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An analysis of how Millennials view social security

Un análisis de la percepción de la seguridad social para la generación Millennials

Uma análise da percepção da geração dos Millennials sobre a previdência

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Abstract

Objective: To identify and analyze how Millennials view social security.

Methodology: A survey consisting of a 21- question structured questionnaire developed on the LimeSurvey® tool and sent to approximately 15 thousand people from all regions of Brazil. The respondents were selected on an open basis and according to the age group of this generation. The non-parametric Chi-Square test was performed for each question in the structured questionnaire to verify differences in the evaluation of the control variables.

Results: Contrary to the analyzed study bases, most Brazilian *Millennials* in the survey think or are concerned about their retirement. One hypothesis based on the research findings is that *Millennials* are concerned about their retirements and believe that achieving a secure retirement will be a very complicated task in the future. Despite the low number of supplementary pensions among *Millennials*, most claim to have a high level of interest in it, and contribute to the literature on the subject.

Study contributions: In addition to furthering the understanding of how *Millennials* deal with social security, this study can contribute to the development of public policies aimed at educating young people on social security.

Keywords: Retirement; Brazil; Personal finances; *Millennials*; Financial and Social Security Education.

Resumen

Objetivo: Identificar y analizar la percepción de la generación Millennials sobre la seguridad social.

Metodología: Técnica de encuesta tipo encuesta, con la aplicación de un cuestionario estructurado a través de la herramienta Lime Survey®, enviado a aproximadamente 15 mil personas de todas las regiones de Brasil, con 21 preguntas estructuradas. La selección de los encuestados se basó en bases abiertas, enfocándose en el grupo de edad en el que se ubica esta generación. Para cada una de las preguntas que componen el cuestionario estructurado se realizó la prueba no paramétrica Chi-Cuadrado para verificar diferencias en la evaluación de las variables de control.

Resultados: Contrariamente a las bases del estudio analizado, la mayoría de los Millennials brasileños encuestados piensan o están preocupados por la formación de sus jubilaciones. Entre las hipótesis confirmadas, los resultados de la investigación muestran que los Millennials tienen miedo de enfrentar dificultades en relación a sus jubilaciones y consideran que lograr una jubilación segura será una tarea muy complicada en el futuro. A pesar de la baja participación de esta generación en los planes de pensiones complementarias, la mayoría manifiesta tener un enorme interés al respecto, contribuyendo a la literatura sobre el tema.

Contribuciones del estudio: Además de ayudar a comprender cómo los Millennials abordan el tema de la seguridad social, este estudio puede contribuir al desarrollo de políticas públicas dirigidas a la educación previsional de los jóvenes.

Palabras clave: Jubilación; Brasil; Finanzas personales; millennials; Educación Financiera y de Seguridad Social.

Resumo

Objetivo: Identificar e analisar a percepção da geração dos *Millennials* sobre previdência.

Metodologia: Técnica de levantamento do tipo Survey, com a aplicação de questionário estruturado por meio da ferramenta Lime Survey®, enviado para aproximadamente 15 mil pessoas de todas as regiões do Brasil, com 21 perguntas estruturadas. A seleção dos respondentes foi em bases abertas, com foco na faixa etária em que se encontra essa geração. Para cada uma das questões componentes do questionário estruturado, foi efetuado o teste não paramétrico de Qui-Quadrado para verificar diferenças de avaliação para as variáveis de controle.

Resultados: Contrariando as bases de estudo analisadas, a maioria dos *Millennials* brasileiros respondentes da pesquisa pensa ou se preocupa com a formação de suas aposentadorias. Entre as hipóteses confirmadas, os achados da pesquisa mostram que os *Millennials* possuem receio em enfrentar dificuldades em relação às suas aposentadorias e consideram que alcançar uma aposentadoria segura será uma tarefa bastante complicada no futuro. Apesar da baixa participação dessa geração em planos de previdência complementar, a maior parte afirma possuir enorme interesse nesse sentido, contribuindo para a literatura sobre o tema.

Contribuições do estudo: Além de ajudar a compreender como os *Millennials* lidam com o tema da previdência, este estudo pode contribuir para o desenvolvimento de políticas públicas voltadas para educação previdenciária dos jovens.

Palavras-chave: Aposentadoria; Brasil; Finanças Pessoais; *Millennials*; Alfabetização Financeira e Previdenciária.

1 Introduction

For many years, all over the world, governments have been dealing with the imbalance of social security accounts (Ferreira, 2007; Lima & Matias, 2014; Hinrichs, 2021). They have been forced to look for new ways to strengthen the financial stability and distributive equity of their public retirement systems (Kallir, Aharon, Sheshinski, & Zaken, 2023) and seek out strategies to manage pension risk and longevity (Kessler, 2021).

One of the discussions on social security reforms concerns their intergenerational impact, when the relationship between the benefits received and the contributions made is different for each distinct group in the social security system (Afonso, Sidone, & Silva Filho, 2023). When dealing with pension reform and intergenerational justice, Lima (2022) warns us that, before entertaining any discussion about the existence of rights for future generations,

intergenerational justice is concerned about current responsibilities and their impact on the development of future generations.

Among those most affected by this scenario are young people. According to Lima (2022), legislative proposals aimed solely at social security (through reforms that illogically undermine the very dynamics of social security protection) overlook the difficulty of overcoming the current dilemmas of employability, especially for younger people, who are affected the most by precarious employment. For Santos and Kern (2019), in an economic crisis, it is the young people who are affected the most by unemployment, precariousness and informality, which further increases the inequality in access to income generation and employment.

