.htm>

<sup>52</sup> Maia de Guimarães, B. (2012). "Ergonomics and workplace adaptation to people with disabilities". Federal University of Pernambuco. DOI: 10.3233/WOR-152013

<sup>53</sup> Robinson, J.E. (2000). "Access to employment for people with disabilities: findings of a consumer-led project". *Disability and Rehabilitation*, Vol. 22, p.246-253. DOI: 10.1080/096382800296818

<sup>54</sup> Shier, M., Graham, J., & Jones, M. (2009). "Barriers to employment as experienced by disabled people: A qualitative analysis in Calgary and Regina, Canada". *Disability & Society*, Vol. 24, p.63-75. DOI: 10.1080/09687590802535485

The belief that people with disabilities are less productive than their non-disabled colleague<sup>55</sup>, and co-worker stereotypes about disabilities can affect their inclusive behavior and attitudes toward employees with disabilities<sup>56</sup>. By promoting diversity and autonomy, GCworkplace recommend that all workpoint categories offer an accessible options when designing an office space. Also, every plan based on GCworkplace concept must meet or exceed accessibility standards regarding circulation path and clearances.

Then, as switching of workstations is also accompanied by a change of routine, structure, work habits and a loss of stability, workdays become less predictable. In fact, because individuals differ in their ability to accept such changes or easily give up routines and habits, studies show that people with a high need for routine, react more negatively toward change in processes, innovations, and other situations affecting their daily routines and habits<sup>57|58|59</sup>. Consequently, these workers might be more likely to not comply with the desk-sharing policy or establish seating preferences and not switch their workstation according to their task requirements, as this might support some kind of stability and routine at work<sup>60</sup>. In short, it is possible that unassigned seating may disadvantage those with disability, particularly those with anxiety disorders, and individuals who need some predictability.

Previous studies found that supportive workplace cultures which encourages inclusion, safety, trust and fairness can have particular benefits for people with disabilities and members of other marginalized groups by providing a sense of autonomy and increasing commitment<sup>61|62|63</sup>. GCworkplace is a disability-sensitive workplace free of physical and mental barriers by providing an inclusive work environment for all individuals. Plus, the ergonomic furniture allows adaptation of the workstation to the physical characteristics of people, with or without disabilities. The use of ergonomic furniture has a role in the participation of individuals with different abilities or morphologies. The ergonomic principles, that enhance efficiency and

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<sup>55</sup> Maia de Guimarães, B. (2012). "Ergonomics and workplace adaptation to people with disabilities".

<sup>56</sup> Schur, L., Colella, A., & A dya, M. (2016). "Introduction to special issue on people with disabilities in the workplace".

<sup>57</sup> Kirton, M. (1980). "Adaptors and innovators in organizations". *Human Relations*, Vol. 33, p.213-224. DOI: 10.1177/001872678003300401

<sup>58</sup> Oreg, S. (2003). "Resistance to change: Developing an individual differences measure". *Journal of Applied Psychology*, Vol. 88, p.680-693. DOI: 10.1037/0021-9010.88.4.680

<sup>59</sup> Oreg, S. (2006). "Personality, context, and resistance to organizational change". *European Journal of Work & Organizational Psychology*, Vol.15, p.73-101. DOI: 10.1080/13594320500451247

<sup>60</sup> Wohler, C., Hartner-Tiefenthaler, M., & Hertel, G. (2017). "The Relation Between Activity-Based Work Environments and Office Workers' Job Attitudes and Vitality". *Environment and Behavior*, p.1–32. DOI: <https://doi.org/10.1177/0013916517738078>

<sup>61</sup> Idem.

<sup>62</sup> Avery, D. R., & McKay, P. F. (2010). "Doing diversity right: An empirically based approach to effective diversity management". G. P. Hodgkinson, & J. K. Ford *International review of industrial and organizational psychology*, Vol. 25, p. 227–252. DOI: <https://doi.org/10.1002/9780470661628z>

<sup>63</sup> Schur, L., Kruse, D., Blasi, J., & Blanck, P. (2009). "Is disability disabling in all workplaces? Workplace disparities and corporate culture". *Industrial Relations*, Vol. 48, p.381–410. DOI : <https://doi.org/10.1111/j.1468-232X.2009.00565.x>

effectiveness, are complimentary to the equal access of each workpoint that GCworkplace promote with the unassigned work environment. Those principles allows GCworkplace to offer an inclusive, autonomous and respectful workplace as it gives individuals the opportunity to advocate for their own needs.

Plus, this type of non-hierarchical framework is beneficial to minority groups in the workplace, such as Indigenous employees, as Indigenous peoples traditional practices include shared leadership and consensus decision making<sup>64</sup> that can be represented in a participative, open, flexible, team-based and inclusive workplace culture. Indigenous beliefs are guided by the values-based principles of trust, dignity, and respect for the individual, as well as honesty and integrity<sup>65</sup>. Unassigned seating creates flexible work environments that are more respectful of the cultural differences and sensitivities of Indigenous cultures by providing equal opportunity, equal treatment.

### Zoning within Office Space

Flexibility in office environments is also vital in achieving autonomy. Even with all the technology advancements, one of the most prominent forms of information sharing is with face-to-face interaction. This is why it is important for a variety of work environments to be provided in a workspace, both formal and informal seating that engages discussion. Workplaces that incorporate different zones for different working styles (ex. collaboration, quiet and task focused) within ABW environments gives employees options and control over the type of environment they would like to work in. As the ability to choose a quiet workspace is one of the main benefits of ABW offices<sup>66</sup>, studies show that when people have the potential for choosing a quiet zone, complaints about the noise and distraction of the open environments decrease<sup>67</sup>. However, research report that ABW offices are not used as intended, for instance quiet zones are not used for concentrative work<sup>68</sup> or employees tend to claim and use the same workstations<sup>69</sup>. Therefore, better zoning and planning by having sufficient enclosed and open quiet workspaces with an effective quiet speech policies may have encouraged the employee to follow the desk-

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<sup>64</sup> Lenore Mulligan, K. (2001). "A Culture of Respect; An Examination of Organizational Factors that Optimize the Attraction and Retention of Aboriginal Employees".

<sup>65</sup> Idem.

<sup>66</sup> Wohlers, C., & Hertel, G. (2017). "Choosing where to work at work – towards a theoretical model of benefits and risks of activity-based flexible offices". *Ergonomics*, Vol. 60, (4), p.1–20. DOI: <http://dx.doi.org/10.1080/00140139.2016.1188220>

<sup>67</sup> Keeling, T, Clements-Croome, D., & Roesch, E. (2015). "The Effect of Agile Workspace and Remote Working on Experiences of Privacy, Crowding, and Satisfaction". *Buildings*, Vol.5, (3), p. 880-898. <http://files.eric.ed.gov/fulltext/EJ1091070.pdf>

<sup>68</sup> Appel-Meulenbroek, R., Groenen, P., & Janssen, I. (2011). "An end-user's perspective on activity-based office concepts". *Journal of Corporate Real Estate*, Vol. 13, (2), p. 122-135. DOI: 10.1108/14630011111136830

<sup>69</sup> Hirst, A. (2011). "Settlers, vagrants and mutual indifference: unintended consequences of hot-desking". *Journal of Organizational Change Management*, Vol. 24, p.767–788. DOI: <http://dx.doi.org/10.1108/09534811111175742>

sharing policy<sup>70</sup>. Also, evidence prove that older workers are dissatisfied with open work environments compared to younger workers, commenting on the noise levels compared to their cubicles. This may be related to the increased sensitivity to auditory and visual distractions with age<sup>71</sup>. Even if the work itself is relatively quiet, there may be an abundance of second-hand noise (noise that surrounds people), but is not produced by them. Never the less, studies show that when people have the potential to choose areas like a quiet zone, complaints about the noise and distraction in open office environments decreases. This is why GCworkplace makes recommendations for features, such as acoustic panels in open office areas, to decrease sound transmission between zones. The opportunity to choose different workpoints can make a major difference in people's perception of control. This can include anything from physical location to ergonomic advantages like adjustable the furniture. Making sure there is a range of different postures and types of furnishings to support the diverse needs and preferences of employees is a goal of GCworkplace.

## VISIBILITY

Furthermore, as of today, it is estimated that over 500,000 Canadians are blind or partially sighted. An estimated 5.59 million more have an eye disease that could cause sight loss<sup>72</sup>. With the aging population, it is possible to believe that this number will increase into the GoC workforce. Therefore, there is an impact on those individuals when it comes to prescriptive zoning (such as including quiet zones). For example, for low visual people, spatial factors can affect the understanding of prescriptive indications as signage need to be legible. The legibility of code can be made by distinguishing key architectural elements in the quiet zone by using different forms and volumes that define the space, or by using particular decorative elements. This distinction can be made by the use of different finishes, light, colors, and graphics<sup>73</sup>. Intuitive signage is also important to ensure neurodiversity understanding because it gives the possibility to all employees to comply themselves with the workplace behavior code<sup>74</sup>. As architectural finishes and details, textures, lighting and color can be a form of communication to that influences or prescribes the users behavior as well as icon, those examples are still requiring learning that is not the case for signage using language. Research also show that font characteristics including stroke width, aspect ratio, inter-letter spacing, and the presence or absence of serifs, have some impact on text legibility<sup>75</sup>. Therefore legibility for low visual people

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<sup>70</sup> Babapour, M., Karlsson, M., & Osvvalder, A. (2018). "Appropriation of an Activity-based Flexible Office in daily work". *Nordic journal of working life studies*, Vol. 8, (3), p.73

<sup>71</sup> Hoendervanger, J.G., Ernst, A.F., Albers, C.J., Mobach, M.P., & Van Yperen, N.W. (2018). "Individual differences in satisfaction with activity-based work environments".

