Generation Z and Technology

Constructing Tomorrow's Boundary Spanners

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Abstract

The Canadian Armed Forces (CAF) are increasingly being called upon to conduct a wider array of missions, from full spectrum warfare to disaster relief, and to coordinate with a more diverse representation of players than ever before (Lindsay & Foster, 2011). As such, research has begun to consider the future individuals who will be living out these missions and relationships, and the skillsets and worldviews they bring to the table (e.g., Bélanger & Lew, 2011; Dunn & Jesion, 2007; Erwin, 2008; Garrett, 2011; Hyler, 2013; Smillie, 2010; Smith, 2009; Tanner, 2010; Vaughan, 2010; Westermeyer, 2008; Wiley, 2008). This report is part of a larger project that examined 21st century cohort values, attitudes and career expectations in order to provide potential answers to the question of how to link the Post-Millennial cohort's skillsets with future evolving defence missions, strategies and goals (Okros, 2011). Specifically, the purpose of this report is to examine the influence of the internet and related technologies on the 21st century cohort with an emphasis on aspects relevant to defence (Okros, 2011). This was accomplished through an analysis of the social construction and implications of Post-Millennial access to interactive media and web technology, an integral part of this generation's social experience in constructing their values and career expectations. The authors begin by providing a background primer on current thinking regarding generational cohorts, the position of Post-Millennials within the generational cycle and the characteristics that are thought to represent each of the generations, in particular that of the Post-Millennials. The report continues with a description of the methodology employed and the data that were consulted and analyzed during the course of this study, followed by the results of these analyses. The report concludes with a discussion of the findings, with an emphasis upon the values, attitudes and skillsets of the Post-Millennial cohort and how these may complement the future complex mission environment faced by CAF today and in the future.

Significance to Defence and Security

This report represents one piece of a larger research project, led by Dr. Al Okros, entitled "Harnessing 21st Century Skills," the goal of which is to define 21st century skills and provide potential answers to the question of how to link the Post-Millennial (often called Generation Z) cohort's skillsets with future evolving defence missions, strategies and goals.

The current report focused on the analysis of three datasets that were triangulated in order to pinpoint the manner in which youth access to the internet and related technologies may be constructing the youngest generation's values, beliefs, worldviews and career expectations, and how these might mesh with expectations of the future mission environment faced by the CAF. Results suggest that these influences are constructing a generation with a unique understanding of the world and of their position within it that may indeed prove key in navigating today's complex global environment.

Résumé

Les Forces armées canadiennes (FAC) sont de plus en plus appelées à exécuter une vaste gamme de missions, allant de l'ensemble du spectre de la guerre au secours en cas de catastrophe, et à assurer la coordination avec une représentation d'intervenants plus diversifiée que jamais auparavant (Lindsay et Foster, 2011). Par conséquent, des recherches ont été entreprises afin de tenir compte des personnes qui participeront à ces missions et qui établiront ces relations, ainsi que de leurs compétences et de leurs visions du monde (p. ex., Bélanger et Lew, 2011; Dunn et Jesion, 2007; Erwin, 2008; Garrett, 2011; Hyler, 2013; Smillie, 2010; Smith, 2009; Tanner, 2010; Vaughan, 2010; Westermeyer, 2008; Wiley, 2008). Le rapport fait partie d'un vaste projet portant sur les valeurs, les attitudes et les aspirations professionnelles d'une cohorte du 21e siècle; il vise à répondre à la question suivante : Comment lier les ensembles de compétences de la cohorte du nouveau millénaire (génération Z) aux missions, aux stratégies et aux objectifs évolutifs en matière de défense (Okros, 2011)? Plus précisément, l'objet du rapport consiste à examiner l'influence d'Internet et des technologies connexes sur la cohorte du 21e siècle, en mettant l'accent sur les aspects ayant trait à la défense (Okros, 2011). Pour ce faire, on a effectué une analyse de la construction sociale et de l'incidence de l'accès aux médias interactifs et aux technologies du Web du nouveau millénaire, lesquels font partie intégrante de l'expérience sociale de la présente génération quant à l'établissement de ses valeurs et de ses aspirations professionnelles. Les auteurs commencent par présenter un document d'information de base sur les réflexions actuelles concernant les cohortes générationnelles, les prises de position de la génération du nouveau millénaire à l'intérieur du cycle générationnel et les particularités qui semblent caractériser chaque génération, surtout celles du nouveau millénaire. Le rapport présente ensuite une description de la méthodologie utilisée, les données consultées et analysées pendant la recherche, ainsi que les résultats de ces analyses. Le rapport se termine par un examen des conclusions, lequel met l'accent sur les valeurs, les attitudes et l'ensemble des compétences de la cohorte du nouveau millénaire et sur la façon dont ceux-ci peuvent contribuer à l'environnement de mission complexe des FAC d'aujourd'hui et de demain.

Importance pour la défense et la sécurité

Le présent rapport fait partie d'un vaste projet de recherche dirigé par M. Al Okros et intitulé « Harnessing 21st Century Skills », dont l'objet consiste à définir les compétences du 21e siècle et à fournir des réponses possibles à la question suivante : Comment lier les ensembles de compétences de la cohorte du nouveau millénaire (souvent appelée la génération Z) aux missions, aux stratégies et aux objectifs évolutifs en matière de défense?

Le rapport est axé sur l'analyse de trois ensembles de données qui ont été recoupés afin d'établir comment l'accès des jeunes à Internet et aux technologies connexes peut déterminer les valeurs, les croyances, les visions du monde et les aspirations professionnelles de la nouvelle génération et comment ceux-ci pourraient être jumelés aux attentes des futurs environnements de mission des FAC. Les résultats donnent à penser que ces influences construisent une génération ayant une compréhension unique du monde et que sa position au sein de celui-ci pourrait s'avérer très importante dans le contexte mondial complexe d'aujourd'hui.

Table of Contents

List of Tables

Acknowledgements

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1 Introduction

1.1 Background

As it is often said, change is the only constant. While the world continues to evolve around us, there is widespread acknowledgement that the complex mission environments faced by the Canadian Armed Forces (CAF)[1] in recent memory are representative of what is to come.

Indeed, as indicated in the Canadian Forces Joint Publication 3.0-Operations, the CAF must be prepared to "conduct the full range of combat and non-combat operations as circumstances dictate, including support to humanitarian-assistance and civil development tasks carried out as part of a comprehensive-approach strategy" (2011, p. 8.3). Further, the Vice Chief of the Defence Staff Command and Control Operating Concept suggests that "a key driver for this operating concept is the need to act within a comprehensive approach to operations within which the CF must collaborate in almost every instance with other government departments and alliance partners" (2012, p. 1). In short, in order "to succeed operationally, the CAF need to be prepared to work in organizationally diverse environments" (Defence S&T Strategy, 2013).

Research addressing the human dimension of these complex mission environments, whether they involve joint, interagency, multinational, or public (JIMP) players, has primarily focused on understanding and improving the relationship between the CAF and other players in the mission environment (Holton, Febbraro, Filardo, Barnes, Fraser, & Spiece, 2010; Thomson, Adams, Hall, & Flear, 2010). Such research has concentrated on identifying where the relationships between these players function and where they falter, as well as on identifying the competencies, skills, training and education needed to result in successful interactions (Scoppio, Idzenga, & Miklas, 2009; Scoppio, 2010; Thomson, Hall, & Adams, 2010; Brown & Adams, 2011).

The individuals who conduct these missions, the worldviews and skills they have that make some of them successful at interacting with other cultures, whether national or organizational, have also been a focus of research. For instance, research has examined the characteristics of those who are often termed "boundary spanners." Boundary spanners are "organizational members who link their organization with the external environment" (Langford & Hunsicker, 1995, p. 2). Given the right circumstances, they are individuals who possess the skills, competencies and behaviours necessary to shape and manage interactions across organizational cultures (Williams, 2002). Perrone, Zaheer, and McEvily (2003) suggest that with a certain amount of role autonomy, a boundary spanner is able to use their skills to form and facilitate networks and influence trust, thus allowing for the possibility of avoiding or overcoming a breakdown in networks. Identifying, developing or enhancing the behaviour and skills of boundary spanners through training and education may serve as a means to "build agile and adaptable forces to carry out missions across a wide spectrum of operations" (Defence S&T Strategy, 2013).

The CAF are being called upon to conduct a wider array of missions, from full spectrum warfare to disaster relief, and to coordinate with a more diverse representation of players than ever before

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[1] Both Canadian Armed Forces (CAF) and Canadian Forces (CF) are terms that have been used by the Government of Canada to refer to its military forces. In 2013, the Canadian government changed the official name of their military from the Canadian Forces to the Canadian Armed Forces.