Additionally, new generations are known to have serious difficulties understanding the hierarchy models, which not only makes it difficult to develop work relationships, but to also remain in the workplace (Santos & Kern, 2019). Researchers point out that, due to the increased length of time one must pay into social security (40 years of payments), young people are at an even greater disadvantage in terms of employer-sponsored retirement plans. According to Neri (2017), there is currently no economic issue more pressing for young people than social security. For him, it is time for the young people of the new millennium to take control and reshape their future. *Millennials*, also known as Generation Y, represent a large demographic of the world's population. Some scholars differ on the exact dates, but it is estimated that this generation represents those born between the 1980s and the beginning of the 2000s (Viana, 2016).

It is also true that younger people prepare less for retirement (Clark, Hammond, & Khalaf, 2019; Vieira, Matheis, & Rosenblum, 2023). According to Rattner (2015), despite being the most educated generation in history, the *Millennials* are on their way to becoming less prosperous than their predecessors, at least financially. For him, this generation faces a slow economy, high unemployment, stagnant wages, and student loans that hinder their ability to provide for a reasonable lifestyle in the future.

Seen as short-sighted and inclined to attach great importance to personal achievements, these young people are neither investors nor savers, which changes their view of financial security for the future (Rattner, 2015). Given these characteristics, it is safe to say that *Millennials* are not very concerned about retirement or creating financial stability, which can result in an entire generation with no income in old age (Dutra & Brêtas, 2018). For Lynch (2008) and Brack and Kelly (2012), most *Millennials* believe they will need to find their own financial independence in retirement.

In the literature, several studies have been conducted on young people and how they need financial education to help them develop a critical view on the use of money (Cordeiro, Costa & Silva, 2018; Cordeiro, Maia & Silva, 2019; Hartmann, Mariani, & Maltempi, 2021). There is a consensus that financial education can give individuals the knowledge they need to make better decisions in their financial lives and prepare them for the future (Souza, 2016; Silva, Reis, Martins & Fornari, 2019; Lima *et al.*, 2022). Nevertheless, there are few studies that focus on social security education, especially for younger people.

According to Lima et al. (2022), social security education is an important tool toward helping individuals and collectives consume and save. Even the literature recognizes that the level of social security education is low, even in developed countries (Lusardi & Mitchell, 2011; Demirguç-Kunt et al., 2016; Gomes, Oliveira, Santos, & Merelles, 2020).

Given this scenario, this study aims to identify and analyze how *Millennials* view social security. We hope that the findings from this study can be used to help develop social

security education policies for this generation and help young people develop an awareness of social security.

To address the research question, the methodology included a survey in the form of a 21-question structured questionnaire, developed using the LimeSurvey® tool. This questionnaire was sent to approximately 15 thousand people from all regions of Brazil. The respondents were selected on an open basis and according to the age group of this generation. The non-parametric Chi-Square test was performed for each question in the structured questionnaire to verify differences in the evaluation of the control variables.

2 Literature Review

2.1 Millennials and Social Security

According to Calliari and Motta (2012), *Millennials* are the largest generation in history in terms of numbers and are currently studying in universities and entering important hierarchical positions in companies. These researchers point out that today's youth will be tomorrow's elderly, and they should be prepared for their retirement. Miranda et al. (2016) allude to the fact that, in 2010, there were 39 elderly people for every 100 young people, and by 2040 those numbers are estimated to reach 153 elderly people for every 100 young people.

Rattner (2015) explains that *Millennials* need to plan for their future despite the fact they face a slow economy, high unemployment, and student loans that hinder their ability to maintain a good lifestyle and save for their future retirement. Rattner considers that, in the long term, these young people may accrue financial burdens due to increased payments on the federal debt and increased spending on social security and health, jeopardizing the promised social security benefits when they retire.

Several countries are concerned about young people's access to the labor market given the changing demographics in which older people are now working for longer, ultimately hindering new generations from entering the job market (Gruber et al, 1999). A study carried out by the *Bank of New York Mellon* shows that *Millennials' attitude* toward retirement has also had an effect on financial institutions as they have not (as of yet) been able to communicate with this generation about saving money, dealing with taxes, and planning for retirement. An international survey showed that 48% of *Millennials* still rely on their parents for financial advice, while in Brazil, most parents do not even know how social security works (BNY Mellon, 2015).

The majority of working *Millennials* also have no money saved for their retirement (BNY Mellon, 2015). One explanation for this may be the fact that *Millennials* focus too much on the now and leave the future for later, resulting in a generation of thousands of people who do not save, do not invest, and do not think about retirement like they should (Gallo, 2018; Gallo, 2019).

Borges (2014) lists some of the key reasons for the non-saving behavior of *Millennials* is the lack of financial education in teaching environments and in their places of work. Studies show that more than half of Generation Y have not been given adequate information about pensions in the workplace and would like to receive more comprehensive information about the challenges they will likely face in retirement (BNY Mellon, 2015).

In the case of Brazil, the BNY *Mellon* report emphasizes that when compared to other countries, young people in Brazil are even less likely to be instructed by their employer/school about long-term savings than other countries included in the survey. Not

only that, but half of them do not receive any information or guidance on these issues. Although there are some initiatives in place, they are insufficient and do not reach all levels of social stratification, which means there is a huge opportunity for banks, insurance companies and other institutions to develop financial planning and awareness on a local level (BNY Mellon, 2015).

Ribeiro and Gonsalves (2016) make mention of the Brazilian social security system and how it does not guarantee a retirement benefit plan that would allow an individual to maintain the same standard of living once retired. Of course, this leads to individuals procuring alternative forms of generating a decent income in retirement, such as supplemental social security, which provide greater benefits than those offered by the state.

Bochi (2019) mentions the need for older people to educate young people about the challenges of retiring with a low-income pension and remind them of how important it is to plan for this period. Bochi's point of view is that pension planning is essential for young people, as they may need to rely heavily on this resource in the future, and also in the present.