<sup>72</sup> Canadian National Institute for the Blind. (2018). "Blindness in Canada". <https://cnib.ca/en/sight-loss-info/blindness/blindness-canada?region=on>

<sup>73</sup> Dogu, U., & Erkip, F. (2000). "Spatial factors affecting wayfinding and orientation". *Environment and Behavior*, Vol. 32, (6), p.731-755.

<http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.920.208&rep=rep1&type=pdf>

<sup>74</sup> Idem.

<sup>75</sup> Arditi, A. (2004). "Adjustable typography: an approach to enhancing low vision text accessibility". *Ergonomics*, Vol. 47, (5), p.469-482. DOI: 10.1080/0014013031000085680

and individuals with different cognitive abilities is particularly important and need a particular attention when designing the workspace. However, blinded people are impacted because of the way of communicating change of zone is based on the visual capacity of the individual.

## GROUP DYNAMICS

Group dynamics refers to the processes involved when people in a group interact with each other. This is a key component to successful management of teams and an efficient workplace. The physical environment can influence the social interactions and tasks communication styles among the people in it. This influence involves relative accessibility of interaction and the psychological and social interpretation of these interactions.

### Ownership of Space

With the unassigned environment, the individual ownership of a space is limited as desk are share. With the changing nature of workplace, employee personalization of their work environment takes on special significance as personalization is a deliberate decoration or modification of an environment by its occupants to reflect their identities<sup>76</sup>. Therefore, it demonstrate that personalization of the workspace is mostly related to individual identity rather than reinforce group dynamic. A research suggest that individual workspace personalization is more important to employees than the personalization of team spaces<sup>77</sup>. Also, the limited possibilities for workspace personalization can be linked to the decreased satisfaction in the work environment and lower team identification<sup>78</sup>. However, personalizing spaces with personal items may help new employees adapt to their new work environments<sup>79</sup> and better integrated their new team as personalization is normally done with personal items<sup>80</sup>. Otherwise, as GCworkplace allow personalization only in common area, it is difficult to believe that every individual will feel comfortable to display personal item in plain sight. Therefore, the personalization of common area may not mitigate the dissatisfaction related to the personalization of an assigned workstation. Also, unassigned environment can affect the group dynamic as it is more difficult to physically find someone. However, as all employee can be reached by an electronic device at any time, it is possible to think that the group dynamic will be less effected by employee who accept the mobile way of work. Therefore, as mentioned earlier,

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<sup>76</sup> Wells, M. (2000). "Office Clutter or Meaningful Personal Displays: The Role of Office Personalization on Employee and Organizational Well-Being".

<sup>77</sup> Idem.

<sup>78</sup> Haapakangasa, A., Hallman, D.M., Mathiassena, S.E., & Jahncke, H. (2018). "Self-rated productivity and employee well-being in activity-based offices: The role of environmental perceptions and workspace use".

<sup>79</sup> Hess, J. A. (1993). "Assimilating newcomers into an organization: a cultural perspective". *Journal of Applied Communication*, Vol.21, p.189-210. DOI: <https://doi.org/10.1080/00909889309365366>

<sup>80</sup> Wells, M. (2000). "Office Clutter or Meaningful Personal Displays: The Role of Office Personalization on Employee and Organizational Well-Being".

as baby boomers prioritize face-to-face communication, they can be negatively impacted by the virtual way of working and that can impact the knowledge sharing.

## Collaboration

Social interaction and the layout of space reciprocally influence each other. It is thus important to consider the nature and function of work processes within and between groups or teams when designing work areas to support them. Not only should the initiation and implementation of collaborative work be considered, but also its maintenance and coordination over time.

Proximity, ease and availability of social exchange can be affected by the structure of the environment; open spaces, particularly open spaces incorporating symbolic focus points or other directing elements, can facilitate and coordinate the communication so necessary for efficient collaboration within the office<sup>81</sup>. GCworkplace has many collaboration areas and different zones that promote interdisciplinary cross-pollination and ease of communication between team members.

Furniture can also support and encourage social interaction if its arrangement removes any barriers between and among people (e. g., a circle of chairs would be preferable to lines of desks). The most “unfriendly” arrangement for office furniture involves the traditional “two-dimorphic-chairs-facing-a-desk- between-them” configuration. Of course, how many people need to interact must inform furniture configurations as well, and the broader culture influences what individuals consider “friendly” or “unfriendly”<sup>82</sup>.

## Part-time Workers

Women are more likely to work part time. On December 2018, 2,322,000 women reported work part-time in comparison of 1,225,600 men<sup>83</sup>. Also, every year, Canada loses the equivalent of 558,000 full-time employees from the workforce due to the conflicting demands of paid work and care<sup>84</sup>. Men are almost as likely as women (46% vs 54%) to be caregivers but women are more likely (65% vs 35%) to provide 20 or more hours of care per week<sup>85</sup> which reduces their presence at work. Employers can also experience direct and indirect costs associated with caregiving. Employers lose an estimated \$5.5 billion annually in lost productivity

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<sup>81</sup> Group dynamics and focus group research. (2007). In Stewart, D. W., Shamdasani, P. N., & Rook, D. W. *Applied Social Research Methods: Focus groups*, p. 19-36. Thousand Oaks, CA: SAGE Publications, Ltd.

DOI: 10.4135/9781412991841

<sup>82</sup> Brand, J. (1998). “Physical space and social interaction”. <https://workwellpartners.com/wp-content/uploads/2014/10/Physical-Space.pdf>

<sup>83</sup> Statistics Canada. (2018). “Labour force characteristics, monthly, seasonally adjusted and trend-cycle, last 5 months”. <https://www150.statcan.gc.ca/t1/tbl1/en/cv.action?pid=1410028701#timeframe>

<sup>84</sup> Fast, J. (2015). “Caregiving for Older Adults with Disabilities: Present Costs, Future Challenges”.

<sup>85</sup> Sinha, M. (2012). “Portrait of Caregivers, 2012”.

due to caregiving-related absenteeism<sup>86</sup>. In fact, 1.6 million caregivers took leave from work, nearly 600,000 reduced their work hours, 160,000 turned down paid employment, and 390,000 had quit their jobs to provide care<sup>87</sup>. Part-time worker also include people with lifetime mental disorder as they are most likely to reduced work hours to allow more breaks or rest periods. In Canada, 30% of the disability claims (\$15 to \$33 billion) are attributed to mental illnesses<sup>88</sup>. Plus, prevalence of cognitive impairment is higher for women than it is for men and increases with age. Its prevalence as a proportion of the total of all disorders is expected to nearly double over the next thirty years from 11% to 20%<sup>89</sup>, probably because of the aging population.

By providing different work atmosphere into GCworkplace, for example quiet zone, focus room, focus pod and reflection point, and allowing, it will probably mitigate the negative effect of mental disorder. And, as GCworkplace promote autonomy by allowing public servant to work remotely, part-time worker should not affect the group dynamic. By providing non-hierarchical environment and flexible working, no distinction can be made between term employee and indeterminate worker as they are both absent sometime of the office whether is because you work remotely or because you work part-time.

## PRIVACY

Privacy can be tricky in open office environments. Studies have shown that workers in ABW environment are not fully satisfied with their opportunities for concentration, privacy, and productivity into the workplace because open plan office is less private and noisier<sup>90|91</sup>. As GCworkplace is not a fully ABW environment as it features more enclosed and private workpoints, it is possible that those elements will be mitigated. Numerous studies have investigated the effects of environmental factors on work performance and satisfaction, such as temperature, sound and light. When the space is shared, other environmental factors are acoustic exposure (i.e. lack of privacy when holding a conversation, hearing noise form co-workers or tools in the environment, etc.) and visual exposure impact the level of job

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<sup>86</sup> Ceridian. (2015). "Double Duty: The Caregiving Crisis in the Workplace", Results and Recommendations from Ceridian's Working Caregiver Survey. <http://bit.ly/2jVNxNp>

<sup>87</sup> Sinha, M. (2012). "Portrait of Caregivers, 2012".

<sup>88</sup> Wang, J., Patten, S., Currie, S., Sareen, J., & Schmitz, N. (2011) "Perceived Needs for and Use of Workplace Accommodations by Individuals With a Depressive and/or Anxiety Disorder", *Journal of occupational and environmental medicine / American College of Occupational and Environmental Medicine*, Vol. 53, (11), p.1268- 1272

<sup>89</sup> Mental Health Commission of Canada. (2013). "Making the case for investing in mental health in Canada".