(Lindsay & Foster, 2011). Research has begun to consider the future individuals who will be living out these missions and relationships, and the skillsets and worldviews they bring to the table (e.g., Bélanger & Lew, 2011; Dunn & Jesion, 2007; Erwin, 2008; Garrett, 2011; Hyler, 2013; Smillie, 2010; Smith, 2009; Tanner, 2010; Vaughan, 2010; Westermeyer, 2008; Wiley, 2008). This report represents one portion of such a research project, led by Dr. Al Okros, entitled, "Harnessing 21st Century Skills." The purpose of this research project is to "position Defence for success in 2020 by conducting an integrative, multidisciplinary and forward looking assessment of the characteristics of the Post-Millennial cohort and in particular, the impact of emerging open information (smart web) technologies" (Okros, 2011). The goal of this project is to define 21st century skills and provide potential answers to the question of how to link the Post-Millennial (often called Generation Z) cohort's skillsets with future evolving defence missions, strategies and goals.

The present report addresses the component of the project that examines "21st Century cohort values, attitudes and career expectations with an emphasis on values relevant to Defence, including diversity, teamwork, ethical reasoning and cross-cultural openness" (Okros, 2011). This will be accomplished through an analysis of the social construction and implications of Post-Millennial access to interactive media and web technology, an integral part of this generation's social experience in constructing their values and career expectations. Social construction, the "tradition of scholarship that traces the origin of knowledge and meaning and the nature of reality to processes generated within human relationships" (Gergen & Gergen, 2008, p. 816) will serve as a means to understand and dissect the common discourse surrounding this cohort's relationship to the internet and related technology and the influence this may have on their own worldviews.

Understanding the context within which Post-Millennials have been born and are currently being raised will be crucial to this type of analysis. Therefore, this report will begin by providing a background primer on current thinking regarding generational cohorts, the position of Post-Millennials within the generational cycle and the characteristics that are thought to represent each of the generations, in particular that of the Post-Millennials. This report will continue with a description of the methodology employed and the data that were consulted and analyzed during the course of this study followed by a presentation of the results of analyses. It will conclude with a discussion of the findings, with an emphasis upon the values, attitudes and skillsets of the Post-Millennial cohort and how these may complement the complex mission environment faced by CAF today and in the future.

1.1.1   Generations: Context

The notion of generational cohorts may seem slightly abstract, but put simply, a new generational cohort emerges whenever there has been at least one of the following: 1) a substantial behavioural change; 2) shared significant historical experiences; or 3) a significant change in live births per year (Erickson, 2008; Howe & Strauss, 2000; Rainer & Rainer, 2011; Tapscott, 1998). Howe and Strauss (2000) maintain that birth numbers are only one factor in defining a generation and not necessarily a critical one. The more important factor is that of a generational persona, which incorporates perceived membership, common beliefs and behaviours as well as a common location in history. Understandably, there is no "exact science" regarding dates encompassing a generation and it is not unusual for dates to vary by 5 to 10 years depending on the source, as "…a generation can allow plenty of individual exceptions and be fuzzy at the edges"

(Howe & Strauss, 2000, p. 41). While acknowledging that these boundaries are somewhat arbitrary, in the following contextual summary of the current generations, this report will outline the dates most commonly used to represent each generation. Currently, our workforce is comprised primarily of three distinct generations (Baby Boomers, Generation X and Millennials), with another generation (Post-Millennials) poised to enter the workforce.

1.1.1.1 Baby Boomers

The Baby Boomers (born 1946–1964) are approximately 70–80 million strong in the United States and number just over 9 million in Canada (Brinckerhoff, 2007; Espinoza, Ukleja, & Rusch, 2010; Statistics Canada, 2012; United States Census Bureau, 2013). This generation is often described as competitive, optimistic, wary of institutions, self-centered, materialistic, countercultural and independent (Brinckerhoff, 2007; Espinoza et al., 2010; Howe, 2012; Martin & Tulgan, 2006; Oblinger & Oblinger; 2005; Rainer & Rainer, 2011; Wilcox, 2001). The majority were raised by stay-at-home mothers (Rainer & Rainer, 2011). They witnessed the women's liberation and the civil rights movements and protested in favour of equality for everyone (Espinoza et al., 2010; Meister & Willyerd, 2010; Lancaster & Stillman, 2002). Televisions, available to the public after the opening of the World's Fair in 1939, greatly impacted how the Boomers became informed and viewed world events (Brinckerhoff, 2007; Lancaster & Stillman, 2002; Meister & Willyerd, 2010; Monaghan, n.d.; Simon, n.d.). Through this new medium, Boomers did not simply hear about world events such as the Vietnam and Cold War, Woodstock, the Kennedy assassinations, or the landing of the "first man on the moon," they saw it happen (Espinoza et al., 2010; Meister & Tapscott, 1998; Willyerd, 2010). The creation of the computer significantly transformed their work lives, changing, for example, how they drafted reports and presented information (Meister & Willyerd, 2010). The sheer size of this generation accounts for their known competitiveness and ambition in the workplace as well as their desire for material wealth (Espinoza et al. 2010; Howe, 2012; Rainer & Rainer, 2011). It is not surprising that they were the initiators of the 60-hour work week; their work comes before their personal lives as there has always been someone else to fill their position (Espinoza et al., 2010; Hollis, 2012; Huhman, 2014; Lancaster & Stillman, 2002; Strausser, 2011).

1.1.1.2 Generation X

Generation X (born 1965–1979), with a population of approximately 45–55 million in the United States and 7 million in Canada, is a much smaller generation than their Boomer counterparts (Brinckerhoff, 2007; Lancaster & Stillman, 2002; Meister & Willyerd, 2010; Rainer & Rainer, 2011; Statistics Canada, 2012; U.S. Census Bureau, 2013; Wiggins, 2012). In 1965, the number of live births in the United States dropped from over 4 million to below 3.8 million (Martin, Hamilton, Ventura, Osterman, & Mathews, 2013; Rainer & Rainer, 2011). A similar trend was observed in Canada, with the number of births dropping from over 450,000 at the end of 1964 to below 371,000 in 1967 (Statistics Canada, 2014). Generation X (or "Gen X") was raised in what was often described in discourse as a society that was much less child-focused than previous generations. Their parents had the highest divorce and abortion rates, and it was not uncommon for Gen X parents to view their children as obstacles to their own self-exploration (Espinoza et al., 2010; Lancaster & Stillman, 2002; Martin & Tulgan, 2006; Raines, 2003). This generation had the highest rate of two-income families, resulting in a new family dynamic in which Gen X children arrived home from school before their parents returned from work. This

situation gave rise to the term "latchkey kids," often used in a negative manner by common discourses of the day when idealizing the traditional family unit (Dziuban, Moskal, & Futch, 2007; Espinoza et al., 2010; Lancaster & Stillman, 2002; Meister & Willyerd, 2010). This generation also witnessed and experienced the ramifications of several economic and social events including corporate downsizing, the AIDS epidemic, the Persian Gulf War, the space shuttle Challenger explosion and the 1987 stock market crash (Dziuban et al., 2007; Espinoza et al., 2010; Lancaster & Stillman, 2002; Martin & Tulgan, 2006; Meister & Willyerd, 2010). The invention of video games, cable TV and home computers all added to this generation's entertainment, with the latter also assisting them in their academic and career life (Brinckerhoff, 2007; Espinoza et al., 2010; Lancaster & Stillman, 2002). It is not surprising that members of this generation desire stability after their early-onset independence but that they are skeptical of working for only one company after witnessing extensive corporate layoffs (Brinckerhoff, 2007; Espinoza et al., 2010; Lancaster & Stillman, 2002; Rainer & Rainer, 2011, Raines, 2003). Entering the workforce in the shadow of the Boomer generation meant a job shortage for this generation, which added to their entrepreneurial tendencies (Brinckerhoff, 2007). They realized that in order to make a living they had to be resourceful, whether that meant frequent job changes or self-employment (Brinckerhoff, 2007; Espinoza et al., 2010; Lancaster & Stillman, 2002; Martin & Tulgan, 2006; Meister & Willyerd, 2010). Generation X saw their parents living to work and decided that they would rather work in order to live. They value work/life balance and often see technology as a means of flexibility in their work location (Dziuban et al., 2007; Espinoza, et al., 2010; Martin & Tulgan, 2006; Meister & Willyerd, 2010).

1.1.1.3   Millennials

Not only is there variation in the name of our workforce's youngest members—Millennials, Generation Y, Generation @, Generation Me, and Nexters to name a few—but there is some controversy over the start and end dates for the Millennial generation, depending on which factor or combination of factors are chosen to define this cohort. In general, the literature depicts two main timeframes for this generation, those born between 1977 and the mid-1990s and those born between 1980 and the early 2000s (Brinckerhoff, 2007; Espinoza, 2012; Meister & Willyerd, 2010; Moss, 2011; Raines, 2003; Rasmus & Salkowitz, 2009; Tapscott, 1998; The New Strategist Editors, 2006; Wiley, 2008; Zemke, Raines, & Filipczak, 1999).The latter suggests the potential for significant overlap with the initial year provided for the Post-Millennial generation, which itself ranges anywhere from those born after 1990 to those born after 2000 (Erickson, 2008; Espinoza et al., 2010; Malloy, 2012; Meister & Willyerd, 2010; The New Strategist Editors, 2006). Given the significant and varied noteworthy events that occurred during this timeframe, pinpointing a beginning and end date for this generation is a challenge (Garrett, 2011; Meister & Willyerd, 2010; Tapscott, 1998).

