Effects of country & age on work engagement, job satisfaction & organizational commitment among employees in Brazil

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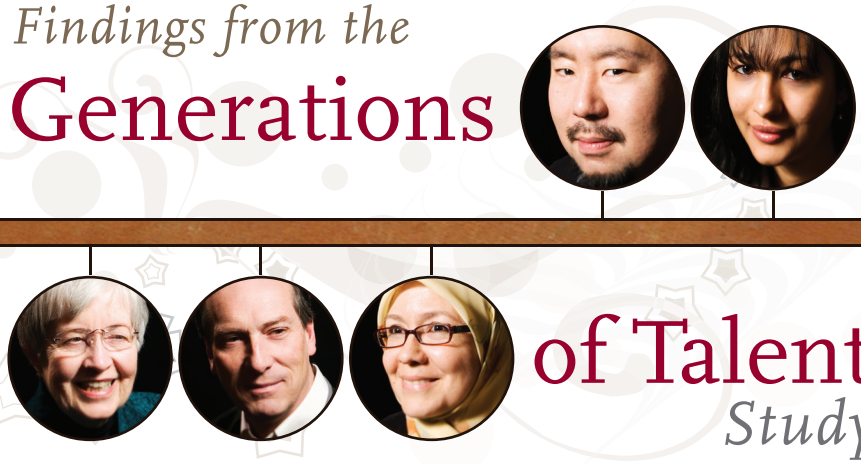
THE SLOAN CENTER ON aging & work AT BOSTON COLLEGE

Effects of Country & Age

on Work Engagement, Job Satisfaction & Organizational Commitment Among Employees in Brazil

Findings from the

Generations of Talent *Study*



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Key Findings & Employer Considerations

INTRODUCTION

The Generations of Talent Study gathered data from 11,298 individuals working at 24 different worksites in 11 countries. For this report, we used information about employees in all 11 of these countries.

As indicated by the table below, we identify the countries as belonging to one of two groups: those with older populations and developed economies and those with younger populations and developing economies.

"Old-Developed Countries"	"Young-Developing Countries"
Japan	Brazil
The Netherlands	China
Spain	India
United Kingdom	Mexico
United States	South Africa
	Botswana

AGE FACTORS

Among the respondents to the Generations of Talent Study:

A higher percentage of respondents at the worksites in Brazil (47.7%) are under the age of 30 compared to those working at sites in the "old-developed" countries (10.1%). A lower percentage of respondents at the worksites in Brazil are between the ages of 30-39 (26.8%) as compared to those working in other "young-developing" countries (37.4%) (see page 22).

- In contrast to the findings in the Generations of Talent Study, more than 80% of adults in the prime age groups 30-34, 35-39, 40-44, and 45-49 are economically active in Brazil (see page 16). Given the broader demographic trends of the country, employers with worksites in Brazil may need to focus attention on providing more leadership and advancement opportunities as workers 50+ begin to move into retirement. In addition, as there is a relatively young retirement age for formal sector employees in Brazil, retaining and developing young talent can be extremely important.

Among respondents at the worksites in Brazil, a higher percentage report being early career employees (55.2%) compared to those working at sites in the "old-developed" countries and the other "young developing" countries (22.5% and 46.5%, respectively). The age range of respondents in Brazil who characterize themselves as early career is from 18 to 83 years (see page 23).

- Employers with worksites in Brazil who find that they have relatively large percentages of early career employees might consider innovative ways to help them acquire the supervisory competencies needed at the 21st century workplace, such as supervising remote workers. However, given the broad age in range of employees who report themselves being in early career (from 18 to 83 years), employers might consider the benefits of tailoring employee

supports or programs to the needs of particular age cohorts in different career stages. For example, employers might want to assess programs that could support older, early career employees to ensure that these programs align with the needs of this group. In addition, employers might want to consider providing their younger, early career employees with experiences that will facilitate smooth transitions to mid-career while preparing them for the leadership roles they are likely to assume.

A greater percentage of respondents at the worksites in Brazil report providing elder care (for parents or parents-in-law) (17.2%) compared to those at sites in the "old-developed" countries (7.1%) (see page 25).

- Employers with worksites in Brazil who find that they have relatively large percentages of employees with dependent care responsibilities might want to evaluate how demands often associated with these responsibilities affect their workers. In some cases, employees may find it particularly helpful to have scheduling flexibility and the support of a supervisor who understands the often unpredictable demands of elder caregiving.

WORK ENGAGEMENT

Among the respondents to the Generations of Talent Study:

The work engagement of respondents at the worksites in Brazil is higher than the work engagement of respondents in the "old-developed" countries (see page 31).

Nearly four in five (79.1%) of those at the worksites in Brazil sites report that "time flies while they are working" very often or always. Three-fourths are "proud of their work" or feel that they are "immersed in their job" very often or always (74.9% and 74.6%, respectively). Half (49.8%) of respondents at the worksites in Brazil feel that they are "bursting with energy" at their work very often or always (see page 30).

While work engagement is relatively high among all respondents at the worksites in Brazil, work engagement is lowest among respondents under the age of 30 (see page 32).

- Employers with worksites in Brazil who find that the levels of employee engagement are lower among their younger employees might want to consider options for boosting these employees' absorption, vigor, and pride in their work. For example, providing options for assuming challenging assignments or participating in virtual mentorships could support the engagement of younger employees interested in making contact with colleagues working in other parts of the world.

JOB SATISFACTION

Among the respondents to the Generations of Talent Study:

Job satisfaction among respondents at worksites in Brazil does not significantly differ from the job satisfaction among respondents in the other "old-developed" and "young-developing" countries participating in the GOT study (see page 35).

Among respondents working at worksites in Brazil, 88.1% and 84.3% are moderately to strongly satisfied with the relationships with their subordinates and co-workers/peers, respectively. Additionally, two-thirds (66.3%) report being moderately to strongly satisfied with their organizational supervisor. Three-fifths (63.1%) feel moderately to strongly satisfied with their sense of accomplishment from their work. Just half (50.8%) are moderately to strongly satisfied with resources and opportunities for training and development, and slightly more than half (57.5%) are moderately to strongly satisfied with the opportunities for advancement and promotions within their organizations (see page 34).

While respondents of all ages at worksites in Brazil are moderately to highly satisfied with their jobs, job satisfaction among respondents under the age of 40 is significantly lower than satisfaction among those aged 40 and older (see page 35 and 36).

- Employers with worksites in Brazil who find that the job satisfaction levels vary by age cohorts might want to consider whether different aspects of particular jobs matter more or less to employees of different ages. For instance, opportunities for advancement and promotion might be more important to some age groups whereas opportunities for training and development could be more important to others. Insight about what is important to employees of different ages could help employers consider ways to have open dialogue about the factors that can lead to higher job satisfaction.

ORGANIZATIONAL COMMITMENT

Among the respondents to the Generations of Talent Study:

Organizational commitment among respondents at worksites in Brazil is significantly higher than the organizational commitment of respondents in the "old-developed" countries participating in the GOT study (see page 38).

Overall, seven in 10 (70.7%) respondents at worksites in Brazil moderately to strongly agree that they are "willing to work harder than they have to in order to help their organization succeed." Moreover, 85.0% of respondents moderately to strongly agree that they feel "proud to be working for their organization." However, just 16.8% moderately to strongly agree that they "would take almost any job to keep working for their organization" (see page 37).

While respondents of all ages at worksites in Brazil are moderately to highly committed to their organizations, organizational commitment is significantly lower for respondents under the age of 30 at worksites in Brazil than for respondents aged 40-49 and aged 50+. However, organizational commitment among respondents at the worksites in Brazil does not significantly vary by career stage or life stage (see page 39).