<sup>90</sup> Gerdenitsch, C., Korunka, C., & Hertel, G. (2018). "Need-Supply Fit in an Activity-Based Flexible Office: A Longitudinal Study During Relocation". *Environment and Behavior*, Vol. 50, (3) p.273-297. DOI: <https://doi.org/10.1177/0013916517697766>

<sup>91</sup> De Been, I., & Beijer, M. (2014). "The influence of office type on satisfaction and perceived productivity support". *Journal of Facilities Management*, Vol. 12, p.142-157. DOI: 10.1108/JFM-02-2013-0011



satisfaction<sup>92</sup>. Evidence exists that long term reactions to environmental stressors, such as noise and visual distractions, include decreased performance and negative health with consequences such as chronic fatigue, burnout, and musculoskeletal disorders<sup>93</sup>.

GoC workforce is 262,696 active employees which 6,480 are executives<sup>94</sup>. Normally, enclosed office was for employee in an executive position. As GCworkplace promote a status neutral work environment by providing unassigned workpoint, the equal access to an enclosed office, who procure more privacy, is beneficial to those who are not massively represented in an executive position. However it is possible to believe that some executive that not support this initiative will see that change as a losing a privilege acquire by the work status. The same assumption can be made for employee with several year of services since the employee had acquired certain privilege, such as being close to the window, thanks to the seniority. Therefore, the limited data available did not support those assumptions as many of the research on satisfaction are mostly generic on the reason why people are dissatisfied by the ABW environment related to their old office.

## Visual Privacy

In a study that looked at the implications of open concept and glass based ABW workspaces, women interviewed felt especially visible and “watched” by their colleagues<sup>95</sup>. Due to the increase in visibility created by the use of clear glass to separate workspaces, the feeling of excessive visibility experienced by women was experienced more intensely by women of colour (visible minority women) and women who were pregnant<sup>96</sup>. Women in professional settings also experience social pressure with regards to their appearance and dressing professionally<sup>97</sup> and a workplace with an increased visibility can foster this pressure. Studies also show that visible minority employees may experience a similar visibility and discomfort as women in the workplace<sup>98</sup>.

Also, older workers are more sensitive to visual distraction than younger<sup>99</sup>. The general deterioration of prolonged attention might cause concentration problems for older employees in the flexible office concept, because the workspace is more open and transparent compared to cubicle farm office. At the same time, flexible office environments seem to fit quite well to the

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<sup>92</sup> Gonzalez, I., & Morer, P. (2016). “Ergonomics for the inclusion of older workers in the knowledge workforce and a guidance tool for designers”. *Applied Ergonomics*, Vol. 53, p.131-142

<sup>93</sup> Kupritz, V.W. (2005). “The Impact of Architectural Privacy Features on Performance, Stress and Informal Learning: Phase III Study”.

<sup>94</sup> Treasury Board of Canada Secretariat. (2018). “Demographic Snapshot of Canada’s Federal Public Service, 2017”.

<sup>95</sup> Hirst, A., & Schwabenland, C. (2018). “Doing gender in the ‘new office’”. *Gender, Work and Organization*, Vol. 25, (2), p.159 – 176. DOI: 10.1111/gwao.12200

<sup>96</sup> Idem.

<sup>97</sup> Idem.

<sup>98</sup> Idem.

<sup>99</sup> Pullen, W. (2014). “Age, office type, job satisfaction and performance”. *Work&Place*, Vol. 3, (2), p.18-23. <http://workplaceinsight.net/wp-content/uploads/2014/08/Work+Place4mje.pdf>

personal preferences and characteristics of younger employees<sup>100</sup>. However, research indicate that no matter the age groups, people in flexible offices are less satisfied about the aspect privacy in comparison of cubicle farm office. Even when comparing the scores of the respondents from different age groups working in a flexible office concept, results show that younger respondents generally have much higher scores compared to the older respondents. Plus, as the decrease of perceived privacy and the higher exposure of workers to different distractions, the distractions can be an indirect indicator of the decreased productivity of worker in an ABW environment<sup>101</sup>.

## Acoustic Privacy

Noise level has one of the biggest negative impacts on occupant overall dissatisfaction with their workspace<sup>102</sup>. In fact, women are more likely than men to experience loud workplace noise and noise from people compared with men<sup>103</sup>. Additionally, workplaces may be becoming noisier, particularly with the proliferation of electronic devices<sup>104</sup>. Therefore, women are more complaining about noise distractions in open-plan environments than men<sup>105</sup>.

However, both older and younger worker are not performed well on a task when exposed to noise in comparison to when they were sitting in a quiet room<sup>106</sup>. As older workers are easier distracted while reading than younger<sup>107</sup>. Also, older people have poorer speech understanding than young people when experiencing a similar level of background noise<sup>108</sup>, so it can be hard to collaborate in an open collaborative space. By providing the autonomy of choosing regarding the use of enclosed room and alternative work location (Home office, co-working space, etc.), this could be the solution to resolve the privacy issues of the ABW environments as theses spaces can provide a higher level of privacy. As the lack of privacy may impact productivity through the effects of noise on cognitive performance and be a source of

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<sup>100</sup> Idem.

<sup>101</sup> Haapakangasa, A., Hallman, D.M., Mathiassena, S.E., & Jahncke, H. (2018). "Self-rated productivity and employee well-being in activity-based offices: The role of environmental perceptions and workspace use".

<sup>102</sup> Kim, J., & De Dea, R. (2013). "Workspace satisfaction: The privacy-communication trade-off in open-plan offices". *Journal of Environmental Psychology*, Vol. 36, p.18-26.

<https://www.sciencedirect.com/science/article/abs/pii/S0272494413000340?via%3Dihub>

<sup>103</sup> Ramage-Morin, P.L., & Gosselin, M. (2018). "Canadians vulnerable to workplace noise". *Statistics Canada*. <https://www150.statcan.gc.ca/n1/pub/82-003-x/2018008/article/00002-eng.htm>

<sup>104</sup> Chepesiuk, R. (2005). "Decibel Hell: The Effects of Living in a Noisy World". *Environmental Health Perspectives*, Vol. 113, (1), p.34-41.

<sup>105</sup> Hoendervanger, J.G., Ernst, A.F., Albers, C.J., Mobach, M.P. & Van Yperen, N.W. (2018). "Individual differences in satisfaction with activity-based work environments".

<sup>106</sup> Pullen, W. (2014). "Age, office type, job satisfaction and performance".

<sup>107</sup> Idem.

<sup>108</sup> Idem.

stress affecting wellbeing, the flexible working becomes an important solution to improve satisfaction. Natural light, biophilic design, managing acoustics to reduce noise, work spaces that promote wellbeing and autonomy, and common areas that emphasize the culture of the GoC are all important elements that GCworkplace incorporates to help promote wellbeing in the workplace, potentially lessening the risks of burnout of employees.

## WELLBEING

Workplace wellbeing relates to all aspects of working life, from the quality and safety of the physical environment, to how workers feel about their work, their working environment, the climate at work and work organization. According to the person-environment fit theory, people will achieve a higher level of satisfaction and mental and psychical wellbeing when they experience a match with their normal environment and suit with their personal preferences<sup>109</sup>. Therefore, older workers are less satisfied in ABW offices about the lack of possibilities to concentrate, archive files, information and communication technology and acoustics management. The lack of productivity supports in the work environment that can affect their wellbeing.

### Socialization

The physical environment, privacy and communication satisfaction are associated to self-rated productivity and wellbeing at work. The quality of inter personal relationships at work also improves worker satisfaction, communication and wellbeing<sup>110</sup>. GCworkplaces open environment helps to promote socialization between employees to create positive relationships among team members. These types of organic conversations that can take place in open concept environments can positively impact engagement and productivity. Also, one of the greatest benefits of open concept offices is increased collaboration. When multiple people are working in the same space, they are more likely to share ideas and ask for input. A cubicle office environment encourages employees to keep their heads down and continue working in a single-minded way. But in an open space, employees are more approachable and accessible.

Research also suggests that using a larger number of different workpoint is positively associated with wellbeing at work<sup>111</sup>. Workpoint switching can help improve the wellbeing of employees by increasing physical activity and breaks from sedentary work as well as promote cross pollination between teams<sup>112</sup>. Also, the degree of external mobility is related to switching behavior and adoptability of ABW concept as workers who divide their working time between

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<sup>109</sup> Idem.

<sup>110</sup> Haapakangasa, A., Hallman, D.M., Mathiassena, S.E., & Jahncke, H. (2018). "Self-rated productivity and employee well-being in activity-based offices: The role of environmental perceptions and workspace use".

<sup>111</sup> Idem.

<sup>112</sup> Waber, B., Magnolfi, J., & Lindsay, G. (2014). "Workspaces that move people". Harvard Business Review, Vol. 92, (10), p.68-77.

alternative work locations are more likely to adopt a more flexible working style rather than employees with simpler activity profile who derive limited benefits<sup>113</sup>. Plus, the positive effects of interruptions during work task execution and the change of work strategy by offering different setting and encouraging movement appear to influence the worker's performance<sup>114</sup> and can be beneficial for those suffer of invisible disability. Therefore, having informal meeting areas and break areas reduced stress. As it is known that 47% of working Canadians consider their work to be the most stressful part of daily life<sup>115</sup>, and that according to a survey's findings, there is a higher incidence of job-related stress in Ontario (51%), and among women (53%), public sector employees – federal and provincial (53%), people aged 35-54 (49%)<sup>116</sup>. Therefore, reduced stress it is a significant element of the GCworkplace concept.