2.2 Millennials and their place in the Brazilian demographic pyramid

Despite presenting certain divergences between their respective periods of coverage, studies on generations seek to differentiate these periods not only by birth and chronological age, but also based on facts and experiences that from a very early age determine values and concepts of life (Zemke, 2008; Batista, 2010). As a general rule, generational groups are classified into four groups in the literature: veterans (born between 1922-1943), *baby boomers* (born between 1943-1960), Generation X (born between 1960-1978), and Generation Y (born after 1980). There are also those born at the end of the 1990s, known as Generation Z (Kämpf, 2011).

According to Cara (2008) and Batista (2010), the term Generation Y, the focus of this study, first appeared in *Advertising Age*, in August 1993. A number of other scholars refer to this generation as the "*Digital Generation*" (Tapscott, 1999), "*Generation We*" (Greenberg and Weber, 2008), and "*Generation Y*" (Valente, 2011; Calliari & Motta, 2012; Borges 2014). The term "*Millennials*" was created by American researchers Neil Howe and William Strauss (2000) in the work "*Millennials rising: the next great generation*" in reference to those born in this generation.

Even though Generation Y is supposed to represent people born between the 1980s and the late 1990s, there is no consensus in the literature about this period (Howe & Strauss, 2000; Tomaz, 2013; Carvalho, 2017). For the purposes of this study, *Millennials* represent people born between the years 1981 and 2000 in order to normalize the age bracket implemented by the Brazilian Institute of Geography and Statistics (IBGE) and to classify survey respondents whose data will be analyzed in this study.

According to Borges (2017), *Millennials* find it easier to adapt to technologies and deal better with risks. For Glass (2007), this approximation between young people and technology has led him to call them the "first adaptors". Valente (2011) mentions that several authors treat *Millennials* differently and some classify them as individualistic, technological and more adept at diversity. Almeida (2018) points out that there is great concern about the immediacy of this generation; they have "a great desire to do what their parents did not do", such as traveling the world and taking courses, and not necessarily investing in assets such as cars or real estate.

In Brazil, *Millennials* make up a significant part of the age structure. In 2010, the number of Brazilians born between 1981 and 2000 was approximately 69 million, a total of about 35% of the total Brazilian population with 34,837,145 men and 34,590,134 women. The data projected for the year 2060 (the latest year the IBGE projects for and the time period closest to the retirement age of this generation) says that by this time *Millennials* will still make up a significant portion of the Brazilian population with approximately 54 million individuals (ranging between 60 and 79 years of age), which would be about 23% of the total Brazilian population with 25,378,700 men and 28,996,251 women.

This data shows that by 2060 there will be almost 25 million men and 28 million women at retirement age according to current rules for social security benefits. This can be explained by the growing increase in life expectancy of the Brazilian population (Camargos & Gonzaga, 2015). Also of note is the fact that the majority of *Millennials* will be women in 2060, which can also be explained (according to the World Health Organization) by the fact that the life expectancy for women is greater than that of men (UN Brazil, 2019).

One of the most concerning aspects in terms of Millennials and their retirement is the imbalance of social security accounts, which are currently running a deficit. These pension deficits mostly affect the younger generations, as Bojanini explains on Agência EFE (2019), citing one of the main causes of the pension crisis in the world as "intergenerational solidarity", in which "the contributions made by the working generation are used to pay the pensions of the retiring generation, and as a result, the problem will be greater for these future generations". He states that the pension deficit can lead any country to bankruptcy, and thus reforms are required with the aim of offering pensions that can guarantee a better life for people and better sustainability from a fiscal point of view.

A study carried out by Ghilarducci (2018) based on 58 countries over 30 years showed that the nations which are most generous with the elderly are also more generous with the younger population, that is, the countries that make the political decision to improve the lives of the elderly also do so for young people. However, this has not been the case in countries with more complex social security crises. Mitchell (2018), citing the case of the United States, reveals that younger American workers face lower, or even negative, social security returns compared to older workers.

In Brazil, when dealing with the social security capitalization project discussed in the Bolsonaro government, Jardim and Moura (2023) mentioned that, after assessing its impacts on society, the World Bank team showed that the system had an actuarial disadvantage, which means younger generations would have to contribute twice for benefits: once in the revenue sharing system for the generation that is currently receiving benefits and once in the pension fund system for their own retirement and income in the future. These aforementioned researchers mention that although the project was not approved, there were signs that a symbolic movement could be triggered in new governments that lean toward ultra neoliberal beliefs.

What is observed is that proposals for social security reforms must be based on the financial balance of the system and they must follow the global trend of social protection for less favored groups. Neri (2017) addresses how social security problems can have a profound impact on *Millennials* and advises them to rethink and prepare for their future, criticizing the resistant posture of this generation to social security reforms.

According to Henrique, Rocha, Saporito and Silva (2023), private pension plans have increasingly proved to be a highly attractive alternative for young people. There are even economists who claim they are currently the most sought after way for Brazilians to invest in

the future, given that private pensions are one of the more accessible alternatives in terms of supplementary income for retirement. They are also a way to guarantee income for old age, or even before.

Thus, as supported by Silva, Moreira and Papandréa (2022), retirement is a goal one needs to plan for. According to these authors, planning for retirement is fundamental toward guaranteeing one will have sufficient income to maintain a standard of living, as well as to accomplish all goals and objectives, live new experiences, and be able to afford all expenses, without needing to work; being able to enjoy the life one wants to have.