- It can be discouraging for employers when some groups of employees report low levels of organizational commitment. Employers may find that they are able to boost levels of organizational commitment among those under the age of 30 by offering training, development and career advancement opportunities at the company, which indicate that the organization is interested in their employees' future.

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Introduction

Among the many challenges facing global employers, three trends have significant business implications:

1. The effects of the global economic downturn,
2. The globalization of talent (multinational and multicultural workforces), and
3. Dramatic changes in the age composition of the workforce, which vary from country to country.

According to the results from a recent *McKinsey Global Survey*[1], more than 50% of corporate executives consider these global trends "very" or "extremely" important in a wide range of areas of their businesses, including talent management strategy as well as new product development and reputation building. To date, however, few employers are taking a proactive approach to managing the effects of these global trends.[1] Why? Possibly, because recognizing these trends is the easy part. Securing the right kind of information needed for sound decision-making might be notably difficult.

To gather business-relevant information about the work experiences of employees of different ages who work in different countries, the Sloan Center on Aging & Work at Boston College conducted the Generations of Talent (GOT) Study. The study focused on two key questions:

- Do employees' perceptions of their work experiences vary depending on the country where they work?
- Do employees' perceptions of their work experiences vary depending on their age related factors such as chronological age, career stage, and life stage?

From May 2009 through November 2010, we collaborated with seven multinational employers to design and implement the GOT survey. In total, 11,298 employees, from 24 worksites in 11 different countries where these enterprises operate, responded to the survey.

Focusing on Brazil, this report is one in a series which summarizes selected findings from the Generations of Talent Study on a country-by-country basis. This report relies on data from 1549 employees employed by three multinational companies in Brazil.

The report is organized into four major sections:

Section 1: The Context of Brazil: Demographic and Economic Highlights

- In this section, we provide selected background information about the demographic and economic context in Brazil.

Section 2: Experiences of Aging

- In this section, we focus on age experiences that are related to chronological age, career stage, and life stage (indicated by dependent care).

Section 3: Work Outcomes

- *Work Engagement among Employees in Brazil—A Comparative Perspective:* Work engagement is an indicator of employees' connection to their work. Highly engaged employees experience a positive, enthusiastic, and affective connection with their work that motivates them to invest in getting the job done well. In this section, we examine how country, age, career stage, and life stage influence work engagement among respondents at the worksites in Brazil.

- *Job Satisfaction among Employees in Brazil—A Comparative Perspective:* Job satisfaction is an indicator that can be related to a range of important work behaviors and decisions, such as the decision to either leave or remain with an employer. In this section, we examine how country, age, career stage, and life stage influence job satisfaction among the respondents at the worksites in Brazil.

- *Organizational Commitment among Employees in Brazil—A Comparative Perspective:* Organizational commitment can help employers to gain insight about the general morale among employees. In this section, we examine how country, age, career stage, and life stage influence organizational commitment among the respondents at the worksites in Brazil.

Section 4: Methodological Notes

- In this section, we briefly provide characteristics of the sample and data collection methods.

Section 1: The Context of Brazil: Demographic and Economic Highlights

Demographic changes and economic globalization are worldwide phenomena, but not every country is experiencing these trends in the same manner. These global trends have precipitated different opportunities and challenges for people working in different countries.

In this section of the report, we provide a framework and indicators for understanding the current Brazilian context compared to the demographic and economic conditions in other countries.[1] Figure 1.0 illustrates a way to consider the interaction between age demographics and key characteristics of the economy across 11 countries where the Generations of Talent (GOT) Study data were collected: Botswana, Brazil, China, India, Brazil, Mexico, the Netherlands, South Africa, Spain, the United Kingdom, and the United States.

Figure 1.0 A Framework for Considering Countries' Age Demographics and Economic Development

	Young Population	Old Population
Developed Economies[i]	Developed Economies Young Population	Developed Economies Old Population
Developing Economies	Developing Economies Young Population	Developing Economies Old Population

We have selected six age demographic indicators and three economic indicators to distinguish Brazil in the above framework.

1.1 AGE DEMOGRAPHICS

Various statistics can portray the age of a country's population, such as the distribution of its population, the average years of life expectancy, or the median age of the population. The following statistics offer insights about age demographics in Brazil.

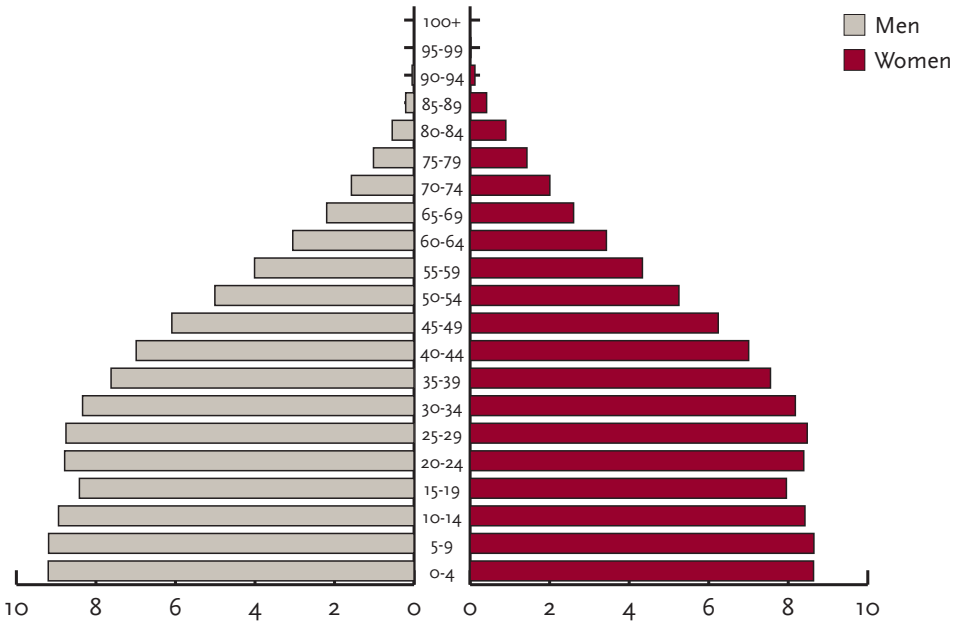
i The terms 'developed economies' and 'developing economies' are often used by academics and organizations to describe the extent of economic development according to selected criteria. Although we have used these terms in this report, we recognize that perspectives about economic development are only relative. Furthermore, given the volatility of economic circumstances in the 21st century, we may be witnessing significant shifts in the economic conditions in some countries.

1.1.1 Distribution of Population

The age distribution in countries with 'young' populations tends to resemble the traditional population pyramid, where there is a greater proportion of younger people compared to older people. By contrast, the age distribution in countries with 'old' populations tends to resemble a rectangle, indicating that the percentage of older cohorts is similar to younger cohorts.