## Workplace Culture

Workplace culture is ever-changing. It is important to note that through a change in workspace design, work culture will shift. With a casual and open concept visible atmosphere, employees are encouraged to include themselves in any meeting or discussion, to interact freely, and to use floating desk spaces<sup>117</sup>. These changes have implications for organizational culture. Study shown that a speech policy did not provide spaces enough quiet for uninterrupted work. In this study, the efforts at implementing and maintaining a quiet speech policy were not successful due to the spatial configuration, the non-appropriation of the speech and desk-sharing policies, and the failure in communicating the quiet speech policy with other tenants or visitors<sup>118</sup>. Reasons behind non-appropriation of the policies, particularly the desk-sharing policy, are the limited employee's involvement in the design and planning process, the misfits with work needs and increased time and effort to find a space, the incompatibility with previous ways of working, the increased complexity of the technology and limitations on use of paper documents<sup>119</sup>. On the other hand, men are complaining more about insufficient hygiene related desk-sharing than women<sup>120</sup>. Also, the result of compliance of the policies are worst when: (1) employee didn't observe benefits of the new workspace, (2) poorly designed layout, (3) lack of

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<sup>113</sup> Leesman. (2017). "The rise and rise of Activity Based Working".

<sup>114</sup> Kupritz, V.W. (2005). "The Impact of Architectural Privacy Features on Performance, Stress and Informal Learning: Phase III Study".

<sup>115</sup> Employment and Social Development Canada. (2016). "Psychological Health in the Workplace". <https://www.canada.ca/en/employment-social-development/services/health-safety/reports/psychological-health.html>

<sup>116</sup> IPSOS. (2000). "Stress in the Canadian Workplace". <https://www.ipsos.com/en-ca/stress-canadian-workplace>

<sup>117</sup> Mort, J., & Knapp, J. (1999). "Integrating Workspace Design, Web-Based Tools and Organizational Behavior". *Research-Technology Management*, Vol. 42, (2), p.33-40. DOI: 10.1080/08956308.1999.11671271

<sup>118</sup> Babapour, M., Karlsson, M., & Osv alder, A. (2018). "Appropriation of an Activity-based Flexible Office in daily work".

<sup>119</sup> Idem.

<sup>120</sup> Hoendervanger, J.G., Ernst, A.F., Albers, C.J., Mobach, M.P., & Van Yperen, N.W. (2018). "Individual differences in satisfaction with activity-based work environments".

quiet spaces, and (4) lack of a need to free up space for others, and problems with testability due to set-up complications<sup>121</sup>. Allow remote working is a key element but as GCworkplace is an integrated workspace solution, physical space, organizational culture and technological tools are a whole as it promote an innovative and progressive culture.

The organizational culture also need to change regarding the management style. As the physical presence is not needed in GCworkplace, manager need to shift their management style to an management based on output which foster a climate of trust and autonomy between the employee and the employer<sup>122</sup>. With ABW workspaces, there is an implied lack of hierarchies in roles. Workplace organizational structures must account for this change in culture in changing the workspace design<sup>123</sup>.

## ENVIRONMENTAL SENSITIVITIES

In another vein, approximately 3% of Canadians have been diagnosed with environmental sensitivities. Women are more affected than men as almost twice as many women as men experienced “sick building syndrome” and approximately 60-80% of people diagnosed with environmental sensitivities are women<sup>124</sup>. As that GoC hire 0.72% of the Canadian population<sup>125</sup>, it is possible to face some workplace accommodation that can include renovations and work policy. Accommodation of people with environmental sensitivities normally include better air quality, furnishings and materials standards, and maintenance practices in the workspace such as clean-desk policy<sup>126</sup>. Those environmental factor impacts workers health, performance and productivity<sup>127</sup>. Plus, the design can help in the mitigation of the negative impact of environmental stressors for office workers, for example, by having the ability to control air quality, lighting, and thermal condition<sup>128</sup>. Also, PSPC take action to reduce environmental sensitivity such as implemented a scent-free workplace policy. Therefore, if people with environmental are able to adjust the environment condition and that their colleague are following the policies such as sent-free and clean-desk with approved products, it is possible to believed that there no need to have specific workplace accommodation at a specific workstation , in other word to be assigned. Those health and productivity benefits far outweigh possible minimal extra costs of designing, planning, and acting to minimize factors in the workplace that would be

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<sup>121</sup> Babapour, M., Karlsson, M., & Osv alder, A. (2018). “Appropriation of an Activity-based Flexible Office in daily work”.

<sup>122</sup> Public Services and Procurement Canada. (2018). “Activity based workplace”.

<sup>123</sup> Hirst, A., & Schwabenland, C. (2018). “Doing gender in the ‘new office’”.

<sup>124</sup> Canadian Human Rights Commission. (2017). “The Medical Perspective on Environmental Sensitivities”.

<sup>125</sup> Treasury Board of Canada Secretariat. (2018). “Demographic Snapshot of Canada’s Federal Public Service, 2017”.

<sup>126</sup> Canadian Human Rights Commission. (2017). “The Medical Perspective on Environmental Sensitivities”.

<sup>127</sup> Kupritz, V.W. (2005). “The Impact of Architectural Privacy Features on Performance, Stress and Informal Learning: Phase III Study”.

<sup>128</sup> Idem.

harmful to people with environmental sensitivities and all other workers<sup>129</sup>. Also, having outdoor clothing in closed closets away from workstation is beneficial for people with environmental sensitivities<sup>130</sup> and it is a recommendation already made in GCworkplace concept documentation. Therefore, accommodation of people with environmental sensitivities is an opportunity to improve environmental quality of all GoC employee.

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<sup>129</sup> Canadian Human Rights Commission. (2017). “The Medical Perspective on Environmental Sensitivities”.

<sup>130</sup> Idem.

## 4. Consultation

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### EXPERT CONSULTATION REVIEW

#### **Katarina Lauch, M.A. Candidate at Carleton University**

As a current master candidate at Carleton University, Katarina Lauch research focuses on gender dynamics in the workplace and, in particular, women in STEM (Science, Technology, Engineering, Mathematics). Inspired by working in an engineering firm after her undergraduate degree, her research aims to investigate women's underrepresentation in male-dominated fields, the effects of organizational culture, and how gender performance and masculinity affect women's inclusion in these fields. Her background include Women's and Gender Studies and research based on Gender Socialization Theory and Organizational Behavior. She currently hold a research grant from the Centre for Research and Education on Women and Work (CREWW) for her ongoing thesis research project. She will be starting a PhD in Management in September, 2019 with a focus on gender and diversity in the workplace.

#### **Andrée Daviau, Senior Policy Advisor, Strategic Policy and Cabinet Affairs Policy, Planning and Security Branch**

As a former University of Ottawa master student in Sociology and Double Minor in Sociology and Psychology, Andrée Daviau French thesis was on the diversity of career models of Quebec women managers. During her career, she as review many GBA for GoC.

### WORKING GROUP

#### **Melayna Simister, Senior Workplace Strategist, PSPC Interior Design National Centre of Expertise**

Melayna Simister is an interior designer and workplace strategist working in Canada's National Capital Region. Since obtaining her B.A. in psychology and her B.A.A. in interior design, she worked as a design professional in the private sector before joining the Government of Canada. Throughout her post-secondary studies in psychology and social theory, as well as in the various design and architecture firms with which she worked, Melayna Simister conducted extensive research in the areas of the activity-oriented workplace and many alternative planning strategies. She currently oversees the Interior Design National Centre for Expertise at PSPC.

#### **Kélanne Kentzinger, Interior Designer, PSPC Interior Design National Centre of Expertise**

Graduate in Interior Design from Cégep du Vieux Montréal in 2016, Kélanne Kentzinger has been employed by PSPC since 2018. As a B.A. in Communication and minor in Applied Ethics student at the University of Ottawa, she has had the opportunity to produce several academic researches according to different methodologies. Since 2020, Kélanne Kentzinger has become a permanent employee at the National Center of Expertise in Interior Design at PSPC.

**Suzanne Theelan, Interior Designer, PSPC Interior Design National Centre of Expertise**

Graduated in Interior Design from the Algonquin College in 2016 and having a PRINCE2® certification in project management in controlled environments carried out in 2018, Suzanne Theelan supported the team of the Interior Design National Centre of Expertise at PSPC in the production of different deliverables.



## 5. Conclusions and Recommendations

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The research presented throughout this analysis provides an overview of some of the ways that gender and other identity factors contribute to a variety of workplace experiences. This analysis goal is to identifying any groups that may be disadvantaged through the design of their workplace so that more equitable design solutions can be developed. In this section, key findings will be summarized, and design recommendations proposed in response to each challenge identified.