Digital technology, for example, has greatly influenced the behaviour of the Millennial generation, and represents a defining influence on this generation's characteristics, values, and expectations. Unlike any generation before them, the Millennial generation has seen unprecedented and rapid development in technology, and has had access to this technology since childhood (Brinckerhoff, 2007; Elmore, 2010; Erickson, 2008; Espinoza et al., 2010; Lancaster & Stillman, 2002; Meister & Willyerd, 2010; Prensky, 2006; Raines, 2003; Tapscott, 1998; Zemke et al., 1999). This generation had home computers before they entered school, saw the rapid growth of the World Wide Web (CERN, 2014), and witnessed the introduction and growth of cellphones and smartphones (Chowdhury, 2013; WebdesignerDepot.com, 2009).

Further, North America experienced a substantial increase in live births between 1978 and 1980, a boom that continued to grow until 1990, which then began slowly declining until 1997 in the United States and 2002 in Canada (Martin et al., 2013; Rainer & Rainer, 2011; Statistics Canada, 2014; Tapscott, 1998).

Despite the fact that it is a challenge to pinpoint a timeline for the Millennial generation given the numerous and significant changes that occurred over the course of their lives, for the purposes of this report, the Millennials, known for their "overscheduled" and "overprotected" childhoods and their optimistic, team oriented, vocal nature, will be defined as those born between 1980 and 1997. This range takes into account the boom and leveling off of births as well as the resulting differences in technology after widespread availability of the internet in 1991 and Wi-Fi devices in 1999 (CERN, 2014; Encyclopaedia Britannica Online, n.d.; The Economist, 2004). Consequently, the newest generation that is just beginning to enter our workforce, the Post-Millennials, will be defined as those born after 1997 (Erickson, 2008; Espinoza et al., 2010; Malloy, 2012; Meister & Willyerd, 2010; Rainer & Rainer, 2011; The New Strategist Editors, 2006; Vaughan, 2010; Welsh, 2012).

1.1.1.4 Post-Millennials

The newest generation already has a variety of aliases: the Post-Millennials, Generation Z, the 0 Generation, and Generation 2020 (Erickson, 2008; Espinoza et al., 2010; Malloy, 2012; Meister & Willyerd, 2010; The New Strategist Editors, 2006; Vaughan, 2010; Welsh, 2012). The eldest members of this generation are only now nearing adulthood and thus are not yet represented in the full-time workforce. Though estimated to be smaller in size than the Millennials, their population is still growing. So far, the Post-Millennial population is roughly 61 million in the United States and over 5 million in Canada (Espinoza et al., 2010; Statistics Canada, 2012; U.S. Census Bureau, 2013).

As with the Millennials, technology is a key player in how this generation is taking shape, perhaps to an even greater extent. While most Millennials will remember a time when encyclopedias were used to gather information instead of the internet, tapes or CDs were the common music storage devices instead of mp3 players or iPods, and phones were hooked up to the wall at home instead of freely transportable, Post-Millennials do not. This latter generation has grown up in a wireless society. Communication has become instant and transportable with new instant messaging internet applications and the creation of cell phones (Chowdhury, 2013; Kunins, 2010; Meister & Willyerd, 2010; Tyson & Cooper, 2001; WebdesignerDepot.com, 2009). Wi-Fi quickly extinguished dial-up internet connections, becoming the standard mode for internet connection on home computers, laptops, and cell phones (Encyclopaedia Britannica Online, n.d.; The Economist, 2004).

Along with changes in technology have come changes in the manner in which this generation interacts with one another. Text messaging and instant messaging have become more prevalent for Post-Millennials than e-mails – this generation's "snail mail" (Malloy, 2012). Facebook, Myspace, Disney's Club Penguin, Animal Jam and several other social media sites were up and running by the time this generation entered grade school (Disney Club Penguin, 2014; Meister & Willyerd, 2010; Phillips, 2007; Stenovec, 2011). Not surprisingly, Post-Millennials are said to be hyper-networked and highly connected (Meister & Willyerd, 2010; Prensky, 2001). Technology has allowed this generation to not only be connected to peers in their own community

but to peers globally (Espinoza, 2012). Post-Millennials are a generation for whom diversity is the norm (Malloy, 2012). This sense of global connection may deepen as technology and social media continue to evolve and allow for new ways to interact. Chip Espinoza (2012), author of *Millennial Integration: Challenges Millennials Face in the Workplace and What They can do About Them* notes, "[Millennials] are experiencing life together wherever they reside. There is little reason to believe that future generations will not be more so" (p. 133). Yet not everything being said about this generation is positive. There are concerns that individuals in this generation may not be able to discern what information is suitable to post on social media sites in order to not only maintain their professional image in the long-term but to maintain the security and privacy of work-related information (Malloy, 2012). Because of their tendency to communicate via texts and instant messages, they may have difficulty drafting longer documents (Malloy, 2012).

The following table outlines each of the generations discussed above and provides a summary of the timeline representing each generation as used in the current study, the range of dates for each generation presented in the literature, the population for each generation in Canada and the United States and the main characteristics commonly attributed to each generation.

Table 1: Generations Summary.

Common Title	Baby Boomers	Generation X	Millennials	Post-Millennials
Dates used for the present study	1946–1964	1965–1979	1980–1997	Born after 1997
Range of dates	1940–1960; 1943–1960; 1946–1962; 1946–1963 **Range: 1940–1964**	1960–1980; 1961–1981; 1963–1980; 1965–1976; 1965–1980; 1966–1977 **Range: 1960–1981**	1977–1994; 1977–1997; 1980–2000; 1981–1999; 1981–2002; 1984–2002 **Range: 1977–2002**	early 1990s; born after 2000; born after 1997; born after 1995
Canada	9 million +	7 million	8 million	5 million +
United States of America	70–80 million	45–55 million	65–75 million	61 million
Common words used to describe the generation	Competitive Optimistic Wary of institutions Self-centered Materialistic Independent Live to work	Latch-key Entrepreneurial Resourceful Work to live Flexibility Stability Work/life balance Skeptical	Tech savvy Optimistic Team-oriented Vocal Multi-tasking Impatient Sheltered Diverse Confident Pressured Achieving	Wireless Connected Diverse Socially responsible Globally networked Welcoming of diversity Security-risk Flexible learning style Social skills Educated Collaborative

2   Methodology

2.1   Analytic Framework

Social construction holds that the manner in which we understand the world is dependent on our social relationships (Gergen & Gergen, 2008). That is to say, how we interpret the world around us and what the world means to us is constructed through communication/social relationships we have with one another. From the moment we are born, we learn from our interactions to construct our reality. This is not to say that an object such as a chair or an event such as death are not real or do not exist unless we have constructed them, but rather that they have a particular meaning to us only because we have made sense of them through our interaction with one another (Edwards, Ashmore, & Potter, 1995). If it is within our social relationships, and through our communication with one another, that we construct and understand the world around us, then an analysis of the discourse surrounding Post-Millennials and their access to interactive media and web technology, so much a part of the Post-Millennial generation's social experience, may provide insight into the construction of their values, attitudes and eventual career expectations.

2.2   Data

Three forms of data were analyzed as a means of triangulating[2] on the social construction of the Post-Millennial generation's values, attitudes and eventual career expectations, and how these met or fell short of the values and attitudes viewed as important to the future complex missions to be carried out by the CAF.

The first set of data consisted of the academic literature regarding the Millennial generation, derived both from the general literature and that literature which focused on the impact of generational attributes on various aspects of importance to the military, such as leadership and recruitment. The Millennial cohort was included in this analysis as the wide range of dates often reported for the Millennial generation (from 1977 to 2003) overlap with the dates of the Post-Millennial cohort identified for the purposes of this study (1997–present). Thus, this literature and the themes within it are representative of some of the values, worldviews and career expectations of this study's target group.

The second set of data consisted of an open literature search on Google, using the keywords "generation Z and technology." Since the Post-Millennial generation is currently made up of children and teenagers, there have been few studies conducted on this cohort regarding the construction of values and worldviews, particularly as they pertain to workplace expectations. Therefore, this dataset was included within the study as a means of tapping into current discourses surrounding the newest generation and their relationship to technology. The search results from the first 10 Google pages, resulting in 55 documents, were printed and used as a

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[2] Triangulation, through the use of a number of sources, is a common method used to determine validity and saturation of qualitative findings. If data from the sources compared reveal similar findings it suggests that the important themes have been identified. This is not to suggest that differences between the different sources should be ignored; as with all qualitative research, context produces variability, which is also an important source for understanding and interpreting the data.

dataset representative of common online discourses surrounding the topic of the upcoming generation and their relationship to technology.