The shape of the current population pyramid in Brazil resembles the traditional triangular pattern, although the base is much thicker due to population sizes in the young cohorts (aged 0-30) remaining steady (see Figure 1.1.1).[2]

Figure 1.1.1 Population Distribution in Brazil, 2010 (by percentage)

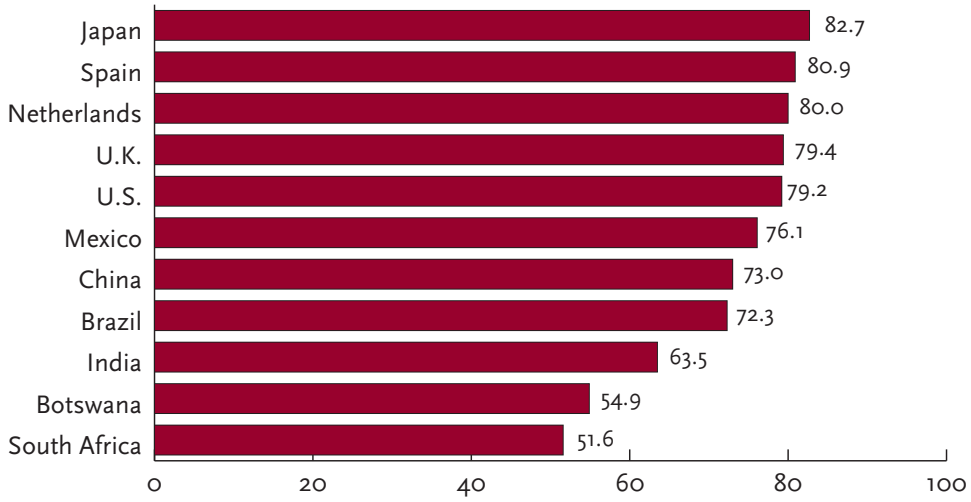


Source: U.S. Census Bureau (2010)[2]

1.1.2 Life Expectancy

The average life expectancy in Brazil during the last five years was 72.3 years, one of the lowest in our 11 country sample, just after South Africa, Botswana and India.[3] In contrast, Japan has the highest average life expectancy in our sample, and 10 years more than that of Brazil (see Figure 1.1.2).

Figure 1.1.2 Life Expectancy, 2005-2010

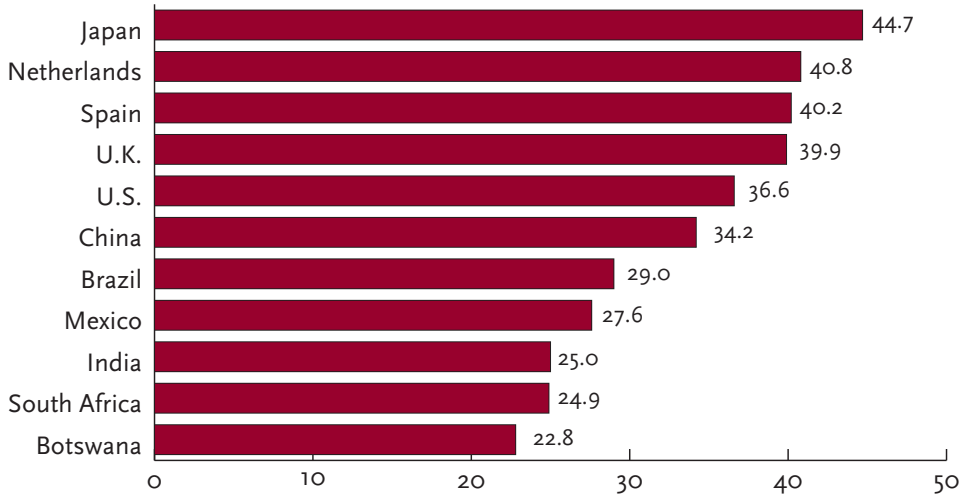


Source: United Nations (2010)[3]

1.1.3 Median Age

As noted in Figure 1.1.3, the median age in Brazil as of 2010 was 29 years; Brazil is a relatively young nation compared to the U.S., the U.K., the Netherlands, Spain and Japan, where the median age is at least 35 years. On the contrary, median age in India, Mexico, South Africa, and Botswana is even lower than that of Brazil.[3]

Figure 1.1.3 Median Age, 2010



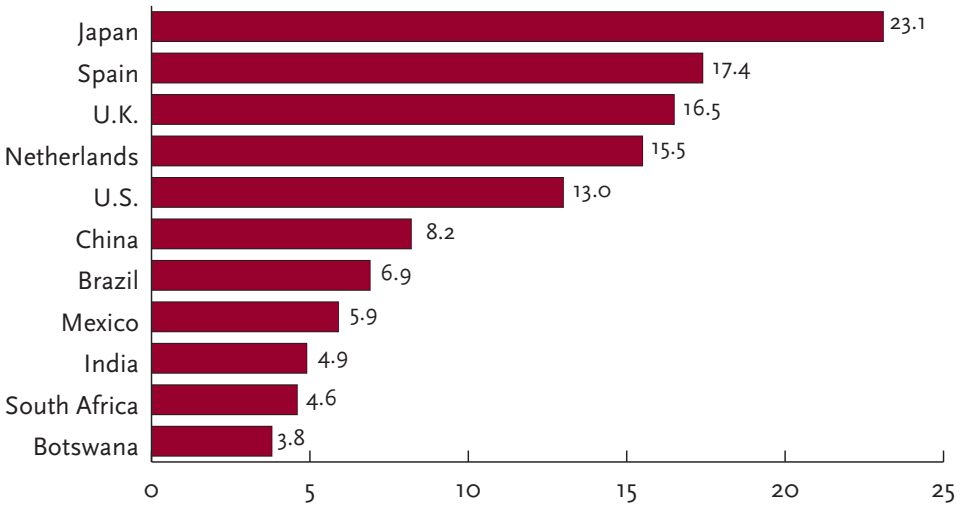
Source: United Nations (2010)[3]

1.1.4 Percentage of Population Aged 65 and Older

The proportion of the population aged 65 and older in Brazil was about 6.9 % as of 2010, considerably lower than the share of older population in more than half of the countries included in our sample, most notably Japan and Spain.[4]

Among the countries participating in the GOT Study, the average percentage of the population aged 65+ is 10.8%. As evident in Figure 1.1.4, the percentage of the age 65+ population in the population for Japan, Spain, the United Kingdom, the Netherlands, and the United States is higher than 10.8% and the percentage of the age 65+ population in the other countries is lower than 10.8%.

Figure 1.1.4 Percentage of Population Aged 65 and Older, 2010



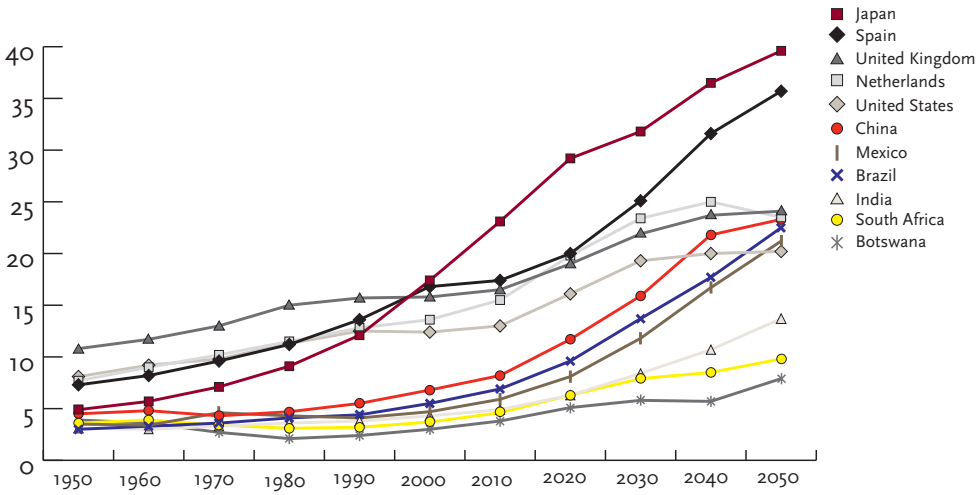
Source: OECD (2010)[4]

Note: Data for Botswana are from United Nations (2010).[3] The data show the "predicted" percentage of population aged 65 and older.