### KEY FINDINGS

- **Autonomy**
  - Promoting autonomy via flexible and remote working contributes to many benefits for both employee and organization
  - Choice-rich environments leads to greater autonomy and more engaged employees
  - Technology can support autonomy as an enabler of virtual presence
- **Group Dynamics**
  - Positive group dynamics are supported by a balance of individual and collective space
  - Collaboration is essential to organizational growth and innovation
  - Diverse team structures present new challenges to maintaining positive group dynamics
- **Privacy**
  - Visual and acoustic privacy are critical to supporting focus work
  - Visual and acoustic privacy are important when managing sensitive information in a shared environment
  - The workplace must support personal privacy and confidentiality
- **Wellbeing**
  - A cohesive workplace culture supports employee wellbeing
  - Creating an environment of psychological safety contributes to workplace mental health
  - Workplaces that provide opportunities for stress reduction can further enhance employee wellbeing

## Autonomy

The research around individual autonomy in the workplace is focused on three primary themes: flexible and remote working, choice-rich environments, and supporting technology. When it comes to promoting individual autonomy, many organizations choose to offer flexible working arrangements and the option of working remotely, which allow employees some degree of choice regarding their working hours and location. In an analysis of the economic, personal and environmental impacts of flexible working in 16 countries including Canada, research found many benefits at both an individual and organizational level. People working remotely reported higher levels of job satisfaction and overall happiness, while further evidence suggests a correlation between flexible working and improved health, wellbeing and productivity<sup>131</sup>. Time saved by reduced transit benefits both employee and employer, as well as potentially decreasing environmentally-damaging emissions<sup>132</sup>. These benefits in turn carry over to the employer through improved economic output, with autonomy linked to greater productivity, more engaged employees, and less time and revenue lost due to sick leave and employee turnover, which can lead to financial savings ranging from 5% to 75%<sup>133</sup>.

Flexible working is particularly beneficial to women, who are statistically more likely to be primary caregivers for dependent children or family members, which often puts additional strain on their ability to balance personal and professional expectations. Other less-represented identity groups may also benefit, such as those from ethnic groups where it is expected that working families support and care for aging parents, as well as those living in rural areas who may require more time to commute during regular business hours. It also presents considerable benefits to people with disabilities, who may require a familiar setting or custom furnishings or technologies in order to work more effectively, or who may rely on costly transportation to get to and from their workplace.

The design of the workplace must support the organization's vision for flexible and remote working, by providing occupants with a flexible environment featuring an appropriate quantity of available workpoints, calculated to factor in the average frequency of remote working for those who occupy the space. Electronic booking systems can serve as an additional tool to ensure availability of suitable workpoints for all occupants and the various activities they perform.

Another key component in individual autonomy is providing a wide variety of work setting options in a choice-rich workplace environment. Research demonstrates a clear link between autonomy and availability of choices, which empowers people to make decisions to suit their

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<sup>131</sup> Lucas, S. (2018). "Flexible Working, Solid Facts". Regus research publication.

<sup>132</sup> Idem.

<sup>133</sup> Idem.

particular needs or preferences<sup>134</sup>. The number of different activities being performed in the workplace has grown with the evolution towards virtual communication, on-demand availability, and a tendency towards multitasking, and the workplace must support these various types of activities that often have competing needs. Quiet spaces with reduced distractions for focused cognitive work must be balanced with community space and areas that promote interaction and collaboration. Furthermore, individual needs and preferences vary greatly, with each person having specific functional requirements or preferences to optimize their performance. For this reason, it is essential that the workplace offers a variety of workpoints, varied and adjustable furnishings, and distinct functional zones where noise can be managed, so that occupants can benefit from their choice of work setting. This variety also supports greater diversity by providing choices that suit the needs and preferences of people with disabilities, environmental sensitivities, cognitive differences or neurodiverse needs, varying body shapes and sizes, and different levels of mobility throughout the space.

Finally, technology plays an important role in supporting autonomy by enabling virtual communication and connectivity to resources from various locations, thereby empowering users to maintain a level of professional performance that may otherwise be challenging without the flexibility that technology allows. In addition to broader technologic strategies such as enabling remote connectivity, workplace design should take into account the various ways that occupants communicate and connect in each workpoint setting. WiFi and ample power receptacles will support mobility, while shared monitors or digital writing surfaces can encourage more fluid sharing of information. Digital room booking systems and electronic keypads on personal storage lockers also allow users the flexibility to use the workspace autonomously according to their needs. To ensure optimal inclusivity, technology should be chosen that caters to a variety of user needs, where opportunities may exist to enable users with limited vision, hearing, or mobility to share in the benefits of virtual tools.

With an increase in flexibility and individual autonomy in the workplace come some potential risks that should be considered. For some individuals, particularly those from less-represented identity groups such as those with physical or neurodiverse differences, a greater level of autonomy and choice can present a degree of uncertainty or unpredictability about the workplace surroundings that can result in anxiety or stress when finding a work setting that suits their needs. In many cases, confidence and familiarity with the new work setting will increase gradually with the time spent working there. However, it may also be beneficial to establish certain rules or etiquette that can help all occupants better navigate the space, and to ensure that training or support is available to ensure all occupants are comfortable knowing how to set up an individual workpoint or what behaviours might be expected in different functional zones. Design strategies may also include visual and tactile signage or indicators between zones, as a way of indicating a change in activity type or noise level expected. Furthermore, maintaining

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<sup>134</sup> Metin, B (2018) “HR analytics: autonomy and employee engagement”.

equitable access to enclosed spaces for privacy can assist those who may need more time adjusting to new ways of working<sup>135</sup>.

## Group Dynamics

Group dynamics refer to the ways in which people interact in the workplace, which contributes to both individual and group productivity, as well as the sense of community or workplace culture. The design of the physical space can encourage positive group dynamics by supporting both in-person and virtual collaborative activities without negatively impacting individual productivity, in addition to creating opportunities for informal or impromptu interactions, and contributing to a general sense of shared ownership of the space. The challenges to create an environment where positive group dynamics thrive are further complicated by the many differences in group behaviours and perceptions across genders, cultures, generations, and physical and psychological abilities. For example, research has uncovered often conflicting values across generations when it comes to communication processes, problem-solving, knowledge-sharing, interpersonal relationships, leadership behaviours and management styles<sup>136</sup><sup>137</sup>. Similar differences in values and attitudes can invariably be found among individuals from different gender and cultural identity groups, while further disparities exist for people with disabilities regarding the functional requirements for collaborative and group activities. Therefore, workplace design strategies should focus on optimizing equitable use of and access to shared spaces, while also promoting a variety of choices to suit various needs and preferences.

Diverse team structures may consist of employees from a variety of social and cultural backgrounds, physical and psychological abilities, ages, genders, and geographic locations. This means that the dynamics of teamwork and collaborative activities in the workplace should strive to include all employees whenever possible. Supporting a more equitable use of the various workpoints and amenities offered by a workplace is one broad strategy. Workplace design should focus on removing barriers to inclusion and collaboration that may disproportionately affect those from certain identity groups. Ensuring that all workpoint types are inclusive to people with disabilities or those with limited mobility is one way of achieving this. Access to space should also be equitable, with a variety of shared spaces available to all employees, as well as availability of technological tools such as remote network access, virtual conferencing software and equipment, and monitors for communicating virtually and sharing information, so that employees with disabilities or environmental sensitivities that prevent them from being physically present can participate equally in collaborative activities. Finally, since individual differences in collaborative style may vary across genders, generations, culture, or other identity groups, the design of the workplace should encourage a wide variety of different

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<sup>135</sup> Haapakangasa, A., Hallman, D.M., Mathiassena, S.E., & Jahncke, H. (2018). "Self-rated productivity and employee well-being in activity-based offices: The role of environmental perceptions and workspace use".

<sup>136</sup> Srinivasan, Vasanthi. (2012). "Multi generations in the workforce: Building collaboration".

<sup>137</sup> Gibson, J. W., et al. (2009). "Generational Differences in the Workplace: Personal Values, Behaviors and Popular Beliefs".

workpoint settings. In doing so, employees may choose either open or enclosed, formal or informal settings in which to collaborate, depending on their individual preferences. The cumulative benefits to organizations who embrace diversity and inclusion in their collaborative culture are many, from stimulating innovation, to sustaining organizational growth by attracting and retaining a diverse workforce.

## Privacy

Designing for privacy in the workplace means providing access to a variety of enclosed and semi-enclosed spaces, and employing strategies that reduce visual and acoustic distractions in areas where focused individual work can be expected to occur. Both visual and acoustic privacy are important in the workplace, as they contribute to the general satisfaction and wellbeing of occupants, and their ability to concentrate, have confidential discussions, or seek quiet refuge periodically to manage stress or illness. Workplaces that favour open areas, unassigned seating, and higher proportions of shared space often face the greatest challenges in maintaining a level of privacy that meets occupants' needs. While GCworkplace design principles emphasize a variety of open and enclosed workpoints for both individuals and groups, the shared nature of the space means that special care should be taken to ensure adequate access to privacy for all occupants.

When it comes to acoustic privacy, this analysis has identified two areas where gender and other identify factors are implicated. First, studies have shown that women are more negatively affected by high noise levels in the workplace than men, which has been linked to their overall satisfaction with the performance of their workplace<sup>138</sup><sup>139</sup>. Secondly, acoustic privacy has clear implications on one's ability to concentrate on focused tasks, and research has shown that older generations are more easily distracted by ambient sound than younger generations<sup>140</sup>. What both of these trends suggest is that in order to foster an inclusive environment, workplace design must ensure that sound transmission is managed effectively and that enclosed or semi-enclosed spaces are available to seek enhanced acoustic privacy for those most affected. Further research is recommended to determine the effects of workplace noise on people

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<sup>138</sup> Kim, J., & De Dea, R. (2013). "Workspace satisfaction: The privacy-communication trade-off in open-plan offices". *Journal of Environmental Psychology*, Vol. 36, p.18-26.