3 Methodological Procedures

3.1 Research Strategy

In order to identify and analyze the *Millennials*' view of social security, an exploratory study was conducted using the sequential mixed methods approach (Terrell, 2012; Mele & Belardinelli, 2018), which consisted of five steps:

- i.identify the age group attributed to *Millennials* based on the literature review and analysis of data from the Brazilian Institute of Geography and Statistics (IBGE) for the year 2010 and its projection for the year 2060. Shows the number of men and women in each age group and their proportion in relation to the total population, the goal being to ascertain the size and proportion of *Millennials* in the demographic pyramid of the Brazilian population.
- ii.raise hypotheses about people's behavior, especially *Millennials*, with regard to social security based on results from previously conducted national and international surveys on the subject.
- iii.use the survey technique by applying a 21-item structured questionnaire using the *Lime Survey®* tool. This was sent to approximately 15 thousand people from all regions of Brazil. The respondents were selected on an open basis and according to the age group of this generation.
- iv. The non-parametric Chi-Square test was performed for each question in the structured questionnaire to verify differences among the following control variables: if *Millennials* or not, gender, education level, training in the business area, place of residence, status (work/study), and whether they have a private pension or not. The Chi-square is a hypothesis test designed to find a dispersion value for two nominal categorical variables and to assess the existing association between qualitative variables. It does not depend on population parameters such as population. The tests for all respondents were analyzed, separating between *Millennials* and non-*Millennials*. Significant differences were found with 95% confidence (*) and 99% (**).
- v.analyze responses and compare to previously conducted national and international surveys on the subject, with emphasis on the *Millennials* generation.

3.2 Questionnaire design and application

21 questions were designed and divided into two parts: (i) respondent profile and (ii) concern over retirement. The first part of the questionnaire (respondent profile) consisted of six questions: gender, birthdate, education level, training area, state of residence, and current occupation. The second part (concern over retirement) consisted of 15 questions related to the respondents' understanding/knowledge of retirement. Questions 14, 15 and 16 were dependent on the answers to question 13. The last two questions (20 and 21) asked respondents to leave a comment on the subject of social security and also leave their email address in order to receive the survey results.

A *Likert*® scale was used for the answers, the most common type of scale in opinion polls as it allows for greater practicality in writing and analyzing data (McClelland, 1976). Respondents were asked to rate their level of agreement with each question. To do this they selected one of the following: strongly agree, agree, neither agree nor disagree, disagree, or strongly disagree).

To try and limit any problems or doubts that might arise during application of the questionnaire as well as monitor the length of time needed to complete it (Chagas, 2000), a pre-test was carried out with 40 people between May 13th and 15th, 2019. This group of 40 people was made up of three different profiles: a) researchers and professors in the business area, b) a group of people not involved in academia, all around the age of 50, and, c) Accounting and Business Economics and Controllership (ECEC) students from the Ribeirão Preto College of Economics, Administration and Accounting at the University of São Paulo(FEARP/USP). According to the results of the pre-test, some spelling adjustments were made and a few expressions were included to make it clearer that the questionnaire was asking about people's personal pensions.

The questionnaire was made available online shortly after the pre-test. It was sent via email using the Lime Survey® tool (https://www.limesurvey.org/). The questionnaire was sent at two separate intervals, one between May 21 and 22, 2019 and the other between May 28 and 29, 2019. It was sent to a contingent of approximately 15 thousand people from all regions of Brazil. The questionnaire was made available from May 21 to June 3, 2019.

One point to take into consideration is the fact that emails from populations with low education do not always have access to the internet. The population with access to higher education has their data evidenced for the most varied reasons, such as events, cultural activities and voluntary work. Thus, the survey of emails for this study was developed through search engines such as Google® and Bing® for academic and cultural events that made e-mails available. For example, congress channels, non-governmental organizations such as Rotract, and others.

3.3 Hypotheses and Bases

The questions were designed based off the results of national and international surveys on social security. The 10 hypotheses presented below were either confirmed or not, according to the results contained in this study.

H1: Millennials are not very concerned about their retirement.

Base: SILVA, E. A. S. R., LIMA, D. V., SILVA, C. A. T.; RECH, I. J. 2018. A Imprevidência da Previdência: como o ciclo da vida afeta as escolhas dos indivíduos, Universidade de Brasília.

H2: Millennials are not very concerned about their finances.

Base: Litlle, K. 2019. Millennials are optimistic about their financial futures, but it could hurt them. Bankrate.

H3: Millennials receive little to no information about financial matters from their places of employment or educational institutions.

Base 1: The Bank of New York Mellon Corporation. 2015. Generation Lost: Engaging Millennials with retirement saving.

Base 2: Brown, J.E., 2018. Millennials and Retirement: Already Falling Short. National Institute on Retirement Security.

H4: Millennials prefer to receive more detailed and real information about the consequences of not saving early.

Base: The Bank of New York Mellon Corporation. 2015. Generation Lost: Engaging Millennials with retirement saving.

H5: The majority of the Brazilian population contributes to the mandatory pension system (INSS or private).

Base: Silva, E. A. S. R., Lima, D. V., Silva, C. A. T.; Rech, I. J. 2018. A Imprevidência da Previdência: como o ciclo da vida afeta as escolhas dos indivíduos, Universidade de Brasília.

H6: Millennials understand the need to have a reserve in addition to the pension offered by the government, for example, a Supplemental Pension.

Base: Ribeiro, N. K. C., Gonsalves, R. A. 2016. Previdência Complementar: uma proposta para a Geração Y?, v.3, n.1, p.49-89.

H7: Few Millennials participate or are interested in participating in a Supplemental Pension Plan in the near future.

Base 1: Ribeiro, N. K. C., Gonsalves, R. A., 2016. Previdência Complementar: uma proposta para a Geração Y?, v.3, n.1, p.49-89.

Base 2: Brown, J.E., M.S., K.D., L.L.M. 2018. Millennials and Retirement: Already Falling Short. National Institute on Retirement Security.