The third set of data was derived from 70 archival interviews conducted between 2009 and 2013 addressing, among other things, the characteristics required of military members working in complex, comprehensive approach missions of the present and those anticipated for the future.[3] [4]

Each set of data was analyzed using traditional qualitative methodologies, including the generation of themes based on the content from each set of data and the interpretation of these themes. Findings from each data source were compared and common themes were identified, as well as themes unique to each dataset, some of which deviated from the common findings. These unique and deviant cases were examined and analyzed to account for the differences. As is often the case in qualitative research, this process of analyzing differences as well as commonalities in themes allowed for further insight into the findings, thus strengthening the analysis.

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[3] Please note that permission was obtained from the head of the DRDC Human Research Ethics Committee (HREC) prior to the use of this data for secondary analysis.
[4] These interviews were conducted for previous DRDC projects related to the comprehensive approach/civil-military collaboration. Participants included CAF military members, other government departments and non-governmental organizations among others (see also Holton, Febbraro, Barnes, Filardo, Fraser, & Spiece, 2010; Thomson, Adams, Hall, & Flear, 2010; and Thomson, Adams, Hall, Brown, & Flear, 2011a, b).

3   Results/Analyses

3.1   Millennial Literature Dataset (Dataset 1)

In order to gain a comprehensive understanding of the Millennial generation, particularly with respect to recruitment and retention in defence, an initial literature search was performed in the CANDID, ProQuest Dialog and ERIC databases as well as EBSCO's "Military and Government Collection," using the following terms: Generation Y, Millennials, Armed forces, Defence, Defense, Army, CF, Generation Cohort. This initial search generated 21 pertinent sources. Once these initial sources were scanned for various themes and patterns, it became apparent that several primary sources that were referenced in these reports, dissertations, articles and books would further our knowledge of the Millennials. Forty-four of these primary sources were collected and scanned for relevant information. All documents were used as qualitative data and were analyzed as a means of understanding main themes in the construction of the Millennial generation's worldviews and career expectations.

3.1.1   Defined By Technology

Perhaps the most intriguing pattern in the literature examined is that of the Millennial generation's relationship to technology (Brinckerhoff, 2007; Erickson, 2008; Espinoza, 2012; Lancaster & Stillman, 2002; Meister & Willyerd, 2010; Tapscott, 1998; Tulgan, 2009; Zemke et al., 1999). Born into a world where technology has evolved rapidly, Millennials came of age in the time of the internet, instant messaging, cell phones, computers and video games (Prensky, 2001). As technology advanced, it has been integrated into the way Millennials work, the way they are entertained, the means through which they communicate and socialize, and the manner in which they gather information.

Often referred to as digital natives, this generation has been the first to grow up with cell phones as an easily accessible mode of communication and a necessary factor in their social lives (CTIA & Harris Interactive, 2008; Erickson, 2008; Prensky, 2006; Rainer & Rainer, 2011). For this generation, cellphones are not used simply to make phone calls; they are frequently used to communicate via text, to shop, to play games, to listen to music and to interact with peers on social networking sites. Texting has become a preferred mode of communication for this generation, with Millennials choosing to text in order to send a message quickly without needing to speak with the recipient (CTIA & Harris Interactive, 2008; Erickson, 2008; Prensky, 2006; Rainer & Rainer, 2011). Efficiency has already been noted as an important value for this generation, which goes hand-in-hand with their need and notable ability to multitask[5] (Elmore, 2010; Espinoza, 2012; Field, 2008; Hyler, 2013; Lancaster & Stillman, 2002; Prensky, 2006). The widespread use of portable devices, video games, and internet search engines allow

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[5] Of note, it has been suggested that there is a great deal of variation in the literature regarding the conceptualisation of multitasking and Kenyon (2010) suggests a need for clarification regarding the definition. Some, for example, define multi-tasking as a consecutive activity, where an individual switches from one task to another in a given block of time, while others define multitasking as a simultaneous activity where two tasks are done at the same time (Kenyon, 2010).

for feedback to be given instantly, setting a precedent for their everyday expectations, perhaps leading to impatience (Hyler, 2013; NAS Insights, 2014; Prensky, 2006; Wilcox, 2001).

Millennials perceive technology use as a defining characteristic of their generation (Pew Research Center, 2010). Interestingly, the majority of the literature sources examined referred to the manner in which technology has influenced this generation's approach to conducting their lives and their relationships as the truly distinct characteristic of this generation, rather than their technological savvy per se. The pattern in the articles examined suggests that it is the social implications of the use of technology that characterizes and constructs this generation.

3.1.2   Protected and Confident

Another pattern, related to shaping the worldview of the Millennial generation, is that of the unprecedented relationship this generation has with their parents. Howe and Strauss (2000), authors of *Millennials Rising: The Next Great Generation*, list seven distinguishing traits of the Millennial persona.[6] Of these seven traits, five are strongly related to the nurturing of the Millennials: sheltered, special, confident, pressured, and achieving. Parents of the Millennials have been very active in their children's lives, enrolling them in numerous activities and negotiating with teachers, coaches, professors, and employers on their children's behalf to ensure success (Howe & Strauss, 2000; Rainer & Rainer, 2011; Raines, 2002). Termed "helicopter parents" in the media and literature, these parents are often depicted as hovering over their child to safeguard against injury, whether it be physical or emotional.

Frequently referred to as "over-protective," the parents of the Millennial generation have rallied for safety in schools, playgrounds, cars and homes, often achieving changes in government legislation (Howe & Strauss, 2000). Millennials in turn feel they are the primary focus of their parents' attention, vital to their families as well as to their nation. They not only welcome the involvement of their parents, they seek it (Howe & Strauss, 2000; Rainer &Rainer, 2011). The added parental attention and strong parent/child relationships have been noted to give the Millennials a boost of confidence. Zemke et al. (1999) mention that "[b]y and large, their parents, two-thirds of them anyway – planned to have these kids, and these kids experience the confidence that comes from knowing you are wanted" (p.130). While feeling special and having confidence are both positive characteristics, the literature suggests that this attached relationship has, at times, led Millennials to feel pressured to succeed. Millennials have been taught to take advantage of opportunities that are offered to them, which has often resulted in an overscheduled life filled with activities and a focus on academics, especially math and science, leading to a lack of unstructured time and less time spent outdoors than previous generations (Howe, 2007; Howe & Strauss, 2000; Raines, 2002; Zemke et al., 1999). Millennials mirror their parents' desire to achieve academically and this generation may be on their way to becoming the most highly-educated to date (Hyler, 2013; Pew Research Centre, 2015). Hyler (2013) acknowledges that military recruitment may find it challenging to compete with the Millennials' desire for higher education.

Parents also had a strong influence on this generation's access to technology as the majority of Millennials were first acquainted with technology in their own home (Oblinger & Oblinger, 2005). Although a number of studies have noted that factors such as nationality, education and

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[6] The seven traits are: sheltered, special, confident, pressured, achieving, team-oriented, and conventional.

socioeconomic status have influenced exposure to and the type of technology available in the home, Millennials who did not have access at home were still exposed to various forms of technology in school and elsewhere (The Henry J. Kaiser Family Foundation, 2004). Speaking generally, the articles examined consistently indicate that parents of this generation were eager to provide whatever was needed in order for their children to succeed, to guide them toward their goal and shield them from harm's way. This pattern suggests that from birth Millennials have been constructed as unique and worth investing in, which has in turn influenced their expectations of themselves and their perception of what the world can and should provide to them.

3.1.3   Diverse Together

Another frequently mentioned topic within the literature is that of appreciation for diversity and a resulting desire for connectedness. According to the literature examined, Millennials are the most diverse generation to date. Indeed, in 2014, visible minorities made up approximately 43% of the adult American Millennial population and 23% of the Canadian Millennial population. This differs quite dramatically from the Baby Boomer population where visible minorities made up approximately 28% of the population in the United States and 15% in Canada (Pew Research Center, 2015; Statistics Canada, 2011). The articles examined suggested that Millennials are surrounded by diversity in their everyday lives (Brinckerhoff, 2007; Erickson, 2008; Rainer & Rainer, 2011) and that they are more likely to embody and appreciate other viewpoints, gender equality, differences in sexual orientation, non-traditional living arrangements, and interracial relationships than previous generations (Greenberg & Weber, 2008; Pew Research Center, 2010; Zemke et al., 1999). This particular pattern in the data constructs the Millennial cohort as worldwide citizens, with peers of varying backgrounds either next door or across the globe, and all accessible by a tap of a smartphone (Elmore, 2010; Erickson, 2008; Lancaster & Stillman, 2002). These worldwide connections have formed this generation into what is often referred to as a global cohort that is connected 24/7 (Brinckerhoff, 2007; Erickson, 2008; Espinoza, 2012; Garrett, 2011; Greenberg & Weber, 2008; Howe, 2007; Howe & Strauss, 2000; Lancaster & Stillman, 2002; Pew Research Center, 2010; Raines, 2003; Tulgan, 2009). Past generations' personas differed based on geographic location but Millennials, to a great extent, do not. They see the same world events occurring on their TV or livestreamed through their computer or other electronic device in real time, they can instant-message each other regardless of location and if need be, can hop on a plane for an in-person visit. They are experiencing defining moments of their lives globally "together" (Howe & Strauss, 2000; Raines 2002; Tulgan, 2009).