<https://www.sciencedirect.com/science/article/abs/pii/S0272494413000340?via%3Dihub>

<sup>139</sup> Ramage-Morin, P.L., & Gosselin, M. (2018). "Canadians vulnerable to workplace noise". *Statistics Canada*. <https://www150.statcan.gc.ca/n1/pub/82-003-x/2018008/article/00002-eng.htm>

<sup>140</sup> Pullen, W. (2014). "Age, office type, job satisfaction and performance". *Work&Place*, Vol. 3, (2), p.18-23. <http://workplaceinsight.net/wp-content/uploads/2014/08/Work+Place4mje.pdf>

Various strategies exist for improving acoustic privacy in the workplace, and are fundamental to the core criteria of GCworkplace. These include providing sufficient, easily accessible quiet workspaces or zones, by adopting behavioral codes that diminish distractions, and by improving room acoustic design<sup>141</sup> through sound masking, acoustical panels, sound transmission class (STC) ratings and material selection where applicable. To maintain quiet workspaces, consider separating the workspaces for solitary and collaborative work. For visual privacy, making sure there is privacy film on closed working/meetings rooms can help keep conversations within the workplace more private and allow for more focused work. In open areas, consider adding moveable privacy walls to give employees the option to work in a more secluded space while still making themselves accessible to others in the office. Activity settings that will be used for concentration work deserve special attention to avoid complaints about distractions and lack of privacy<sup>142</sup>.

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<sup>141</sup> Haapakangasa, A., Hallman, D.M., Mathiassena, S.E., & Jahncke, H. (2018). "Self-rated productivity and employee well-being in activity-based offices: The role of environmental perceptions and workspace use".

<sup>142</sup> Hoendervanger, J.G., De Been, I., Van Yperen, N.W., Mobach, M.P., & Albers, C.J. (2016). "Flexibility in use". *Journal of Corporate Real Estate*, Vol. 18, (1), p.48-62. DOI: <https://doi.org/10.1108/JCRE-10-2015-0033>

## Wellbeing

Wellness in the workplace is an important factor that should be a priority when designing an office. In flexible work hubs, equipment, resources and services are shared, which can cut down individuals' and companies' energy use, as well as reducing waste and improving levels of recycling<sup>143</sup>. Commuting time for those who work remotely or who use flexible workspaces closer to home can contribute to significant environmental benefits. When people travel a shorter distance to work – or do not leave home at all – overall fuel consumption is reduced and carbon emissions fall<sup>144</sup>.

This type of open environment is not only beneficial sustainability wise, but also socially. Providing shared casual spaces within the office can promote meaningful work relationships and create a healthier work environments. Designing open work areas where people are approachable can also make workplaces seem more approachable for those who may have questions is also beneficial in creating team atmospheres.

Also, because of the misuse of furniture and workstation, extensive training and coaching programs about ABW concept should be part of the implementation process<sup>145</sup>. As the change management process is important in implementing ABW, management needs a method that can identify the way ABW will be used by the employees of their organization. It is not recommended to try a more strict policy on the use of an ABW office, such as restrict work from home, as it is totally opposed to the philosophy of trust behind the concept<sup>146</sup>.

Finally, many behavioral policies are needed in an ABW environment such as a flexible working, speech, shared-desk, clean-desk and scent-free policies.

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<sup>143</sup> Lucas, S. (2018). "Flexible Working, Solid Facts".

<sup>144</sup> Idem.

<sup>145</sup> Appel-Meulenbroek, R., Groenen, P., & Janssen, I. (2011). "An end-user's perspective on activity-based office concepts".

<sup>146</sup> Idem.

## 6. GBA+ Practical applications

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GBA + has been implemented in various tools designed by the Workplace Solutions team. Here is the list of recommendations and elements related to ACS + as well as the associated tools.

- Ensure effective soundproofing and control of sound transmission in the open space
  - GCworkplace Design Guide
  - GCworkplace Technical Reference Manual
- Comply with the Federal Identity Program standard on signage
  - GCworkplace Design Guide
- Establish rules and behavioral etiquette in the office (flexible working policies, speech control, shared office, clean desk and no scent office)
  - Workplace Change Management Playbook
- Plan to optimize the space utilization
  - GCworkplace Space Planning Workbook
- Provide equal access to resources, equipment and workpoints
  - GCworkplace Design Guide
- Do not assign individual enclosed workpoints, with some exceptions
  - Government of Canada Fit-up Standard
- Offer training to help employees adapt to changes in the workplace (technological, behavioral, etc.)
  - Workplace Change Management Playbook
- Allow personalization in common areas
  - GCworkplace Design Guide
- Analyze the functional needs and personal preferences of employees
  - Functional Programming GCworkplace Design Survey
- Offer workpoints that promote stress reduction
  - GCworkplace Design Guide
  - GCworkplace Technical Reference Manual
- Increase employee participation in the design process
  - Functional Programming GCworkplace Design Survey
  - Workplace Change Management Playbook
- Provide accessible workpoints
  - GCworkplace Design Guide
  - GCworkplace Technical Reference Manual
- Choose ergonomic and accessible furniture
  - GCworkplace Technical Reference Manual
- Offer a variety of workpoints in an optimal proportion
  - GCworkplace Space Planning Workbook



- Provide appropriate signage in order to enforce the speech control policy in the quiet zone
  - GCworkplace Design Guide
- Allow control of the physical environment such as light, temperature, in enclosed rooms
  - GCworkplace Technical Reference Manual
- Ensure adequate soundproofing of closed rooms
  - GCworkplace Technical Reference Manual

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## 7. Potential Area of Studies

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This GBA+ analysis as to limit the area of studies to the impact of office design on individuals with different identity factors and the different assumption made on GCworkplace concept. However, some concepts have been explored and could be used in further research.

### RELIGIOUS EXPRESSION

Among the factors leading to the rise in religion issues in the workplace phenomenon is increased religious diversity, which is fueled partly by immigration and globalization. As multiculturalism is a central Canadian policy, this ensuring that all citizens keep their identities, take pride in their ancestry and have a sense of belonging. It is logical that this policy has an impact in GoC office. Therefore, study indicates that conflicts between employees versus organizational attitudes toward religious expression are associated with lower job satisfaction. If the workplace is a "religion-free zone", then there is less stimuli in the office that invoke religion in public space and employee will be less likely to bring such religious symbol into the workspace. Therefore, when an employee perceive a lack of congruence between the organization values and their own values, the employee will be less likely to engage religious expression, regardless of the company openness toward religious expression. This suggest that the employee in minority faiths may feel less comfortable to express their beliefs<sup>147</sup>. Because of that, company may need to take extra care to ensure that those minority faith fell that they have the same rights as the dominant faith in order to avoid the perception of unequal right.

Plus, time off for religious observances, permission to display religious materials and time and space for religious observance are the accommodations normally requested by employees<sup>148</sup>. Those accommodations are the sources of most litigation and they probably can be mitigate with flexible working. There is a need to examine the compatibility between an individual faith and the organizational values before accepting the religious expression in workplace. The fact that differing belief affect individual expression may lead to differing reactions towards the workplace religious expression of other which could represent an additional diversity management challenge for the organization<sup>149</sup>.

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<sup>147</sup> Lawrence, L.R., & King Jr, J.E. (2008). "Determinant of religious expression in the workplace". *Culture and Religion*, Vol. 9, (3), p.251-265. DOI: 10.1080/14755610802535595

<sup>148</sup> Idem.

<sup>149</sup> Idem.

## HARASSMENT

Research has shown that witnessing sexual harassment can have negative implications for other employees in the workplace<sup>150</sup>. With an increase in workplace visibility, the witnessing of sexual harassment and therefore the implications for other employees, could be more profound. Incivility theorists affirms that individuals in low-status social groups such as women, racial and sexual minorities are experiencing more uncivil treatment than men<sup>151</sup>. Also, for all racial groups, perceived racial discrimination and harassment reduced employer loyalty and increased job search intentions<sup>152</sup>.

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<sup>150</sup> Dionisi, A.M., & Barling, J. (2018). "It Hurts Me Too: Examining the Relationship Between Male Gender Harassment and Observers' Well-Being, Attitudes, and Behaviors". *Journal of Occupational Health Psychology*, Vol. 23, (3), p.303–319. DOI: <http://dx.doi.org/10.1037/ocp0000124>

<sup>151</sup> Zurbrugg, L., & Miner, K. N. (2016). "Gender, Sexual Orientation, and Workplace Incivility: Who Is Most Targeted and Who Is Most Harmed?". *Frontiers in Psychology*. Vol.7, (565). DOI: 10.3389/fpsyg.2016.00565

<sup>152</sup> Stainback, K., & Irvin, M. (2012) "Workplace racial composition, perceived discrimination, and organizational Attachment".