H8: Millennials would save more money for retirement if they could use their retirement savings whenever they needed it.

Base: The Bank of New York Mellon Corporation. 2015. Generation Lost: Engaging Millennials with retirement saving.

H9: Millennials believe it is highly likely that people will no longer be able to retire comfortably in the future.

Base: Smith, K. A. 2018. The defining financial question of millennials: Do you want to live comfortably now, or in the future?

H10: Millennials believe that their retired family members are better off in their retirement than they will be in theirs.

Base: Brown, J.E. 2018. Millennials and Retirement: Already Falling Short. National Institute on Retirement Security.

4 Results and Analyses

4.1 Respondent Profiles

The majority of the 931 questionnaire respondents were female (57.6%) and in the age group corresponding to *Millennials*, which is defined in the survey as those born between the years 1981 to 2000 (as per the IBGE analysis of age groups) and aged between 19 and 38 (76.8%). With regard to education, most had a complete/incomplete Master's/doctoral degree (44.3%) or a complete/incomplete higher education (41.6%). This level of higher learning can be explained by the complexity of the subject, but it does not invalidate the results, as most respondents are within the age range of interest in the study.

As for the training area, the majority of respondents said they did not work in the financial area (77.7%). As for the location of respondents, most resided in the southeast region of Brazil (27%) and were either studying or working (39.8%).

4.2 Non-parametric Chi-square test

As an initial question, but a control variable, we evaluated whether the respondents had any kind of supplemental pension plan. Table 1 shows that only 18% indicated they had some kind of supplemental pension plan. Several statistical differences can be observed between the control variables, the most interesting being the difference between *Millennials* and non-*Millennials*. The rate is 12.8% for the former and 36.5% for the latter.

Another significant difference observed is that *Millennials* with lower education levels tend to not have any pension plan, this assessment being more evident among *Millennials*. In terms of regions of the country, a greater number of respondents from the north, southeast and southern regions had pension plans, regardless of age (Table 1).

Table 1 *I have a supplementary pension plan*

Yes		No		
	18.0%			
Differences Assessment - Chi-square test – 95%(*) 99% (**)				
	All	non-Millennials	Millennials	
Gender	0.061	0.183	0.086	
Millennials or not	0.000**			
Education	0.000**	0.822	0.000**	
Business training	0.027*	0.222	0.057	
Place of Residence	0.000**	0.007**	0.000**	
Working/Studying	0.000**	0.081	0.000**	

Source: *study data*.

The first question is presented in Table 2: "I think or am concerned about my retirement". Note that the vast majority (90.7%) agree (agree + strongly agree) that they are concerned about their retirement. There were some significant differences found, the most "interesting" being the fact that there was greater agreement among women, especially *Millennials* (93.2%), than men of the same age group (85.4%).

 Table 2

 I think or am concerned about my retirement

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
0.9%	2.2%	6.3%	31.9%	58.8%
Di	ifferences Assessm	ent - Chi-square test – 9	5%(*) 99% (**)	
		All	non-Millennials	Millennials
Gender		0.047*	0.734	0.016*
Millennials or not		0.253		
Education		0.512	0.93	0.482
Business training		0.727	0.801	0.766
Place of Residence		0.761	0.111	0.91
Working/Studying		0.235	0.000**	0.559
Supplemental Pension		0.077	0.813	0.231

Source: study data.

The second question is presented in Table 3 and asks respondents whether they have knowledge of their personal finances. A 63.7% agreement was obtained. Several statistically significant differences are observed in the control variables: the first relates to gender where women from both *Millennials* and non-*Millennials* stated having less knowledge about their personal finances; however, this number is higher among the non-*Millennials*. In the literature, studies have already shown women to have less knowledge about their finances (Agarwalla, Barua, Jacob & Varma, 2015; Adam, Boadu & Frimpong, 2018). Business

training also favors greater knowledge of personal finance, both among *Millennials* and non-*Millennials*, including supplemental pensions, especially among *Millennials* (Table 3).

Table 3 *I have knowledge of my personal finances*

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
2.6%	14.8%	18.9%	46.5%	17.2%
Dit	fferences Assessm	ent - Chi-square test – 9:	5%(*) 99% (**)	
		All	non-Millennials	Millennials
Gender		0.000**	0.040*	0.000**
Millennials or not		0.138		
Education		0.031*	0.007**	0.018*
Business training		0.000**	0.003**	0.000**
Place of Residence		0.374	0.071	0.154
Working/Studying		0.001**	0.446	0.002**
Supplemental Pension		0.000**	0.279	0.000**

Source: study data.

The third question is presented in Table 4: "I usually receive information about social security either from my workplace or my educational institution". Of note is that almost half of respondents (49%) disagreed with this statement. The main significant differences are between *Millennials* and non-*Millennials*. The latter agreed with the statement, which can perhaps be explained by factors such as a larger number of questionnaires being sent to banks or that this information is of greater importance to non-*Millennials*. Having a background in business also influences whether one agrees with this statement, especially among *Millennials*. The same is true for those who already have a supplemental pension (Table 4).

Table 4 *I usually receive information about social security either from my workplace or my educational institution*

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
18.2%	30.8%	18.6%	22.9%	9.5%
	Differences Assessm	nent - Chi-square test – 9	5%(*) 99% (**)	
		All	non-Millennials	Millennials
Gender		0.540	0.836	0.197
Millennials or not		0.002**		
Education		0.063	0.186	0.192
Business Training		0.018*	0.167	0.001**
Place of Residence		0.385	0.741	0.064
Working/Studying		0.146	0.478	0.611
Supplemental Pension		0.000**	0.616	0.000**

Source: *study data*.