According to the documents examined, the experience and preference for togetherness has been part of the Millennial psyche from childhood. From the time they were in preschool, Millennials have been placed into teams for projects, sports, Girl Guides and Boy Scouts and much more. This early introduction to teamwork continued throughout their lives and was further enhanced by their ability to communicate instantaneously with each other (Espinoza et al., 2010; Howe, 2007; Raines, 2003; Tulgan, 2009; Zemke et al., 1999). Though frequently described as independent and unafraid of speaking to authority figures, the literature suggests that this generation enjoys working in inclusive teams that ensure no one is left behind (Deloitte, 2005; Elmore, 2010; Espinoza et al., 2010; Greenberg & Weber, 2008; Martin & Tulgan, 2006; Raines, 2003; Wilcox, 2001). The articles examined suggest that this inclusiveness and concern for others also encompasses society; they are civic-minded, consider the greater good and want to make a

difference, not only in their own community but in the global community to which they are constantly connected (Brinckerhoff, 2007; Cone Inc. & AMP Insights, 2006; Martin & Tulgan, 2006; Rainer & Rainer, 2011; Raines, 2002; Zemke et al., 1999). Raines (2003) indicates that "serve your community" is one of the main messages of this generation. In line with this message, several sources mention a high rate of volunteering within the Millennial cohort (Erickson, 2008; Fields, Wilder, Bunch, & Newbold, 2008; Greenberg & Weber, 2008; Howe & Strauss, 2000; Stafford & Griffis, 2008; Vézina & Crompton, 2012). Indeed, as of 2010, 15 to 24-year-olds have the highest volunteer rate in Canada at 58%, amplified perhaps by volunteer hours required by many Canadian high schools in order to graduate (Vézina & Crompton, 2012). According to the articles examined, this generation, influenced by global connections via the internet and related technology, has been exposed to global discourses. This in turn has allowed for an appreciation of diversity and a desire to connect and be a part of the global picture, rather than simply be influenced by their local surroundings and cohort.

3.1.4   Unconventional Career Expectations

The topic of unconventional expectations in the workplace emerged as another prevalent pattern in the Millennial literature. As noted above, the Millennials are known for their desire to make an impact on the world and that desire to make a difference appears to be an influential factor when deciding on their career path and workplace (Deloitte, 2005; Elmore, 2010; Lancaster & Stillman, 2002; PwC, 2011; Rainer & Rainer, 2011). Elmore (2010) sums up this notion nicely: "They love to throw themselves into something – but they must believe in it. They must feel it makes a difference… it's not just about mortgages. Or maintenance. Or money. It's about a mission" (p.160). Although Millennials do appear to purposely seek out employers who have the same values as themselves, the literature suggests that they highly value opportunities for career progression; competitive wages and other financial incentives; excellent training and development programs; good benefits packages including pensions, healthcare and other benefits; and flexible working arrangements (PwC, 2011). The literature suggested that Millennials also desire to advance rapidly in their career, so being in an environment where they must spend their time "slowly working their way up the ladder" does not mesh well with their ambitions (Moss, 2011; NAS Insights, 2014; Wiggins, 2012; Zemke et al., 1999).

According to the literature examined, Millennials expect there to be no boundary between the workplace and their personal lives (Mesiter & Willyerd, 2010; Moss, 2011; Rainer & Rainer, 2011; Wiggins, 2012). In fact, Meister and Willyerd (2010) explain that "Millennials live in 'weisure' time, the next step in work life, where work and leisure are one and the same" (p. 57). This expectation sets the tone for several of the workplace values and traits exhibited by this generation. With the busy, multitasking lives that this generation leads, they place high importance on having the flexibility to come and go as need be, in order to fulfill all of their life commitments (Deloitte, 2005; Elmore, 2010; Lowe, Levitt, & Wilson, 2008; Martin & Tulgan, 2006; Meister & Willyerd, 2010; Moss, 2011). When necessary, they will put in overtime but they expect to be able to leave early or come in late and to be paid for their accomplishments, not for the time that they put in (Elmore, 2010; NAS Insights, 2014). Elmore (2010) encountered a Millennial who summarized this view quite well: "You can always get more money, but you can never get more time" (p. 132). As with life in general, Millennials want to have fun at work and develop not only trust but good relationships with their supervisors and even friendships with their coworkers (Lancaster & Stillman, 2002; Lowe et al., 2008; Meister & Willyerd, 2010;

Moss, 2011; NAS Insights, 2014; Rainer & Rainer, 2011). As a logical extension of their experience and desire for teamwork, Millennials prefer a workplace that provides a team-setting, preferably with their peers (Deloitte, 2005; Espinoza et al., 2010; Lancaster & Stillman, 2002; Martin & Tulgan, 2006; NAS Insights, 2014). Millennials are also accustomed to a diverse environment and they seek a workplace that is representative of diversity (Espinoza et al., 2010; Lancaster & Stillman, 2002; Meister & Willyerd, 2010).

A company's organizational structure can hinder its appeal to Millennials if it appears to be too bureaucratic, one that follows a traditional command and control-style or hierarchical structure (Erickson, 2008; Lancaster & Stillman, 2002; Meister & Willyerd, 2010; Moss, 2011; Wiggins, 2012). In a bureaucracy, authority is delegated from the top down, and rarely allows room for questioning or creativity from the bottom up. This management style, traditionally used in the military, differs greatly from the one hoped for by Millennials, who are often referred to as vocal, as they desire to be part of the decision-making processes in their workplace (Erickson, 2008; Lancaster & Stillman, 2002; Martin & Tulgan, 2006; Wilcox, 2001). Lancaster and Stillman (2002) believe that Millennials "…won't be satisfied with the old command and control motif that said, 'We'll give you the amount of information you need to do the job and no more'" (p. 231). Further, this generation has always had access to information instantly and the literature examined suggests that Millennials believe they should have access to any and all information, not only in their personal lives but at work as well. Simply stated: "The structures of management common to most organizations evolved in order to control and pass information from level to level in the hierarchy. New technologies have not only made that unnecessary but have also freed people from this hierarchy. The more management tries to exercise control of information, the more likely there will be backlash" (Meister & Willyerd, 2010, p. 209). Highly related to their need for information is their prerequisite to have the latest technology provided for them at work so that this information can be accessed (Lowe et al., 2008; Meister & Willyerd, 2010; NAS Insights, 2014). In short, the articles examined suggest that exposure to the internet and related technologies, as well as the influence of this generation's parents, has fashioned a cohort that has very different workplace expectations than those of generations before them.

3.2   Post-Millennial Internet Data (Dataset 2)

The dataset used for this portion of the study included 55 documents representing the first 10 pages of a Google search conducted with the key words, "generation Z and technology." The first 10 pages were chosen as a 'cut off' for the large amount of data generated by the search. The term "generation Z" was used in lieu of Post-Millennials as this term appears to be more common in popular culture and yielded more fruitful results in the Google search. This search was conducted in order to obtain everyday discourse related to the Post-Millennial generation and technology. The resulting documents were derived primarily from five categories: common interest, marketing, education, business (predominantly management and recruiting) and technology. It must be emphasized that these documents are not scientific articles (although some do reference research), but rather represent what is known in qualitative research as "mundane discourse" (Potter & Wetherall, 1987). In the context of this report, the discourse of these articles was analyzed as a means of understanding the implications of youth access to the internet and related technologies in constructing values, beliefs, worldviews and career expectations.

Analyses resulted in the identification of common discourses surrounding the relationship that Post-Millennials have with the internet and related technology and the implications of this relationship in shaping a generation. These common discourses speak not only to the social construction of values, attitudes and eventual career expectations of this generation, but relatedly, albeit at a more profound level, to this generation's identity. As was found earlier in the data analysis of the Millennial literature, technology is shaping how Post-Millennials see themselves and, given the early exposure this cohort has had to technology, the impact is perhaps even more profound than on the Millennial generation. The following analysis will outline the main themes that emerged from this dataset, which together construct the Post-Millennial generation's relationship to technology and the influence this may have on their worldviews.