# Bibliography

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## A

Appel-Meulenbroek, R., Groenen, P., & Janssen, I. (2011). "An end-user's perspective on activity-based office concepts". *Journal of Corporate Real Estate*, Vol. 13, (2), p.122-135. DOI: 10.1108/14630011111136830

Arditi, A. (2004). "Adjustable typography: an approach to enhancing low vision text accessibility". *Ergonomics*, Vol.47, (5), p.469-482. DOI: 10.1080/0014013031000085680

Arundell, L., Sudholz, B., Teychenne, M., Salmon, J., Hayward, B., Healy, G.N., & Timperio, A. (2018). "The impact of activity based working (ABW) on workplace activity, eating behaviours, productivity, and satisfaction". *International Journal of Environmental Research and Public Health*, Vol.15, p.1005. DOI: <https://doi.org/10.3390/ijerph15051005>

Avery, D. R., & McKay, P.F. (2010). "Doing diversity right: An empirically based approach to effective diversity management". G. P. Hodgkinson, & J. K. Ford *International review of industrial and organizational psychology*, Vol. 25, p. 227–252. DOI: <https://doi.org/10.1002/9780470661628z>

## B

Babapour, M., Karlsson, M., & Osvelder, A. (2018). "Appropriation of an Activity-based Flexible Office in daily work". *Nordic journal of working life studies*, Vol.8, (3), p.73

Bernstein, E.S, & Turban, S. (2018). "The Impact of the 'Open' Workspace on human collaboration". *Philosophical Transactions of the Royal Society – Biological Sciences*, Vol. 373, (1753), p.1-7. <https://royalsocietypublishing.org/doi/full/10.1098/rstb.2017.0239>

Brand, J. (1998). "Physical space and social interaction". <https://workwellpartners.com/wp-content/uploads/2014/10/Physical-Space.pdf>

## C

Canadian Human Rights Commission. (2017). "The Medical Perspective on Environmental Sensitivities". [https://www.chrc-ccdp.gc.ca/sites/default/files/envsensitivity\\_en.pdf](https://www.chrc-ccdp.gc.ca/sites/default/files/envsensitivity_en.pdf)

Canadian National Institute for the Blind. (2018). "Blindness in Canada". <https://cnib.ca/en/sight-loss-info/blindness/blindness-canada?region=on>

Ceridian. (2015). "Double Duty: The Caregiving Crisis in the Workplace", Results and Recommendations from Ceridian's Working Caregiver Survey. <http://bit.ly/2jVNxNp>

Chepesiuk, R. (2005). "Decibel Hell: The Effects of Living in a Noisy World". *Environmental Health Perspectives*, Vol. 113, (1), p.34-41.

## D

De Been, I., & Beijer, M. (2014). "The influence of office type on satisfaction and perceived productivity support". *Journal of Facilities Management*, Vol.12, p.142-157. DOI: 10.1108/JFM-02-2013-0011

Dionisi, A.M., & Barling, J. (2018). "It Hurts Me Too: Examining the Relationship Between Male Gender Harassment and Observers' Well-Being, Attitudes, and Behaviors". *Journal of Occupational Health Psychology*, Vol. 23, (3), p.303-319. DOI: <http://dx.doi.org/10.1037/ocp0000124>

Dogu, U., & Erkip, F. (2000). "Spatial factors affecting wayfinding and orientation". *Environment and Behavior*, Vol. 32, (6), p.731-755.  
<http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.920.208&rep=rep1&type=pdf>

## E

Employment and Social Development Canada. (2016). "Psychological Health in the Workplace". <https://www.canada.ca/en/employment-social-development/services/health-safety/reports/psychological-health.html>

Employment and Social Development Canada. (2017). "Flexible work arrangements: What was heard". <https://www.canada.ca/en/employment-social-development/services/consultations/what-was-heard.html>

Employer Panel for Caregivers. (2015). "When Work and Caregiving Collide: How Employers Can Support Their Employees Who Are Caregivers". Employment and Social Development Canada. [http://publications.gc.ca/collections/collection\\_2015/edsc-esdc/Em12-8-2015-eng.pdf](http://publications.gc.ca/collections/collection_2015/edsc-esdc/Em12-8-2015-eng.pdf)

## F

Fast, J. (2015). "Caregiving for Older Adults with Disabilities: Present Costs, Future Challenges". Institute for Research on Public Policy Study. <http://bit.ly/2jAH6yv>

Ferri-Reed, J. (2014). "Millennializing the Workplace". *The Journal for Quality and Participation*, Vol. 37, (1), p.13-14. <https://search.proquest.com/openview/ac4198575af0de1c6f17622737bba2b6/1?pq-origsite=gscholar&cbl=37083>

## G

Gerdenitsch, C., Korunka, C., & Hertel, G. (2018). "Need-Supply Fit in an Activity-Based Flexible Office: A Longitudinal Study During Relocation". *Environment and Behavior*, Vol. 50, (3), p.273-297. DOI: <https://doi.org/10.1177/0013916517697766>

Gibson, J. W., Greenwood, R. A., & Murphy, E. F. (2009). "Generational Differences in the Workplace: Personal Values, Behaviors and Popular Beliefs". *Journal of Diversity Management*, Vol. 4, (3). <https://clutejournals.com/index.php/JDM/article/view/4959/5051>

Group dynamics and focus group research. (2007). In Stewart, D. W., Shamdasani, P. N., & Rook, D. W. Applied Social Research Methods: Focus groups, p. 19-36. Thousand Oaks, CA : SAGE Publications, Ltd. DOI: 10.4135/9781412991841

Gonzalez, I., & Morer, P. (2016). "Ergonomics for the inclusion of older workers in the knowledge workforce and a guidance tool for designers". Applied Ergonomics, Vol. 53, p.131-142.

## H

Haapakangasa, A., Hallman, D.M., Mathiassena, S.E., & Jahncke, H. (2018). "Self-rated productivity and employee well-being in activity-based offices: The role of environmental perceptions and workspace use". Building and Environment, Vol. 145, p.115-124. DOI: <https://doi.org/10.1016/j.buildenv.2018.09.017>

Herman Miller. (2017). "Autonomy at Work: Create workplaces that give people the freedom to choose where and how they accomplish their goals". <https://www.hermanmiller.com/research/categories/white-papers/autonomy-at-work/>

Hess, J. A. (1993). "Assimilating newcomers into an organization: a cultural perspective". Journal of Applied Communication, Vol. 21, p.189-210. DOI: <https://doi.org/10.1080/00909889309365366>

Hirst, A. (2011). "Settlers, vagrants and mutual indifference: unintended consequences of hot-desking". Journal of Organizational Change Management, Vol. 24, p.767-788. DOI: <http://dx.doi.org/10.1108/09534811111175742>

Hirst, A., & Schwabenland, C. (2018). "Doing gender in the 'new office'". Gender, Work and Organization, Vol. 25, (2), p.159-176. DOI: 10.1111/gwao.12200

Hoendervanger, J.G., De Been, I., Van Yperen, N.W., Mobach, M.P., & Albers, C.J. (2016). "Flexibility in use". Journal of Corporate Real Estate, Vol. 18, (1), p.48-62. DOI: <https://doi.org/10.1108/JCRE-10-2015-0033>

Hoendervanger, J.G., Ernst, A.F., Albers, C.J., Mobach, M.P., & Van Yperen, N.W. (2018). "Individual differences in satisfaction with activity-based work environments". PLoS ONE, Vol. 13, (3). DOI: <https://doi.org/10.1371/journal.pone.0193878>

## I

Indian Affairs and Northern Development. (2003). "Aboriginal Workforce Participation Initiative (AWPI) Employer Toolkit". <https://www.seda.sk.ca/images/File/employer-resources/aboriginal-toolkit.pdf>

Indigenous Services Canada. (2019). "Indigenous Services Canada". <https://www.canada.ca/en/indigenous-services-canada.html>

IPSOS. (2000). "Stress in the Canadian Workplace". <https://www.ipsos.com/en-ca/stress-canadian-workplace>

## J

Justice Laws. (1995). "Employment Equity Act". <https://laws-lois.justice.gc.ca/eng/acts/e-5.401/page-1.html>

## K

Keeling, T, Clements-Croome, D., & Roesch, E. (2015). "The Effect of Agile Workspace and Remote Working on Experiences of Privacy, Crowding, and Satisfaction". *Buildings*, Vol. 5, (3), p.880-898. <http://files.eric.ed.gov/fulltext/EJ1091070.pdf>

Kim, J., & De Dea, R. (2013). "Workspace satisfaction: The privacy-communication trade-off in open-plan offices". *Journal of Environmental Psychology*, Vol. 36, p.18-26. <https://www.sciencedirect.com/science/article/abs/pii/S0272494413000340?via%3Dihub>

Kirton, M. (1980). "Adaptors and innovators in organizations". *Human Relations*, Vol. 33, p.213-224. DOI: 10.1177/001872678003300401

Kupritz, V.W. (2005). "The Impact of Architectural Privacy Features on Performance, Stress and Informal Learning: Phase III Study". Haworth. <http://media.haworth.com/asset/28578/The-impact-of-architectural-privacy-features-on-performance-stress-and-informal-learning-phase-31.pdf>

## L

Lawrence, L.R., & King Jr, J.E. (2008). "Determinant of religious expression in the workplace". *Culture and Religion*, Vol. 9, (3), p.251-265. DOI: 10.1080/14755610802535595

Leesman. (2017). "The rise and rise of Activity Based Working". [http://www.leesmanindex.com/The\\_Rise\\_and\\_Rise\\_of\\_Activity\\_Based\\_Working\\_Research\\_book.pdf](http://www.leesmanindex.com/The_Rise_and_Rise_of_Activity_Based_Working_Research_book.pdf)