Table 5 shows that a total of 82.1% of respondents agreed when asked whether they would be interested in receiving more detailed and real information about the consequences of not saving while still young. However, in the analysis by groups, we observed greater agreement among *Millennials* (84.9%) than non-*Millennials* (71.9%). A difference was also observed in terms of education, where respondents with less education were more interested in receiving this kind of information, regardless of their age. However, the analysis shows there appears to be less interest in receiving this kind of information among respondents who already have supplementary pensions as opposed to those who do not have supplementary pensions, especially among *Millennials*.

Table 5 *I am (or would be) interested in receiving more detailed and real information about the consequences of not saving while still young.*

Strongly Disagree	Disagree	Neither Agree nor	Agree	Strongly Agree
2.7%	5.1%	Disagree 10.1%	40.0%	42.1%
	Differences Assessm	nent - Chi-square test – 9	5%(*) 99% (**)	
		All	non-Millennials	Millennials
Gender		0.444	0.599	0.254
Millennials or not		0.000**		
Education		0.040*	0.208	0.083
Business Training		0.537	0.516	0.518
Place of Residence		0.212	0.688	0.313
Working/Studying		0.133	0.153	0.662
Supplemental Pension		0.003**	0.960	0.004**

Source: study data.

When asked whether they have already been making payments to the official social security system, 60.1% of respondents indicated some agreement, as shown in Table 6. Some significant differences were observed, many of which depended on the respondent's individual profile, particularly regarding their educational and professional development stages. For this question, 93.1% of non-*Millennials* agreed, while 50.8% of *Millennials* did not. In terms of education, the overall analysis showed that those who had lower levels of education (42.1% high school and 44.0% higher education) were less likely to agree, mainly among *Millennials*. For respondents who only studied or were undertaking internships, there are also lower levels of agreement, among both *Millennials* and non-*Millennials*. Among those with supplemental pensions, there is also a higher level of agreement, especially among *Millennials*.

Table 6 *I already contribute to the mandatory pension system through my employer.*

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
19.3%	14.1%	6.5%	19.7%	40.4%
	Differences A	Assessment - Chi-square te	st - 95%(*) 99% (**)	
		All	non-Millennials	Millennials
Gender		0,877	0,791	0,328
Millennials or not		0,000**		
Education		0,000**	0,176	0,000**
Business Training		0,002**	0,712	0,005**
Place of Residence		0,722	0,289	0,542
Working/Studying		0,000**	0,000**	0,000**
Supplemental Pension		0,000**	0,675	0,000**

Source: *study data*.

Respondents were asked if they understood the need to have a reserve in addition to the social security offered by the government. Table 7 shows that the vast majority of respondents (83.9%) agree with the need for this reserve. Significant differences in concordance between men and women was once again observed, especially among *Millennials*. Between women and men, there is equal total agreement, but the level of strong agreement is higher among men. Among those with a background in business, there is a higher total agreement of more than 12%, especially for *Millennials*. Among those who already have some kind of supplemental pension, whether *Millennials* or not, there is also a total agreement of more than 13% compared to those who do not have a pension (Table 7).

Table 7I understand the need to have a reserve in addition to the social security offered by the government

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
2.60%	4.10%	9.40%	35.50%	48.40%
	Differences	Assessment - Chi-square test -	95%(*) 99% (**)	
		All	non-Millennials	Millennials
Gender		0.004**	0.103	0.006**
Millennials or not		0.062		
Education		0.187	0.776	0.551
Business Training		0.000**	0.390	0.000**
Place of Residence		0.788	0.628	0.875
Working/Studying		0.621	0.863	0.836
Supplemental Pension		0.000**	0.007**	0.000**

Source: study data.

Respondents who indicated already having a supplemental pension plan were asked about who made the payments and whether they believed that the pension plan benefits were

sufficient to have a comfortable retirement. When asked about who paid into the social security, 83.8% of respondents said that they made their own payments, 28.1% said that their company made the payments, and 5.4% said their family made the payments. When asked whether they thought their benefits would be adequate for a comfortable retirement, 78.4% of respondents agreed they would be satisfactory, and no significant differences were found between the control groups (Table 8).

Table 8 *I believe that the current payments to my private pension plan will help me have a more comfortable retirement.*

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
2.4%	3.0%	16.2%	44.3%	34.1%
	Differences Ass	sessment - Chi-square test	-95%(*)99% (**)	
		All	non-Millennials	Millennials
Gender		0.592	0.380	0.074
Millennials or not		0.103		
Education		0.083	0.970	0.074
Business Training		0.541	0.373	0.616
Place of Residence		0.448	0.155	0.506
Working/Studying		0.227	0.685	0.317

Source: study data.

Respondents who had not yet made contributions to a supplemental pension plan were asked whether they would be interested in starting contributions in the near future. Table 9 shows that only 54.3% agreed. A number of significant differences were observed, one of the most significant being the assessment in relation to age as only 34.9% of non-*Millennials* were interested in starting contributions, while that percentage for *Millennials* was 58.3%. In terms of study/work *status*, the overall interest, which includes *Millennials*, was higher among respondents who were only studying, or who were studying and doing an internship. For place of residence, the south and northeast regions registered the highest level of interest (Table 9).

Table 9 *I am interested in having a supplementary pension plan in the near future.*

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
10.0%	11.6%	24.1%	31.1%	23.3%
	Differences Asse	ssment - Chi-square test –	95%(*) 99% (**)	
		All	non-Millennials	Millennials
Gender		0.119	0.613	0.137
Millennials or not		0.000**		
Education		0.005**	0.432	0.418
Business Training		0.017*	0.188	0.115
Place of Residence		0.072	0.034*	0.020*
Working/Studying		0.000**	0.091	0.018*

Source: study data.