1.1.5 Historical Changes in the Age Demographics

The percentage of older adults (65+) in the total Brazilian population has risen at a relatively slow pace from 3% in 1950 to about 7% in 2010, as shown in Figure 1.1.5. However, by 2050 this share is expected to increase rapidly reaching 22%.[4]

Figure 1.1.5 Historical Changes in Age Demographics: Older Adult (65+) Population as a Percentage of Total Population, 1950-2050

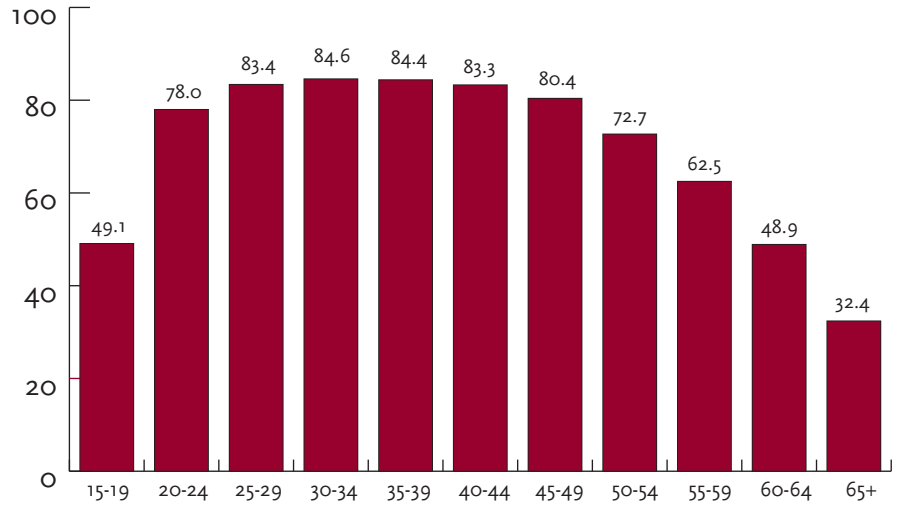


Source: OECD (2010a).[4] Data for Botswana are from United Nations (2010).[3]

1.1.6 Age Distribution of Economically Active Population

As depicted in Figure 1.1.6, the economically active population in Brazil was well above 80% for all the age groups between 25—49 years in 2009. On the other hand, only 32% of the older population in Brazil (aged 65+) was economically active.[5]

Figure 1.1.6 Economically active population rates by age in Brazil, 2009



Source: ILO (2010)[5]

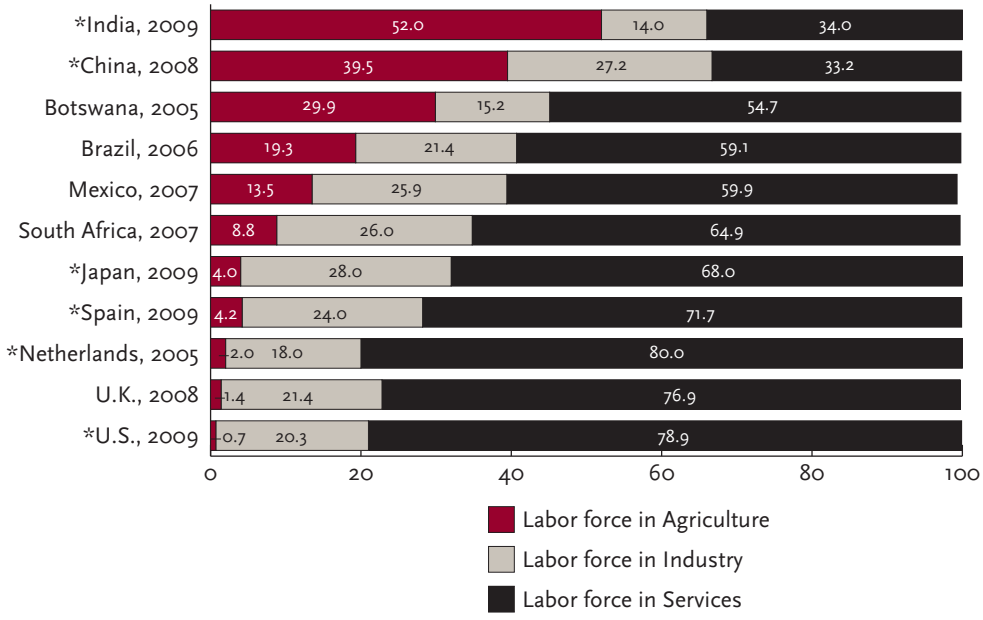
1.2 ECONOMIC INDICATORS

A number of economic indicators such as industry sector structure, GNI per capita[ii], or GDP growth rate[iii] can help distinguish developed economies from developing economies.

1.2.1 Composition of the Labor Force by Industry Sector

In countries with developed economies, the share of the labor force in the service sector dominates the employment contribution of agriculture as well as industry.[iv] On the other hand, a significant portion of the labor force in many developing economies is employed in agriculture and industry. As depicted in Figure 1.2.1, the service sector accounts for almost 60% of the total labor force in Brazil, followed by industry (21.4%) and agriculture (19.3%). Interestingly enough, the share of labor force engaged in the service sector is much higher in Brazil than in India or China, whereas the share of agricultural employment is significantly smaller, though not as minuscule as in the United States, the United Kingdom, or the Netherlands. This underscores the importance of the service sector as a principle contributor to employment in Brazil.[6,7]

Figure 1.2.1 Labor Force by Principal Sectors



Source: World Bank (2010a)[6], *CIA (2010)[7]

ii GNI per capita of a country is the gross national income, converted to U.S. dollars using the World Bank Atlas method, divided by the mid-year population.[6]

iii Growth rate is calculated as the percentage change in a variable from one year to the next.[6]

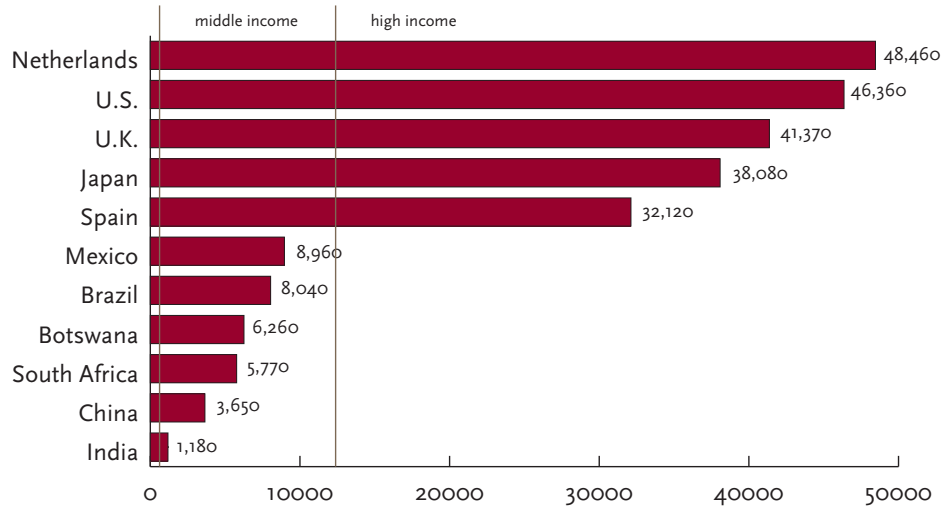
iv Agriculture includes forestry, hunting and fishing. Industry includes manufacturing, construction, mining & quarrying, and public utilities (electricity, gas and water). Services include wholesale and retail trade, restaurants and hotels, transport, storage and communications, financing, insurance, real estate, business services as well as community, social and personal services.[6] The CIA definition refers to percentage of the total labor force by occupation.[7]

1.2.2 Gross National Income (GNI) per Capita

Gross National Income (GNI) per capita is one way to compare the economic performance of different countries and can be used to distinguish between a developed economy and a developing economy.