3.2.1 Connected and Wired

A common pattern within these articles was the construction of this generation as "connected," referring not only to their presence online but to an awareness of and immersion in the internet, and a link or relation to the individuals, resources and other entities within the online world. Another term often used to define this generation is "wired," which also refers to being online and appropriately implies that the individual is linked to the internet, a literal part of the online ethos. Indeed, this generation is seen as so connected to the internet that one writer lightheartedly suggested they have "digital in their DNA" (JWT, 2012), having been exposed to the internet and its related technology since birth (or prior to birth in the form of sonograms sent digitally by parents). Those members of the Post-Millennial generation with access to the internet[7] are constructed in the data as embedded within emerging online culture(s) and connected to the rest of the world in an unprecedented manner. This connectedness in turn is constructed as shaping not only the Post-Millennials' social lives, as is most commonly discussed in everyday discourse about the relationship youth have with technology, but every aspect of their lives, including physical wellbeing, their learning processes as well as their social and professional identities. The next section will discuss each of these aspects in turn.

3.2.2 Physically Different

A prevalent construct within the data is the notion that Post-Millennials are so immersed in multimedia and have such a reliance on technology that this lifestyle results in physical changes to the individual. The texts examined discussed how this generation has been surfing, gaming, texting, posting, videoing and blogging from a young age, and their lives are increasingly lived online. Obesity due to inactivity is mentioned as one physical consequence, while the ability to switch easily from one task to another is frequently discussed as a characteristic that has been "hardwired" into this generation, resulting in brains that are "different" from previous generations.

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[7] Canada is known to be one of the most connected countries in the world; 87% of Canadian households now have internet, ranking us 16th globally with respect to global internet penetration, and 2nd only to the United Kingdom among our G8 counterparts (CIRA Factbook 2014). While the digital divide remains, particularly in rural and northern communities, a majority of the Post-millennial generation in Canada have exposure and access to the internet and the technology that facilitates internet usage (CIRA Factbook, 2014).

Indeed, recent research has become increasingly concerned with these two aspects of the Post-Millennial existence. Childhood obesity is frequently described by medical professionals, researchers and media as an epidemic and significant research and preventative strategies exist across North America in an effort to find solutions (Ebbeling, Pawlak & Ludwig, 2002; Tremblay & Willms, 2003). According to the Center for Disease Control (CDC), childhood obesity in the United States has more than doubled in children and quadrupled in adolescents over the past 30 years (CDC, 2015). Approximately 90% of Canadian children do not get enough physical activity (CHEO, 2015). While research indicates that a number of factors contribute to childhood obesity, a sedentary lifestyle spent on multimedia is acknowledged to be a contributing factor (Ebbeling, Pawlak, & Ludwig, 2002). While research regarding changes in brain development as a result of repeated exposure to technology is in its infancy, brain scanning studies at UCLA indicate that frequent exposure to technology alters brain circuitry and suggests that developing brains are the most vulnerable to these changes (Small & Vorgan, 2008). Some of these changes may be perceived as positive, such as increased visual and spatial ability, while other cognitive changes may be cause for concern, such as reduced ability to analyze, reduced deep thinking, and reduced ability to be reflective (Greenfield, 2009).

Post-Millennials, having been exposed to the internet and related technology since birth, are referenced in the literature as the "true" digital natives. They are perceived in the texts examined as somewhat of an unknown entity, one that has been significantly influenced by their repeated contact with technology, to the point of potential physical alteration. This generation is growing up in a context where they have enormous exposure to smart technologies, yet current discourses in society consistently caution Post-Millennials and their parents about the risks of too much time spent online, interacting with "screens." These discourses extend not only to the potential for physical changes in the individual, but for social changes as well, as will be discussed next.

3.2.3 Socially Skilled

Another common pattern within the texts is the influence of social media on the Post-Millennial individual's developing social values, behaviours and interactions. The texts examined suggest that this generation is more "worldly" and less innocent at a young age than previous generations, due to exposure to global issues via the internet. This generation can connect not only to information about war, terrorism, school shootings, the global economic crisis, cyberbullying and other global events that have happened and are happening over the course of their youth, but they also have the ability to connect via social media with others across the world who are experiencing these events. The texts examined suggest that this generation may be more socially responsible as a result of their access to global knowledge, and more accepting of diversity, having been exposed to and influenced by cultures, languages and experiences from around the world. It is proposed that this generation is interested in online consensus building, volunteerism and social justice. As a result of living much of their social lives online, the texts examined submit that this generation values connectedness over materialism and uniqueness over fitting in with the crowd. Similar to the youth of previous generations, the discourses surrounding this generation suggest that they remain concerned about the persona they project to the world and try on many identities. In the case of this generation, this happens easily within the context of their lives online.

Frequently mentioned within the texts examined is the notion that this generation uses technology as a means to an end, where technology is a useful tool to enrich social interaction but does not

define the individual as it does with the Millennial generation. For Post-Millennials, technology integrates seamlessly into their lives, but technology is not the end in itself. Constructed as a technologically savvy user, the Post-Millennial is often described in the texts examined as emotionally attached to their technology, where their smartphones represent a social hub that provides them with inspiration, interactivity and the opportunity to engage in creativity. While this generation is often accused of having poor interpersonal skills as a result of socializing online through texting and social media rather than in person or face-to-face, the discourses of the articles examined did not support this claim. Rather, according to the majority of the articles examined, the perception seems to be that this generation's social skills will simply differ from those of previous generations, having adapted to an online context. In the texts examined, Post-Millennials are constructed as skilled at social interaction, just not necessarily in the same context as previous generations.

3.2.4   Flexible Learning Style

Another prevalent construct within the data was that of changes in learning styles and processes related to this generation's relationship with technology. This is a generation who has never had to wait for information— they can access it instantly, and according to the texts examined, they crave immediate information and responses. It is suggested that as a result of having information at their disposal, they prefer flexibility in their learning environment, which allows them to customize their education and learn at their own pace. Several of the articles examined suggest that due to their multitasking lifestyle, this generation processes information quickly in comparison to earlier generations and is more skilled at visual/hands-on learning styles than the auditory/sit-and-listen style of the past. They enjoy sharing information online and are concerned with what is relevant at present—with one article suggesting that customizable, on-demand, ad hoc learning will be more effective for this generation than pre-planned education. Current discourses suggest that learning through gaming and other digital, interactive forms of education appeal to this generation as well as mobile learning and development.

The texts examined construct this generation as learner-focused rather than curriculum-focused, where the teacher functions as a facilitator and the focus is on process rather than content. This generation has had technology in the classroom since kindergarten, with many Canadian schools making regular use of computers, tablets and smart-boards in education (Millar, 2013). Learning in the Post-Millennial context may not be focused entirely on gaining and internalizing information, but instead may focus more on using creativity to re-interpret information. It remains to be seen whether this generation will be discriminating with the information they gather from the internet. Some of the texts reviewed suggest that this generation will need help in determining the reliability of the information at their fingertips, and will be too trusting of the internet as a resource for immediate information both in the classroom and at home. The texts examined suggest that this generation values sharing information and personal opinion, implying that they may be quite open to collaborative learning opportunities.

It is posited within the texts examined that this will be one of the most educated generations in history, yet the cost of that education is increasing. Several of the texts examined suggest that this generation will be concerned with obtaining practical, transferrable skills in order to get their money's worth from their education.

3.2.5   Unconventional Career Expectations

Another common construct found within the data was that of the Post-Millennial's potential career expectations. As the majority of this generation is still in school, the influence they will have on the workplace and the expectations they have for their careers remains speculative. However, a number of the texts examined discussed possibilities that were based on exposure to the internet and related technology and the influence this exposure may have on this generation's career expectations.

One repeated comment was the notion that this generation is interested in careers that benefit others, where their career choices will be fundamentally motivated by their unprecedented exposure to world events growing up "connected" and their resulting desire for social justice. The common discourse suggests that this generation may not be as loyal to companies as previous generations, having witnessed the influence of the global economic recession, and will expect multiple career changes over the course of their careers. As a result, this generation will be looking for jobs that teach them universal, transferrable skills. This fits well with the construct of this generation as well suited for a growing entrepreneurial work environment, one facilitated by the freedom and exposure afforded through technology, where they can telecommute in to work, conduct their work via mobile or be hired as a freelance contractor for a short period of time based on a given skill or capability. This generation may be less concerned about hours of work, as long as productivity goals are met. Further, the data examined suggests that due to the connected nature of this generation, they may value collaborative work environments and will expect to use social media in the workplace as a means of facilitating that collaboration.

Referred to in one of the texts as the "disruptive" generation, it is anticipated that Post-Millennials may insist on changes that bring the workplace up to speed with the current state of technology. Some of the texts indicated that this generation may also seek change and creative use of technology in the workplace and may prefer a flat rather than hierarchical work structure. Although there was some contradiction among the texts, a few mentioned this generation's desire for policy that is clear and consistently implemented.

3.3   Interview Data (Dataset 3)

This dataset included 70 archival interviews from previous studies conducted between 2009–2013 looking at the relationship between the Canadian military and other civilian organizations that work within a comprehensive approach mission environment. These organizations included other Canadian government departments (OGDs), non-governmental organizations (NGOs), media, and international organizations. The interviews were conducted with both CAF members and members of the other organizations. For the purposes of this study, these interviews were examined for themes related to the Millennial and Post-Millennial generations and to the knowledge, skillsets and abilities required for interaction in the new complex mission environments faced by CAF today and anticipated in the future.