Respondents were asked whether they would invest more in their pension if they could use the benefits whenever they needed. Table 10 shows that 56.0% agreed they would make more investments, while only 19.3% disagreed with this statement. In terms of significant differences, a higher level of agreement (by and large, strongly) was observed among *Millennials*. In terms of gender, there was a (strong) higher agreement among men at 8.3%, particularly among *Millennials*; however, the level of disagreement was also higher among men at 5%.

Table 10I would save more for my retirement if my retirement plan (any public or private plan) allowed me to use these funds whenever I needed them.

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
5.61%	13.70%	24.70%	33.12%	22.87%
	Differences Asse	ssment - Chi-square test –	95%(*) 99% (**)	
		All	non-Millennials	Millennials
Gender		0.007**	0.462	0.003*
Millennials or not		0.022*		
Education		0.048*	0.246	0.425
Business Training		0.119	0.674	0.112
Place of Residence		0.398	0.174	0.150
Working/Studying		0.499	0.802	0.784
Supplemental Pension		0.196	0.476	0.202

Source: study data.

When assessing the respondents' view of what retirement for the new generations would be like, we observed that 70% agreed that the new generations will not be able to retire comfortably in the future, as shown in Table 11. Significant differences were observed in the gender group, both *Millennials* and non-*Millennials*. We also found that the women were more pessimistic than the men, on average agreeing 12% more than men with this statement. Pessimism was even greater among *Millennials* who do not have supplementary pensions (Table 11).

Table 11I believe that young people and the new generations will no longer be able to retire comfortably in the future

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
6.58%	9.06%	14.35%	30.74%	39.27%
	Differences Asse	ssment - Chi-square test –	95%(*) 99% (**)	
		All	non-Millennials	Millennials
Gender		0.000**	0.017*	0.001**
Millennials or not		0,\.703		

Diana Vaz de Lima, Daniel Nepomuceno Nery and Cláudio de Souza Miranda					
Education	0.295	0.593	0.416		
Business Training	0.761	0.520	0.615		
Place of Residence	0.610	0.758	0.749		
Working/Studying	0.253	0.136	0.638		
Supplemental Pension	0.492	0.350	0.043*		

Source: study data.

When further questioned about future generations, 62% of respondents agreed that the generation of people who are currently retired have better retirement living conditions than the generations of today will have in the future. Once again, exclusively among non-*Millennials*, there is a higher number of women who agree with this statement (20.6%) than men (Table 12).

Table 12I believe that my retired family members currently have better living conditions than I will have in my future.

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
6.26%	10.25%	21.47%	30.74%	31.28%
Differences Assessment - Chi-square test - 95%(*) 99% (**)				
		All	non-Millennials	Millennials
Gender		0.015*	0.008**	0.210
Millennials or not		0.185		
Education		0.931	0.173	0.720
Business Training		0.191	0.946	0.081
Place of Residence		0.073	0.474	0.098
Working/Studying		0.238	0.499	0.244
Supplemental Pension	1	0.360	0.208	0.491

Source: study data.

Despite the correlation test having shown a high degree of correlation 0.497**, when analyzing the last two questions for similar answer patterns (about differences in retirement between retired and non-retired generations), the non-parametric Wilcoxon test for comparing two paired samples showed them to be significantly different (0.000).

4.3 Compared Results

H_{1:} Millennials are not very concerned about their retirement.

Unlike prior surveys, we found that more than 90% of *Millennials* who responded to this questionnaire think or are concerned about their retirement. This goes against Hypothesis 1 which, based on prior surveys, indicated low levels of concern among *Millennials* over their future retirement.

H₂: Millennials are not very concerned about their finances.

Similar to previous surveys, most Brazilian *Millennials* who responded to this questionnaire agree or strongly agree that they have knowledge about their personal finances, even if they do not work in the financial area. One explanation may mirror that of a study financed by the *National Endowment for Financial Education* which concluded that young Brazilians may think they know more than they actually do. Further studies are needed to determine whether these young people actually have a basic knowledge of finance.

H_{3:} Millennials receive little to no information about financial matters from their places of employment or educational institutions.

Only around 30% of both *Millennials* and non-*Millennials* in this survey said they usually receive information about social security from their workplace or educational institution. This shows the need for this topic to be addressed in Brazilian institutions, especially considering that *Millennials* may suffer from a lack of retirement planning. These results confirm the hypotheses and bases of this study, showing an even higher percentage than that found in the *BNY Mellon* survey (2015), where 46% of *Millennials* claimed they did not receive any financial information from their workplaces or educational institutions. This led the *BNY Mellon* survey to conclude that "without much knowledge about the theme, the new generation underestimates the amount that will be needed to finance post-work life".

H₄: Millennials prefer to receive more detailed and real information about the consequences of not saving early.

Both generational groups (*Millennials* and non-*Millennials*) showed interest in receiving information about the consequences of not saving early. Comparing our results with the research hypotheses and bases show that our findings confirm the hypothesis, pointing to an even higher level of agreement than the findings in the *BNY Mellon* study (2015).

H_{5:} The majority of the Brazilian population contributes to the mandatory pension system (INSS or private).

While nearly 90% of non-Millennials stated that they contribute to the mandatory pension system, only 51% of Millennials agreed with this statement. One explanation for this is that, due to their age range, Millennials are still in the process of entering and consolidating the job market. This can be explained by the findings from the Respondent Profile, which indicated that more than 30% of Millennials are unemployed.

The findings and results previously demonstrated in this study confirm the hypotheses and bases in this study insomuch as the results coincide with the fact that the majority of the Brazilian population contributes to the mandatory system. More specifically, the results show that *Millennials* are still transitioning into the labor market at a time where unemployment rates are high, as mentioned by several authors.

H₆: Millennials understand the need to have a reserve in addition to the pension offered by the government, for example, a Supplemental Pension.