The World Bank classifies countries with GNI per capita of $12,196 or higher as being 'high' income. The Netherlands, the U.S., the U.K., Japan, and Spain are in this high income group.[v] By contrast, the GNI per capita in Mexico, Brazil, Botswana, South Africa, China, and India is between $996—$12,195, the range for middle Income countries as defined by the World Bank. As of 2009, the per capita GNI in Brazil was $8,040, one of the largest among the six middle-income countries included in our study (see Figure 1.2.2).[8]

Figure 1.2.2 GNI per Capita, 2009 (Current USD)



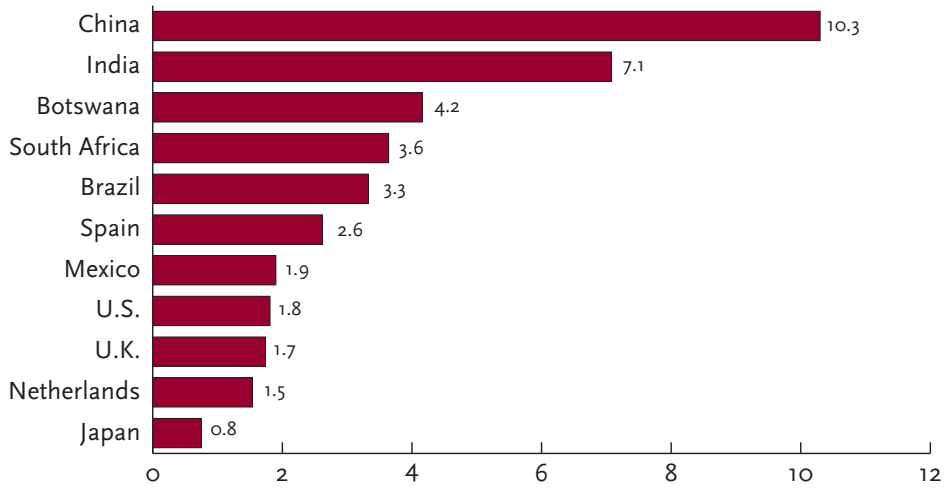
Source: World Bank (2010a)[6]

v According to the World Bank (2010b)[8], economies are divided according to the 2009 GNI per capita, calculated using the World Bank Atlas method. The groups are: low income, $995 or less; lower middle income, $996 - $3,945; upper middle income, $3,946 - $12,195; and high income, $12,196 or more.

1.2.3 GDP Growth Rate

Average annual GDP growth in Brazil for the past decade has been a moderate 3.3%, higher than about half of the countries in our study, but significantly lower than its middle income counterparts like India and China (see Figure 1.2.3).[6] Average annual GDP growth in China and India during the last 10 years has clearly dominated the other nine countries. China and India are two of the only three Asian countries[vi] that have not experienced contraction during the current global financial crisis.[9] Average annual GDP growth rates in most of the remaining countries have been in the range of 0.8%-4.2%.[6]

Figure 1.2.3 GDP Growth Rate: Average Growth Rate (2000-2009)



Source: World Bank (2010a)[6]

1.3 COUNTRY CONTEXT: CONSIDERATIONS FOR EMPLOYERS

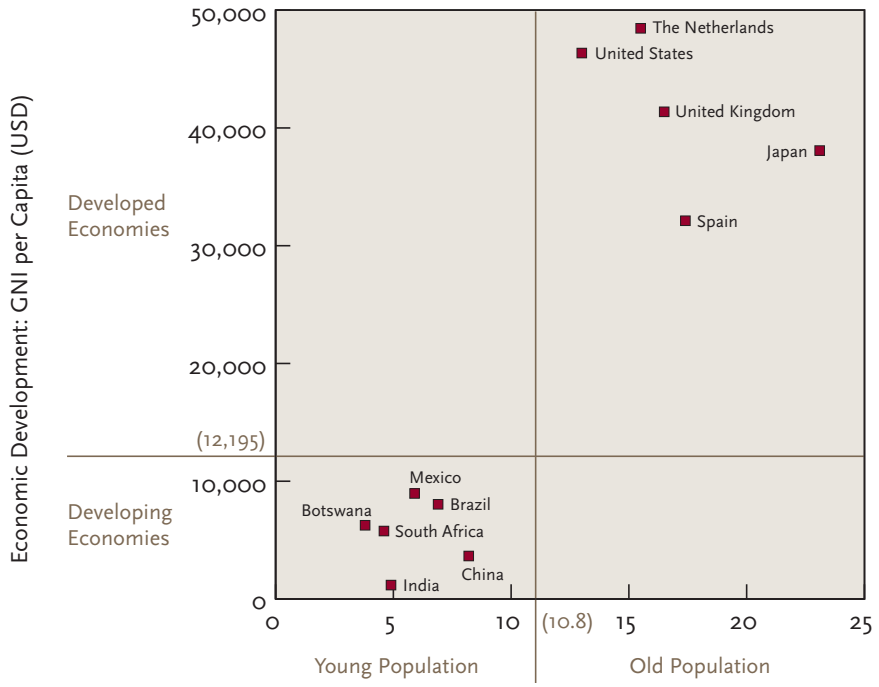
The demographic and economic indicators discussed above offer insights about each country's current situation.

For the purpose of this report, we considered two key cut-offs, or indicators, to locate the 11 countries in the GOT Study into the demographic and economic development framework presented in Figure 1.0: 10.8% of population aged 65 and older, and $12,195 GNI per capita (USD). Figure 1.3 illustrates the classification of Brazil and the other countries included in the GOT Study in two quadrants of the framework.

vi Among the major Asian economies, only those of China, India, and Indonesia did not contract during the global financial crisis.[9]

Based on this framework, six of the countries where data were collected, including Brazil, can be considered 'Young Population & Developing Economies' (Botswana, Brazil, China, India, Mexico and South Africa). For example, 6.9% of the total population in Brazil is aged 65+ with a GNI per capita of $8,040. The remaining five countries were considered 'Old Population & Developed Economies' (Japan, the Netherlands, Spain, the U.K. and the U.S.) None of the countries from the GOT Study were located in either the quadrants 'Old Population & Developing Economies' or 'Young Population & Developed Economies.'

Figure 1.3 Age Demographics and Economic Situations in Generations of Talent Countries



The demographic and economic conditions in Brazil, compared to other countries in the GOT Study, present opportunities for innovative employers, who are managing multi-generational and multi-national talent, to proactively address challenges of age diverse workforces and fluctuating economic shifts. Maintaining an awareness of the economic situation and demographic characteristics of Brazil can assist employers in assessing talent management practices within the country in addition to creating action steps to increase engagement, satisfaction, and commitment among multiple age groups.

Section 2: Experiences of Aging and Work in Brazil

Employers are beginning to express an awareness of shifts in the age demographics of the global workforce. A recent study conducted in the United States found that 40% of the companies in the sample reported that the aging of the workforce will likely have a "very negative/negative" impact on their organizations in the next three years.[1] Employers' concerns include challenges associated with knowledge transfer and finding the talent they need to address today's complex business problems.

When considering the implications of demographic changes for their organizations, employers often ask: "Who is a 'younger/older' worker?" This is important because the experience of age is complex, particularly in the context of the workplace.

Although we tend to think that "age" refers primarily to chronological age, the experience of aging has numerous dimensions. This section focuses on age experiences that are related to chronological age, career stage, and life stage (as indicated by different types of dependent care).

The data presented in this section and the following sections were generated from information gathered from respondents who participated in the Generations of Talent Study. As noted in Section 4 of this report, the respondents to this survey were employed by companies with worksites in the 11 countries where data were gathered. Although the findings provide important insights about people working in these countries, the descriptive statistics about the age-related characteristics of the respondents may not be representative of the economically active population in those countries.