3.3.1   Skills and Abilities

A number of skills and abilities were mentioned with respect to the complex mission environments that CAF is expected to face presently and in the future. Echoing the Vice Chief of

the Defence Staff Command and Control Operating Concept (2012), participants indicated the need for CAF and civilian organizations to collaborate in theatre in order to succeed operationally. According to participants, this could be facilitated and accomplished through the "right" CAF member with the "right" abilities and skillset. Speaking generally, according to both military and civilian interviewees, for a member of CAF to be successful in a comprehensive approach environment, the skillset and abilities they should display include effective communication skills, leadership skills, professionalism, tact, teamwork, open-mindedness and respect for the other. The CAF member who would function effectively as an intermediary between the two organizations would also need to have sufficient rank and experience as well as a wide-reaching understanding of policy and risk assessment in a comprehensive approach setting.

Expanding further upon this, participants frequently indicated that a CAF member must have the "right personality" in order to span the boundary between CAF and civilian organizations such as NGOs or OGDs. Suggesting an individual with inherent abilities, the CAF member with the "right personality" would be a personable, extroverted individual with the social skills and motivation to form friendly networks with civilians both during and outside of work. According to repeated patterns within the interview data, participants indicated great need for individuals who excel at working within a culturally and organizationally diverse setting. Interviewees suggested that CAF personnel would need to be open-minded enough to see things from the perspective of the other and must have a willingness to work in a diverse team where they will need to negotiate and compromise in order to meet a goal.

Training for such skills and abilities was also discussed with respect to preparation for working in an organizationally diverse context. Participants indicated that CAF has superior training opportunities compared to the civilian sector, an aspect which may appeal to the Post-Millennial generation who seek out on-the-job, transferrable training. Participants also mentioned the high quality of cultural training provided to CAF pre-deployment, another aspect which may appeal to the diversity conscious Post-Millennials.

3.3.2   Values

A number of values were mentioned as necessary for working within the complex mission environment faced by the CAF. Interestingly, members of CAF and civilian organizations noted that the values of their members were similar at their core, including the desire to "make the world a better place" and a willingness to work for a comparatively small salary, in harsh conditions, and for lengths of time away from family in order to help someone they do not know. Both sets of participants spoke about the importance of having a "useful life" in which they felt a certain responsibility to ensure basic human needs are met and to ensure the safety and security of human life. It was important to both sets of participants that this be accomplished with integrity and empathy.

However, while participants felt that CAF and civilian organizations share basic "large picture" values, they felt these values differed in theatre, depending on the mission environment. For disaster relief scenarios, interviewees described shared purpose and values; however, in a more hostile environment they felt that their values, understandably, diverged. In scenarios such as these, participants felt that CAF frequently saw civilian counterparts as incidentals, instruments to be used toward reaching a goal. Ultimately, participants from both sets of organizations indicated

that in order to work effectively in a coordinated fashion toward operational success, players would need to recognize the commonality in their values.

Of note, both CAF and civilian participants discussed how certain aspects that are valued in the CAF work environment do not facilitate a collaborative relationship between different organizational cultures. These valued characteristics of the CAF work environment may also prove challenging for the anticipated typical members of the Post-Millennial generation. For example, interviewees indicated that hierarchical structure does not necessarily allow for the input or advice of the younger, lower ranking members or of civilians who may reach a high position in an OGD or NGO at a young age. This may not appeal to the Post-Millennial who is accustomed to providing feedback and contributing even as a junior member of a team. Similarly, participants indicated that restrictive information sharing may engender mistrust between CAF and civilian organizations. This practice may prove challenging for the Post-Millennial generation, given their connected, wired and linked-in nature.

3.3.3   Media

With respect to technology, there was significant mention of media (conventional and social) in the discourses of both the civilian and CAF interviewees. Access to media and the importance of the representation of CAF and civilian organizations within media featured prominently in participants' discussions. Both organizations acknowledged that portrayal in the media is a potential cause of misunderstanding and stereotypes, which could result in very real repercussions such as reduced funding for NGOs or lack of public support for CAF.

While participants indicated that CAF has had more freedom in recent years with respect to contact with the media, there remain missed opportunities in telling their story due to top-down, institutional restrictions as well as reasons of security and privacy. As one participant indicated, "it's pertinent that not all the details be given because insurgents CAN read." Further, participants also indicated that the Canadian military often do not seek publicity or acknowledgement of their role when supporting the goal of an NGO, and prefer that the NGO receives all of the credit for achieving the mission goal. This is done in order to build an effective relationship with the civilian organization as a means of developing trust and to demonstrate that their motives are not to garner recognition or to impose CAF's thinking on the other.

The Post-Millennial generation's connection to technology and the media may prove both an asset and a liability in this respect, as their knowledge and connection to social media may aid in the promotion of an organization's accomplishments in the field, yet their tendency to share extensively on social media may run the risk of unknowingly breaching security.

4 Discussion: Constructing a Generation

Access to the internet, related technologies and the globalized discourses within and surrounding the "world wide web" continue to shape today's youth physically and socially and to influence the method, process and receipt of their education. This generation, like none other before them, have consistent and repeated exposure to global cultures and worldviews, from the mainstream to the marginalized through the access point of their smartphones. They have a connection to the rest of the world and the potential to influence others in a manner that earlier generations could not have imagined. The findings from this exploratory study suggest that this, in turn, is constructing a generation with a unique understanding of the world and their place within it that may, indeed, prove key in navigating today's complex global environment.

The above analyses outline major themes that emerged in data gathered from three sources that were triangulated in order to pinpoint the manner in which youth access to the internet and related technologies that may be constructing their values, beliefs, worldviews and career expectations, and how these might mesh with expectations of the future mission environment faced by the CAF. While there are some limitations to the data samples used, including restricting the second dataset to 55 references from the first 10 pages of a Google search and the use of pre-existing interview data in the third dataset, triangulation of information from the three datasets helps to offset these limitations.

Given the variety of dates suggested in the literature for both the Millennial and Post-Millennial cohorts, the Millennial data examined spanned what may be perceived as both Millennial and early Post-Millennial generations. This provided a baseline against which to comprehend the characteristics discussed as unique to the Post-Millennial generation in the second dataset. While overlap was expected and found between these two generations with respect to the manner in which technology has influenced their values and career expectations, key differences between the generations were identified within the datasets examined.

The Millennial data (dataset 1) examined suggest that this generation is defined substantially by the technology that entered their lives in early childhood. They are young digital immigrants representing the first to grow up coping with the social implications of technology use that now characterizes this generation. They were protected, structured, constructed as unique and worth investing in by virtue of the parents who shielded them, and are the most diverse and educated generation to date. These experiences have resulted in a generation with unconventional career expectations who seek rapid advancement, training and development opportunities that they can take with them to the many jobs they expect to hold over the course of their careers, flexible working arrangements with little boundary between their personal and work lives, employers who share their values, and workplaces that allow for a team environment where the most junior employee could have the ear of the CEO. Millennials want-up-to date technology in the workplace and the freedom to use that technology for both their work and social lives. While competing discourses exist, this generation is at times constructed as feeling entitled and lacking social skills, characterized as expecting too much too soon and not wanting to work for it, hindered perhaps by having the expertise and education afforded them through their knowledge of the digital world yet facing a more traditional, transitioning workplace led by the Boomers and Generation X who are comparatively slower to adapt to the globalization and digitization of the work environment.

The Post-Millennial data (dataset 2) in contrast suggests that the children and youth of this generation are the first true digital natives. They are not defined by technology like the previous generation, but rather, are so integrated within social media that they have the power and knowledge to influence technology themselves. For better or for worse, they are the medium and hence the message: From the moment their parents posted their ultrasound photos on Facebook, to when they chose to interact with their peers on social media after school instead of on the playground, to the manner in which they construct and reconstruct their teenage identity on tumblr, Snapchat, Vine and other social networking sites, this generation has lived up to the description of having "digital in the DNA" (JWT, 2012). According to the texts examined, every aspect of this generation's lives is influenced by the internet and related technology. They are so immersed within the web, that the common discourses construct them as physically different, with high rates of obesity and brains that are "hardwired" differently than those of previous generations. They are constructed as having learning styles that are being influenced by instant access to information, and it has been suggested that they are more interested in customized, ad hoc learning than pre-planned education. Their classroom education goals are not to gain information disseminated, because access to information, whether it be TED Talks, YouTube, webinars, or massive open online courses (MOOCs), is only a Google search away. Rather, this generation seeks a classroom experience that can allow them creative ways in which to understand and use information that is now so accessible.