Most *Millennials* in this survey say they understand the need to have a reserve in addition to a government pension (85%). This confirms Hypothesis 6 which states that these young people understand this need. The findings of this study confirm the hypothesis that *Millennials* do understand the importance of not depending solely on a government pension.

H₇- Few *Millennials* participate or are interested in participating in a Supplemental Pension Plan in the near future.

More non-*Millennial* respondents have a supplemental pension plan compared to *Millennial* respondents. These results are associated with the different life stages of these generations and may also be associated with the data in Table 1 (Unemployed *Millennials*). Most *Millennials* who said they did not have a supplemental pension plan (87%) expressed interest in having one in the near future (58.6%). When comparing the results with the bases and hypotheses of the study, we concluded that the study only partially proves Hypothesis 7 as the figures demonstrate low numbers of *Millennials* with supplemental pension plans; however, this same group does seem to express a great interest in having a pension plan in the near future.

H₈- Millennials would save more money for retirement if they could use their retirement savings whenever they needed it.

The data reveal that both *Millennials* and non-*Millennials* both agree with the statement that they would save more for retirement if they could use their retirement income whenever necessary. This may reveal a changing trend for public or private pension institutions, which are currently making (or will make) great efforts to attract individuals from this generation. Therefore, the results obtained above prove Hypothesis 8, which was based on the *BNY Mellon* survey (2015), showing that "*Millennials* want products that attend to their immediate needs". This indicates there is a great demand for more flexible retirement plans in terms of withdrawing income and also a change in taxpayers' attitudes when stating that they would contribute more to their pension plans if these new possibilities emerged.

H₉- Millennials believe it is highly likely that people will no longer be able to retire comfortably in the future.

71% of *Millennials* believe they will no longer be able to retire comfortably in the future. This supports Hypothesis 9 which suggests that this generation believes it is highly likely that people will no longer be able to retire more securely in their future. We saw that this result is close to the bases and hypotheses used in the study (Smith, 2018), leading to the conclusion that *Millennials* are quite concerned about difficulties in relation to their retirements.

 H_{10} - Millennials believe that their retired family members are better off in their retirement than they will be in theirs.

The results suggest that the vast majority (71%) of *Millennials* agree with the statement that their retired family members have, or will have, better living conditions in their retirement than they will. This validates and reinforces Hypothesis 10 which shows that

achieving a secure retirement will be quite challenging for most *Millennials* due mainly to low wages, high levels of unemployment, and economic changes.

The study even shows that this generation "accumulated about half the wealth of their parents at the same stage of their lives." In the case of Brazil, these results demonstrate that *Millennials* are aware of the less favorable conditions in relation to their future retirement compared to their currently retired family members. They believe that their retired family members have better living conditions, mainly due to the demographic changes of the Brazilian population and their consequences.

5 Final Considerations

This study aimed to identify and analyze *Millennials* and their view about social security. For research purposes, the generation of *Millennials* included people born between the years 1981 and 2000 in order to balance out the age structure segregation period used by the Brazilian Institute of Geography and Statistics of Brazil (IBGE), the institute this study obtained its data from.

The literature review showed that one of the discussions on the recurrent social security reforms concerns their intergenerational impacts. Among those most affected by this scenario are young people, who are the main victims of precarious employment. Due to the proposed increased length of time one must pay into social security (40 years of payments), young people will be at an even greater disadvantage in terms of employer-sponsored retirement plans.

One of the findings in this study is that younger people are less prepared for retirement and their level of social security education is generally low. This leads to the belief that *Millennials* are temporary individuals, meaning they think too much in the now and leave the future for later. This is one reason for conducting further research on social security education for this age group.

The hypotheses raised about people's attitudes toward social security, especially *Millennials*, were based on results from previously conducted national and international surveys on the subject. The study listed 10 hypotheses which were later included in a 21-item questionnaire sent via the *LimeSurvey*® tool to approximately 15,000 people from all regions of Brazil, receiving a total of 931 valid responses.

The non-parametric Chi-Square test was performed for each question in the structured questionnaire to verify differences among the following control variables: *Millennials* or not, gender, education level, business training, place of residence, status (work/study), and whether they have a private pension or not. The tests for all respondents were analyzed, separating between *Millennials* and non-*Millennials*.

We analyzed all responses from the respondents and compared them to the hypotheses and bases from national and international research on the subject. Eight of the 10 <u>hypotheses</u> were confirmed, they were: (i) most Brazilian *Millennials* who responded to this questionnaire agree that they have knowledge about their personal finances, even if they do not work in the financial area; (ii) only around 30% of respondents said they usually receive information about social security from their workplace or educational institution, highlighting the need for Brazilian institutions to address this topic; (iii) they showed interest in receiving information about the consequences of not saving early; (iv) most *Millennials* are still transitioning into the labor market and thus do not pay social security; (v) they understand the importance of not depending solely on a government pension; (vi) they want products that attend to their

immediate needs; (vii) *Millennials* are quite concerned about difficulties in relation to their retirements; and (viii) they believe that achieving a secure retirement will be quite challenging for most *Millennials*.

Conversely, the research findings do not confirm the hypothesis that *Millennials* do not think or worry about their retirement, quite the opposite; more than 90% of Brazilian *Millennials* who responded to this questionnaire expressed concern over their retirement. The hypothesis that few *Millennials* already have or are interested in having a supplemental pension plan in the future was only partially confirmed. The findings in this study show that a low number of *Millennials* have supplemental pension plans; however, they do show a great interest in having some retirement plan in the near future.

In order to help reduce the limitations of this study, we suggest that future research make the questionnaire available to individuals with lower education levels, and try to analyze to what extent the findings in this study can be extrapolated.

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