2.1 CHRONOLOGICAL AGE

Chronological age, which refers to the number of years a person has lived, is often used as an indicator for different aspects of the aging experience. It is well recognized, however, that people of the same age can have very different experiences with aging. For example, one employee at 65 can report high energy and no physical/cognitive limitations whereas a colleague of the same age might have a chronic disease.

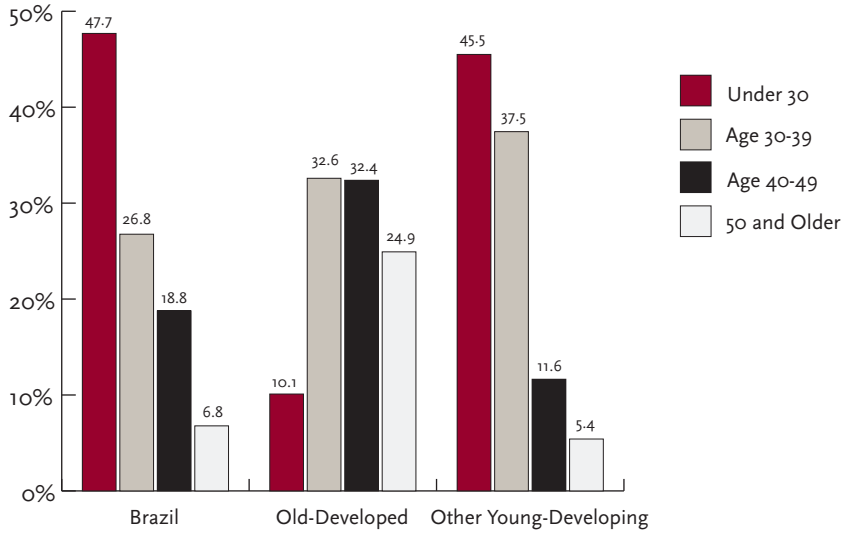
As discussed below, there is also a wide range of chronological ages when people have other age-related experiences (such as the age range associated with being in 'mid-career' or taking care of children younger than 18 years old.)

Across the worksites in Brazil, the chronological age range of the respondents to the Generations of Talent Study is 18 to 84 years. Across the worksites in the five "old-developed" countries and the five other "young-developing" countries excluding Brazil in our sample, the age ranges are 20 to 82 years and 18 to 91 years, respectively (see Table 2.2).

Figure 2.1 presents the chronological age distribution by age group for respondents at the worksites in Brazil, compared to those working in the "old-developed" countries

and the other "young-developing" countries that participated in the study. As this figure shows, at the worksites in Brazil, the percentage of respondents under 30 years of age is much higher (47.7%) than those working in the "old-developed" countries (10.1%). On the other hand, the worksites in Brazil have a lower percentage of respondents aged 30-39 years (26.8%), 40-49 years (18.8%) and 50 and older (6.8%) than the worksites in the "old-developed" countries (32.6%, 32.4% and 24.9%, respectively). The worksites in Brazil have a lower percentage of respondents aged 30-39 years (26.8%) compared to the worksites in the other "young-developing" countries (37.4%) and a higher percentage of respondents aged 40-49 years (18.8%), compared to the worksites in the other "young-developing" countries (11.6%) (see Table 4.1b).

Figure 2.1 The Age Distribution of Respondents at the Worksites in Brazil Compared to the Two Country Clusters, N=9388



Source: Generations of Talent Study

Note: Only statistically significant differences between Brazil and the two country clusters are discussed in the text (p<.05).

2.2 CAREER STAGE

The concept of career stage reflects the observation that people tend to gain sets of competencies (skills and knowledge) with the expansion of their occupational roles and responsibilities. Although the progression of mastery varies across occupations, the concept of career stage, also termed "occupational age," recognizes that most employees move from more basic to more advanced levels as they advance in a career.[2,3]

It is possible to define the specific career stages in different ways. It is not uncommon, however, to recognize at least three basic stages, early career, mid-career, and late career:

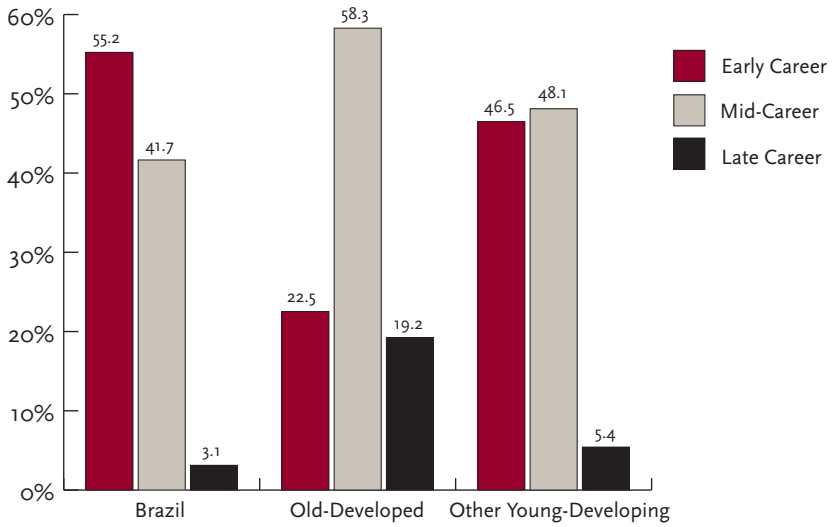
- Early career is typically characterized by exploration and establishment. Employees in early career are focused on getting to know the job and being integrated into the organization.[4] Additionally, employees aim to find a match between themselves, their job, and the organization.[5]

- Mid-career is typically characterized by career goal reappraisal. Employees in mid-career either reaffirm or modify their career or work needs and expectations. However, it is typical that employees may perceive that their careers are plateauing during mid-career (a sense of limited opportunities for career advancement and/or increase in job responsibility).[4]

- Late career is typically experienced in late adulthood. Employees in late career are generally focused on remaining productive in work, maintaining their self-esteem, and possibly preparing for effective retirement.[4]

Figure 2.2 illustrates the percentage of respondents at the worksites in Brazil that classify themselves as early career, mid-career, and late career, as compared to those working in the "old-developed" countries and the other "young-developing" countries that participated in the study. As this figure shows, compared to the worksites in the "old-developed" countries (22.5%) as well as the other "young-developing" countries (46.5%), the Brazil worksites have a higher percentage (55.2%) of early career respondents. However, the percentage of mid- and late career respondents at the Brazil worksites is lower (41.7% and 3.1%, respectively) than those in the "old-developed" countries (58.3% and 19.2%, respectively) and the other "young-developing" countries (48.1% and 5.4%, respectively) (see Table 4.1b).

Figure 2.2 Career Stage Distribution of Respondents at the Worksites in Brazil Compared to the Two Country Clusters, N=9223



Source: Generations of Talent Study

Note: Only statistically significant differences between Brazil and the two country clusters are discussed in the text ($p<.05$).

Interestingly, as suggested by Table 2.2 below, the age ranges associated with each of the career stages are wide. Among those working at the worksites in Brazil, early career ranges from 18 to 83 years and late career ranges from 23 to 69 years. These data illustrate that, although the mean ages for respondents working in Brazil increase with career stage, employees' perceived career stages might not always correspond to their chronological ages.

The mean age for each career stage for the respondents from the worksites in Brazil was compared to those respondents working at the sites in the "old-developed" countries and the other "young-developing" countries. Note that even if the mean ages might look somewhat different, they cannot be considered significantly different unless it is stated that they are different in Table 2.2.