Unlike the Millennial generation (dataset 1), so often maligned for poor communication skills, early indication from the texts examined suggest that the Post-Millennial generation (dataset 2) has exceptional social skills, which simply differ from those of previous generations. They are more worldly and less innocent than earlier generations, having been exposed to terrorism, uprisings, school shootings, the global economic crisis and cyber bullying not simply through instantly accessible news articles and "as it happens" video, but by being able to connect with peers who are in the process of experiencing such things.

Many of the Post-Millennial texts (dataset 2) examined suggested that the careers this generation will populate do not yet exist; however, given the discourses surrounding the Post-Millennial desire for creativity and freedom, some of the texts speculated that their work ethic will compose of transparency, resourcefulness, social responsibility, social justice, respect for diversity and collaboration. They further suggest that exposure to the internet and related technology is creating a disruptive generation, one that wishes to bring technology "up to speed" within the workplace, to have the freedom to use technology in a creative manner and to be able to use social media in the workplace. This generation may be looking for a flat work structure, and to have their productivity be the measure of their ability rather than their number of hours worked. It has also been suggested that this is a pragmatic generation, looking for clear and consistent implementation of policy.

Exposure to the internet and related technologies has provided this generation with unprecedented opportunities for social interaction and awareness, creating new kinds of work (including learning) and play, new ways of identifying with that work and play and perhaps most importantly, has allowed this generation a sense of the world and of themselves within the world that was previously unavailable to the mass population. Their exposure to so many vantage points and the ability to identify with and "try on" these vantage points is an opportunity this generation has that no other has had before them, at least not to this extent and with this level of potential anonymity involved. This generation comes from all walks of life and has been exposed to

worldwide discourses, the majority and the minority, the powerful and the powerless, the youth next door and the youth across the world. These discourses in turn have constructed who they are and how they see the world. Indeed, this generation may be uniquely positioned to take on the boundary spanning characteristics needed in the comprehensive approach contexts encountered by today's military.

The interview data (dataset 3) also revealed a number of themes relevant to the study at hand, particularly with respect to CAF needs for the complex, integrated mission environment. This allows for links to be theorized between the findings from the Post-Millennial data analysis and characteristics that may be required of CAF boundary spanners working in a comprehensive approach context. The Post-Millennial skillsets, abilities and values such as teamwork, leadership, open-mindedness, professionalism and effective communication across culture (whether national or organizational) and the desire to live a "useful life" that benefits others mesh well with the skills, abilities and values outlined by the interview participants as integral to the effectiveness of CAF members in a whole of government (WoG)/JIMP/comprehensive approach environment. The globalized, interactive worldview of Post-Millennials, facilitated through their integration within the internet and related technologies complements the understanding of media and technology mentioned often in the interviews as a facilitator of goals and relationships within the JIMP environment. While there are hurdles to overcome, such as differing values with respect to the context of a mission, differing views of an acceptable organizational structure, and differing needs regarding security and privacy, the characteristics of the Post-Millennial cohort appear to mesh well with many of the CAF needs in the future integrated mission environment. Among the future capabilities required by the Canadian Army, the Land Operations 2021 publication "Designing Canada's Army of Tomorrow" indicates that "a comprehensive approach will involve closer collaboration between agencies in achieving strategic policy objectives. It will involve developing a capability to interact with a range of players in a cooperative, constructive manner. By doing so the chances of achieving greater interoperability and collaboration among key parties in the operational arena increase and so does the ability to develop the requisite networking capabilities and skills essential to achieving national objectives in the future security environment" (p. 57). Likewise, the Claxton papers from "Toward Army 2040: Exploring Key dimensions of the Global Environment" also espouse the importance of the comprehensive approach in the future operational environment indicating trends that echo the influences on the Post-Millennial generation including globalization, technological complexity, interdependence and distributed networks, among many others. While it remains to be seen how these trends predicted to impact the future security environment and the military of the future will also influence the children of today, the qualitative analysis provided in the present paper suggests the social construction of a generation with an ability to navigate the globalized world in a manner unprecedented by previous generations. Future research should be considered as this generation reaches adulthood to further understand trends in their skillsets, values and abilities.

For now, the Post-Millennial generation, which already includes among its ranks respected app developers, inventors, cancer researchers, bloggers and a Nobel Prize winner are blurring the physical, social and cultural boundaries imposed by previous generations through the potentially equalizing and far reaching internet and related technologies. They have unprecedented global social interaction and connection to global discourses as well as an awareness, and perhaps control, of the power of social media. This generation, unlike the Millennial cohort before them, are being provided the opportunity from a very young age to become skilled at living within social media, where they may see and understand themselves from many vantage points, the

mainstream and the marginalized. The context in which they are growing up may be constructing the ideal boundary spanners of the future, perhaps even individuals with the skills, values and abilities to span boundaries as vast as those found within the new complex mission environments faced by the CAF of today and tomorrow.

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List of Abbreviations/Acronyms

CAF	Canadian Armed Forces
OGDs	Other Canadian Government Departments
CDC	Center for Disease Control
JIMP	Joint, Interagency, Multinational, or Public
NGOs	Non-governmental Organizations
WoG	Whole of Government

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The Canadian Armed Forces (CAF) are increasingly being called upon to conduct a wider array of missions, from full spectrum warfare to disaster relief, and to coordinate with a more diverse representation of players than ever before (Lindsay & Foster, 2011). As such, research has begun to consider the future individuals who will be living out these missions and relationships, and the skillsets and worldviews they bring to the table (e.g., Bélanger & Lew, 2011; Dunn & Jesion, 2007; Erwin, 2008; Garrett, 2011; Hyler, 2013; Smillie, 2010; Smith, 2009; Tanner, 2010; Vaughan, 2010; Westermeyer, 2008; Wiley, 2008). This report is part of a larger project that examined 21st century cohort values, attitudes and career expectations in order to provide potential answers to the question of how to link the Post-Millennial cohort's skillsets with future evolving defence missions, strategies and goals (Okros, 2011). Specifically, the purpose of this report is to examine the influence of the internet and related technologies on the 21st century cohort with an emphasis on aspects relevant to defence (Okros, 2011). This was accomplished through an analysis of the social construction and implications of Post-Millennial access to interactive media and web technology, an integral part of this generation's social experience in constructing their values and career expectations. The authors begin by providing a background primer on current thinking regarding generational cohorts, the position of Post-Millennials within the generational cycle and the characteristics that are thought to represent each of the generations, in particular that of the Post-Millennials. The report continues with a description of the methodology employed and the data that were consulted and analyzed during the course of this study, followed by the results of these analyses. The report concludes with a discussion of the findings, with an emphasis upon the values, attitudes and skillsets of the Post-Millennial cohort and how these may complement the future complex mission environment faced by CAF today and in the future.

Les Forces armées canadiennes (FAC) sont de plus en plus appelées à exécuter une vaste gamme de missions, allant de l'ensemble du spectre de la guerre au secours en cas de catastrophe, et à assurer la coordination avec une représentation d'intervenants plus diversifiée que jamais auparavant (Lindsay et Foster, 2011). Par conséquent, des recherches ont été entreprises afin de tenir compte des personnes qui participeront à ces missions et qui établiront ces relations, ainsi que de leurs compétences et de leurs visions du monde (p. ex., Bélanger et Lew, 2011; Dunn et Jesion, 2007; Erwin, 2008; Garrett, 2011; Hyler, 2013; Smillie, 2010; Smith, 2009; Tanner, 2010; Vaughan, 2010; Westermeyer, 2008; Wiley, 2008). Le rapport fait partie d'un vaste projet portant sur les valeurs, les attitudes et les aspirations professionnelles d'une cohorte du 21e siècle; il vise à répondre à la question suivante : Comment lier les ensembles de compétences de la cohorte du nouveau millénaire aux missions, aux stratégies et aux objectifs évolutifs en matière de défense (Okros, 2011)? Plus précisément, l'objet du rapport consiste à examiner l'influence d'Internet et des technologies connexes sur la cohorte du 21e siècle, en mettant l'accent sur les aspects ayant trait à la défense (Okros, 2011). Pour ce faire, on a effectué une analyse de la construction sociale et de l'incidence de l'accès aux médias interactifs et aux technologies du Web du nouveau millénaire, lesquels font partie intégrante de l'expérience sociale de la présente génération quant à l'établissement de ses valeurs et de ses aspirations professionnelles. Les auteurs commencent par présenter un

document d'information de base sur les réflexions actuelles concernant les cohortes générationnelles, les prises de position de la génération du nouveau millénaire à l'intérieur du cycle générationnel et les particularités qui semblent caractériser chaque génération, surtout celles du nouveau millénaire. Le rapport présente ensuite une description de la méthodologie utilisée, les données consultées et analysées pendant la recherche, ainsi que les résultats de ces analyses. Le rapport se termine par un examen des conclusions, lequel met l'accent sur les valeurs, les attitudes et l'ensemble des compétences de la cohorte du nouveau millénaire et sur la façon dont ceux-ci peuvent contribuer à l'environnement de mission complexe des FAC d'aujourd'hui et de demain.

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millennial; post-millennial; comprehensive approach; internet; technology