Lenore Mulligan, K. (2001). "A Culture of Respect; An Examination of Organizational Factors that Optimize the Attraction and Retention of Aboriginal Employees". National Library of Canada. <http://www.collectionscanada.gc.ca/obj/s4/f2/dsk3/ftp04/MQ59511.pdf>

Lucas, S. (2018). "Flexible Working, Solid Facts". Regus research publication. <https://issuu.com/sgianotis/docs/regus-flexible-working-solid-facts>

## M

Maia de Guimarães, B. (2012). "Ergonomics and workplace adaptation to people with disabilities". Federal University of Pernambuco. DOI: 10.3233/WOR-152013

Mental Health Commission of Canada. (2013). "Making the case for investing in mental health in Canada". [https://www.mentalhealthcommission.ca/sites/default/files/2016-06/Investing\\_in\\_Mental\\_Health\\_FINAL\\_Version\\_ENG.pdf](https://www.mentalhealthcommission.ca/sites/default/files/2016-06/Investing_in_Mental_Health_FINAL_Version_ENG.pdf)

Metin, B. (2018) "HR analytics: autonomy and employee engagement" <https://www.effactory.com/knowledge/blog/hr-analytics-autonomy-and-employee-engagement/>

Mort, J., & Knapp, J. (1999). "Integrating Workspace Design, Web-Based Tools and Organizational Behavior". *Research-Technology Management*, Vol. 42, (2), p.33-40. DOI: 10.1080/08956308.1999.11671271

## O

Organisation for Economic Co-operation and Development. (2018). "Indigenous Employment and Skills Strategies in Canada". DOI: <https://doi.org/10.1787/9789264300477-5-en>

Oreg, S. (2003). "Resistance to change: Developing an individual differences measure". *Journal of Applied Psychology*, Vol. 88, p.680-693. DOI: 10.1037/0021-9010.88.4.680

Oreg, S. (2006). "Personality, context, and resistance to organizational change". *European Journal of Work & Organizational Psychology*, Vol.15, p.73-101. DOI: 10.1080/13594320500451247

## P

Public Services and Procurement Canada. (2018). "Activity based workplace". <https://www.tpsgc-pwgsc.gc.ca/biens-property/mt-wp/mtaa-abw-eng.html>

Public Services and Procurement Canada. (2018). "GCworkplace: A modern workplace for the new public service". <https://www.tpsgc-pwgsc.gc.ca/biens-property/mt-wp/mt-wp-eng.html>

Patel, T. (2016). "Exploring the effectiveness of non-territorial workspace at alternate workplaces". *Graduate Theses and Dissertations*. <https://lib.dr.iastate.edu/etd/15990>

Pullen, W. (2014). "Age, office type, job satisfaction and performance". *Work&Place*, Vol. 3, (2), p.18-23. <http://workplaceinsight.net/wp-content/uploads/2014/08/Work+Place4mje.pdf>

## R

Ramage-Morin, P.L., & Gosselin, M. (2018). "Canadians vulnerable to workplace noise". *Statistics Canada*. <https://www150.statcan.gc.ca/n1/pub/82-003-x/2018008/article/00002-eng.htm>



Research on Aging, Policy and Practice. (2011). "Employment Consequences of Family/Friend Caregiving in Canada". University of Alberta. <https://rapp.ualberta.ca/wp-content/uploads/sites/49/2018/04/2011EmploymentConsequencesFFCaregiving.pdf>

Robinson, J.E. (2000). "Access to employment for people with disabilities: findings of a consumer-led project". *Disability and Rehabilitation*, Vol. 22, p.246-253. DOI: 10.1080/096382800296818

## S

Schur, L., Colella, A., & Adya, M. (2016). "Introduction to special issue on people with disabilities in the workplace". *The International Journal of Human Resource Management*, Vol. 27, (14), p.1471-1476. DOI: 10.1080/09585192.2016.1177294

Schur, L., Kruse, D., Blasi, J., & Blanck, P. (2009). "Is disability disabling in all workplaces? Workplace disparities and corporate culture". *Industrial Relations*, Vol. 48, p.381-410. DOI : <https://doi.org/10.1111/j.1468-232X.2009.00565.x>

Shier, M., Graham, J., & Jones, M. (2009). "Barriers to employment as experienced by disabled people: A qualitative analysis in Calgary and Regina, Canada". *Disability & Society*, Vol. 24, p.63-75. DOI: 10.1080/09687590802535485

Sinha, M. (2012). "Portrait of Caregivers, 2012". General Social Survey, Statistics Canada. <http://www.statcan.gc.ca/pub/89-652-x/89-652-x2013001-eng.htm>

Sox, C.B., Campbell, J.M, Kline, S.F., Strick, S.K., & Crews, T.B. (2016). "Technology use within meetings: a generational perspective". *Journal of Hospitality and Tourism Technology*, Vol. 7, (2), p.158-181

Srinivasan, Vasanthi. (2012). "Multi generations in the workforce: Building collaboration". *Organisational Behaviour and Human Resources Management*, Indian Institute of Management Bangalore, India. <https://www.sciencedirect.com/science/article/pii/S0970389612000055>

Statistics Canada. (2018). "Labour force characteristics, monthly, seasonally adjusted and trend-cycle, last 5 months". <https://www150.statcan.gc.ca/t1/tbl1/en/cv.action?pid=1410028701#timeframe>

Statistics Canada. (2017). "Study: Women in Canada: Women with Disabilities". <https://www150.statcan.gc.ca/n1/daily-quotidien/170529/dq170529a-eng.htm>

Statistic Canada. (2017). "Visible Minority and Population Group Reference Guide, Census of Population, 2016". <https://www12.statcan.gc.ca/census-recensement/2016/ref/guides/006/98-500-x2016006-eng.cfm>

Stainback, K., & Irvin, M. (2012). "Workplace racial composition, perceived discrimination, and organizational attachment". *Social Science Research*, Vol. 41, p.657-670

## T

Takao, M., & Tietze, S. (2012). "From anxiety to assurance: concerns and outcomes of telework". *Personnel Review*, Vol. 41, (4), p.450-469,

Treasury Board of Canada Secretariat. (2018). "Demographic Snapshot of Canada's Federal Public Service, 2017". <https://www.canada.ca/en/treasury-board-secretariat/services/innovation/human-resources-statistics/demographic-snapshot-federal-public-service-2017.html>

Treasury Board of Canada Secretariat. (2017). "Employment Equity in the Public Service of Canada for the fiscal year 2016 to 2017: Statistical tables". <https://www.canada.ca/en/treasury-board-secretariat/services/values-ethics/diversity-equity/employment-equity-annual-reports/employment-equity-public-service-canada-2016-2017-statistical-tables.html>

Turcotte, M. (2011). "Women and Health". Statistics Canada. <https://www150.statcan.gc.ca/n1/pub/89-503-x/2010001/article/11543-eng.htm#a14>

## V

Van Yperen, N., Rietzschel, E., & De Jonge, K. (2014). "Blended Working: For Whom It May (Not) Work". PLoS ONE, Vol. 9, (7), p.1-8. DOI: <https://doi.org/10.1371/journal.pone.0102921>

Van Yperen, N., & Wörtler, B. (2017). "Blended working". Hertel G, Stone D, Johnson R, & Passmore J, The Wiley-Blackwell Handbook of The Psychology of the Internet at Work. DOI: <https://doi.org/10.1002/9781119256151.ch8>

## W

Wang, J., Patten, S., Currie, S., Sareen, J., & Schmitz, N. (2011) "Perceived Needs for and Use of Workplace Accommodations by Individuals With a Depressive and/or Anxiety Disorder", Journal of occupational and environmental medicine / American College of Occupational and Environmental Medicine, Vol. 53, (11), p.1268- 1272.

Waber, B., Magnolfi, J., & Lindsay, G. (2014). "Workspaces that move people". Harvard Business, Vol. 92, (10), p.68-77.

Wells, M. (2000). "Office Clutter or Meaningful Personal Displays: The Role of Office Personalization on Employee and Organizational Well-Being". Journal of Environmental Psychology, Vol. 20, (3), p.239-255. DOI: <https://doi.org/10.1006/jevp.1999.0166>

Wohler, C., Hartner-Tiefenthaler, M., & Hertel, G. (2017). "The Relation Between Activity-Based Work Environments and Office Workers' Job Attitudes and Vitality". Environment and Behavior, p.1-32. DOI: <https://doi.org/10.1177/0013916517738078>

Wohlers, C., & Hertel, G. (2017). "Choosing where to work at work – towards a theoretical model of benefits and risks of activity-based flexible offices". Ergonomics, Vol. 60, (4), p.1-20. DOI: <http://dx.doi.org/10.1080/00140139.2016.1188220>

## Z

Zimmerman, T., Gavrilova-Aguilar, M., & Cullum, P. (2013). "Rethinking Human Resource Strategies: A Shift in the Treatment of Contingent Workers". *International Journal of Business and Management*, Vol. 8, (7), p.28-34. <http://www.ccsenet.org/journal/index.php/ijbm/article/view/24181/15905.html>

Zurbrugg, L., & Miner, K. N. (2016). "Gender, Sexual Orientation, and Workplace Incivility: Who Is Most Targeted and Who Is Most Harmed?". *Frontiers in Psychology*. Vol.7, (565). DOI: 10.3389/fpsyg.2016.00565

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