Table 2.2 Mean Age and Age Range of Career Stages among Respondents at the Worksites in Brazil Compared to the Two Country Clusters

Countries	Mean Age and Age Range for Early Career Employees	Mean Age and Age Range for Mid-Career Employees	Mean Age and Age Range for Late Career Employees
Brazil (N=1255)	26.4 (18 - 83) years Different from: Old-Developed, Other Young-Developing	40.0 (21 - 84) years Different from: Old-Developed, Other Young-Developing	51.3 (23 - 69) years Different from: No significant differences
Old-Developed (N=4907)	31.4 (20 - 82) years Different from: Brazil, Other Young-Developing	42.3 (25 - 77) years Different from: Brazil, Other Young-Developing	54.5 (27 - 80) years Different from: Other Young-Developing
Other Young-Developing (N=3226)	27.4 (18 - 91) years Different from: Brazil, Old-Developed	35.9 (18 - 91) years Different from: Brazil, Old-Developed	47.1 (18 - 81) years Different from: Old-Developed

Note: Statistical significance tests compared means of career stage subgroups across country clusters ($p<.05$)

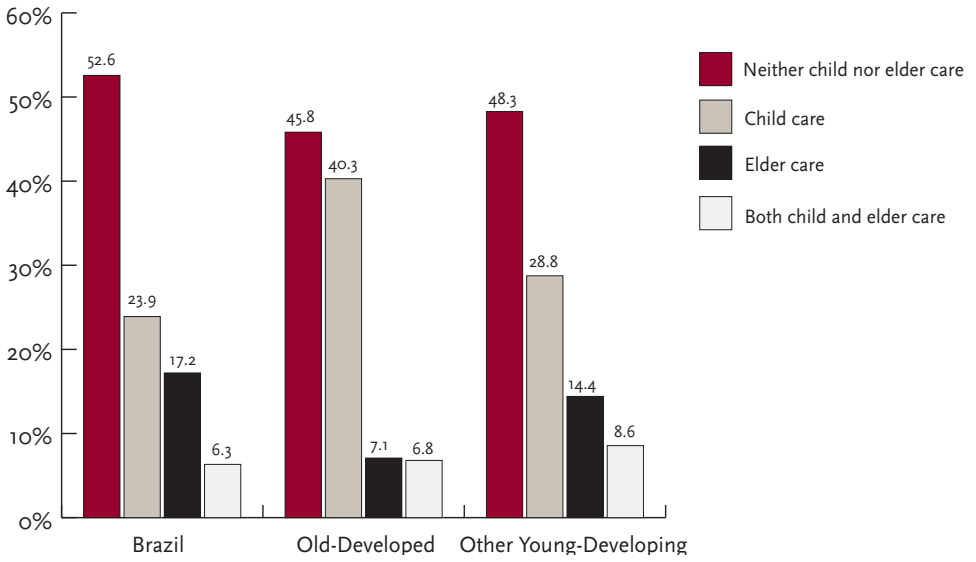
2.3 LIFE STAGE: THE ROLE OF DEPENDENT CARE

Over the life course, individuals experience various events and transitional stages, which shape major roles and responsibilities both in work and personal life.[6] Multiple studies have shown that family and personal life can have a significant impact on work, and work experiences can also affect personal and family life.[7,8] The work-life paradigm recognizes the importance of different life events and the impact that they can have for employees. For example, life events and transitions, such as taking care of children or an older parent, can affect the ways that people fulfill their roles and responsibilities both at work and outside of work.[6,9,10,11,12, 13,14,15]

In this report, we focus on the dependent caregiving responsibilities of employees as an indicator of a life stage that can influence expectations and experiences at work. Dependent care is often life-changing as it typically requires an investment of time, energy, and financial resources. Employees might find that they need to make adjustments at home and possibly at work in order to fulfill caregiving responsibilities. To assess whether life stage as indicated by dependent care impacts employees' expectations and experiences at work, we compared different types of dependent care: child care (18 years and younger), elder care (parent(s) or parent(s)-in-law), both child and elder care, and neither child nor elder care.

As indicated by Figure 2.3, 52.6% of respondents to the Generations of Talent Study at the worksites in Brazil reported that they do not have child or elder care responsibilities, while 23.9% have child care responsibilities, 17.2% have elder care responsibilities, and 6.3% provide both child and elder care. Across the worksites in Brazil, the percentage of respondents having child care responsibilities (23.9%) is lower than the "old-developed" countries (40.3%). However, a higher percentage of respondents from worksites in Brazil (17.2%) provide elder care compared to those in the "old-developed" countries (7.1%). Lastly, the percentage of respondents having neither child nor elder care responsibilities at the worksites in Brazil is higher (52.6%) than the "old-developed" countries (45.8%) (see Table 4.1b).

Figure 2.3 Types of Dependent Care Responsibilities among Respondents at the Worksites in Brazil Compared to the Two Country Clusters, N=8817



Source: Generations of Talent Study

Note: Only statistically significant differences between Brazil and the two country clusters are discussed in the text ($p<.05$).

The age range among respondents with different types of dependent care responsibilities is wide in Brazil, as noted in Table 2.3 below. For example, the age of respondents with neither child nor elder care responsibilities ranges from 18 to 84 years, and the age of respondents with child care responsibilities ranges from 18 to 78 years. The age of respondents with elder care responsibilities ranges from 18 to 68 years. Lastly, the age of those with both child and elder care responsibilities ranges from 18 to 70 years.

The mean age for dependent care responsibilities among respondents at the worksites in Brazil was compared to the respondents working in the "old-developed" countries and other "young-developing" countries. Note that even if the mean ages might look somewhat different, they cannot be considered significantly different unless it is stated that they are different in the Table 2.3.

Table 2.3 Age Range of Dependent Care Responsibilities among Respondents at the Worksites in Brazil Compared the Two Country Clusters

Countries	Mean Age and Age Range for Those Giving Neither Child nor Elder Care	Mean Age and Age Range for Those Giving Child Care	Mean Age and Age Range for Those Giving Elder Care	Mean Age and Age Range for Those Giving Both Child and Elder Care
Brazil (N=1255)	29.8 (18 - 84) years Different from: Old-Developed	40.1 (18 - 78) years Different from: Old-Developed, Other Young-Developing	28.9 (18 - 68) years Different from: Old-Developed	42.0 (18 - 70) years Different from: Other Young-Developing
Old-Developed (N=4907)	41.5 (20 - 82) years Different from: Brazil, Other Young-Developing	41.7 (20 - 77) years Different from: Brazil, Other Young-Developing	47.7 (20 - 71) years Different from: Brazil, Other Young-Developing	44.2 (20 - 75) years Different from: Other Young-Developing
Other Young-Developing (N=3226)	30.3 (18 - 85) years Different from: Old-Developed	36.4 (18 - 91) years Different from: Brazil, Old-Developed	30.0 (18 - 76) years Different from: Old-Developed	36.6 (18 - 91) years Different from: Brazil, Old-Developed

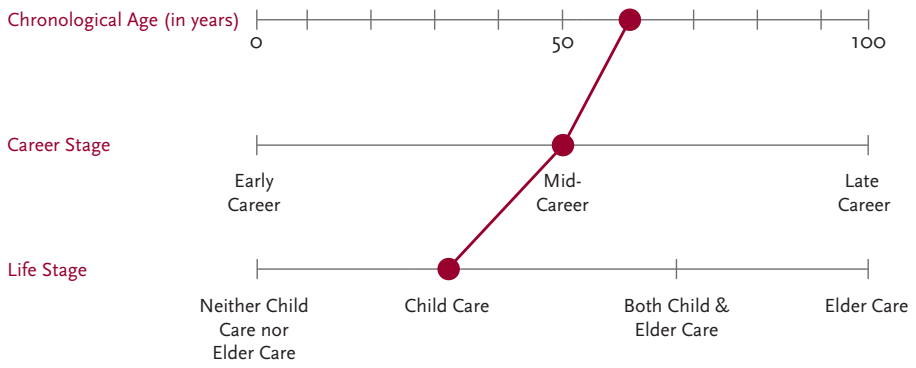
Note: Statistical significance tests compared means of life stage subgroups across country clusters ($p<.05$).

2.4 AGING AND WORK IN BRAZIL: A PROFILE

Employment experiences can be affected by societal expectations about age, as well as opportunities and constraints that may vary for employees of different ages.[16,17] Examining the employment experiences of employees through the lens of age, employers can gain insight about the extent to which their human resource programs and management policies reflect the needs of employees of different ages, career stages, and life stages.

In this section of the report, we have discussed the fact that employees' experiences of aging can vary, depending on the specific dimension of age that is particularly relevant to them. As suggested by the sample age profile in Figure 2.4, an employee who is old in terms of chronological age could still be mid-career in terms of career stage and might still have child care responsibilities.

Figure 2.4 Sample Age Profile



Source: Generations of Talent Study

Given the complexities of age, it is important for employers to consider whether talent management policies and programs can be customized to meet the needs of employees whose employment experiences reflect the nuances of their experiences with aging.

Section 3: Work Outcomes

Top employers seek information on work outcomes in order to manage their global workforces. In this report, we review three important work outcomes: work engagement, job satisfaction, and organizational commitment. For each outcome, we provide a brief introduction outlining the importance and definition of that outcome. Afterwards, we present the results of several analyses that address the following questions:

Impact of Country:

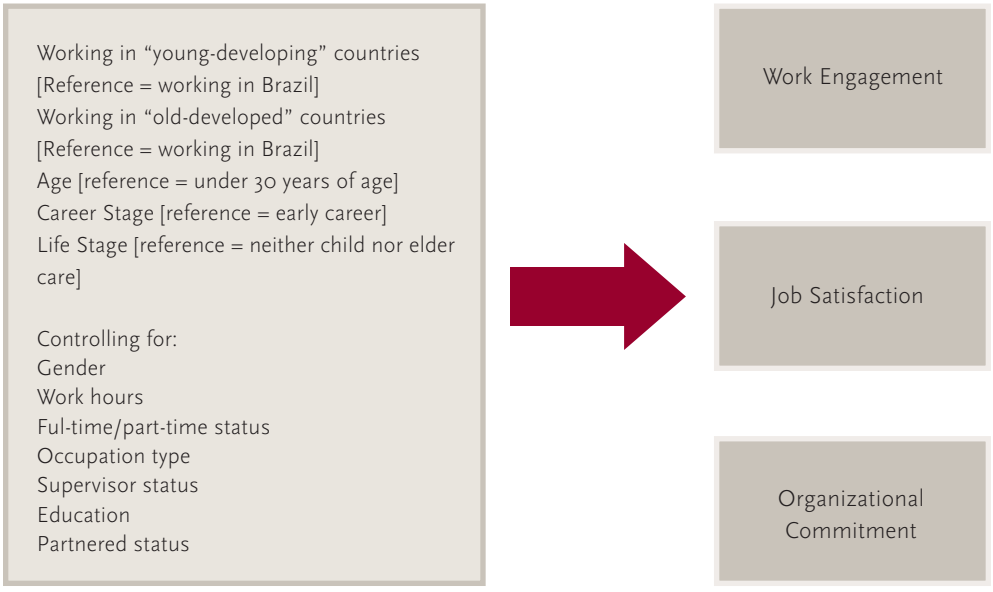
- Is each work outcome among respondents at the worksites in Brazil different from that among respondents in the five "old-developed" countries and the five other "young-developing" countries after controlling for demographic factors, job characteristics, age, career stage, and life stage?

Impact of Age/Career Stage/Life Stage:

- Does each work outcome among respondents at the worksites in Brazil vary by age group, career stage, and/or life stage once we control for demographic factors and job characteristics?

Using data from the Generations of Talent Study, we will use the framework summarized in Figure 3.0 to answer these questions in order to provide employers with insight into the overall factors that might affect the level of employees' work engagement, job satisfaction, and organizational commitment.

Figure 3.0 The Effect of Age/Career Stage/Life Stage/ and Country on Work Engagement/ Job Satisfaction/Organizational Commitment



3.1 WORK ENGAGEMENT

Work engagement refers to employees' positive feelings or emotions toward their work. Engagement is defined as "a positive work-related state of fulfillment that is characterized by vigor, dedication, and absorption".[1] Work engagement is the opposite of work burnout. Therefore, "contrary to those who suffer from burnout, engaged employees have a sense of energetic and effective connection with their work activities, and they see themselves as able to deal well with the demands of their jobs".[1] When employees are well engaged in their work, they find their work to be personally meaningful, have positive feelings about their work, consider their workload to be manageable, and have hope about the future of their work – that is, they have a positive and fulfilling work-related state of mind.[2,3]

Particularly during tough economic times, such as during the global financial crises, employers have good reason to be concerned about their employees' work engagement. Research has shown that only about one in every five employees reported that they were highly engaged in their work. The Gallup organization estimates that disengaged employees cost U.S. employers a significant amount of money – between $250 and $350 billion a year. Over 600 CEOs from countries around the world reported that they considered work engagement as one of the top five most important challenges facing management.[4,5]

3.1.1 Work Engagement in Brazil

Work engagement was assessed using 11 items adapted from the Utrecht Work Engagement Scale (UWES).[vii] Table 3.1.1 presents the frequencies of responses to these work engagement items based on the data collected from employees at the worksites in Brazil. For example, among the respondents at the worksites in Brazil, more than three-fourths (79.1% and 76.1%, respectively) report that "time flies when they are working" very often to always, and that they "feel happy when they are working intensely" very often to always. In addition, 74.6% report that they are "immersed in their job" very often to always. Similarly, 74.4% report that they get "carried away when they are working" very often to always.

vii The UWES is a standardized and globally validated measure to assess employee work engagement. Employees were asked to indicate the frequency of experiencing their work in a particular way. Each item was assessed on a scale ranging from never (1) to always (7).[1]

Table 3.1.1 Work Engagement among Respondents at the Worksites in Brazil

	Percent Never	Percent Almost Never	Percent Rarely	Percent Sometimes	Percent Often	Percent Very Often	Percent Always
At my work, I feel bursting with energy. (N=1276)	2.0%	3.8%	6.1%	19.9%	18.5%	38.1%	11.7%
I find the work that I do full of meaning and purpose. (N=1277)	1.6%	1.5%	3.8%	12.2%	15.7%	34.1%	31.1%
I am enthusiastic about my job. (N=1277)	0.9%	1.1%	2.9%	13.0%	13.0%	37.0%	32.3%
I am immersed in my work. (N=1277)	1.0%	2.0%	1.9%	9.4%	11.1%	38.9%	35.7%
Time flies when I'm working. (N=308)	0.4%	0.1%	4.1%	3.6%	12.7%	33.1%	46.0%
When I get up in the morning, I feel like going to work. (N=308)	1.2%	3.6%	5.9%	11.2%	11.4%	40.5%	26.2%
At my job, I feel strong and vigorous. (N=308)	1.2%	2.9%	4.1%	11.5%	21.3%	35.1%	23.9%
I am proud of the work that I do. (N=308)	0.8%	1.6%	1.6%	7.9%	13.2%	36.2%	38.7%
I feel happy when I am working intensely. (N=308)	1.3%	2.5%	2.5%	6.5%	11.1%	39.4%	36.7%
My job inspires me. (N=308)	1.8%	1.1%	1.7%	15.2%	14.3%	34.9%	30.8%
I get carried away when I am working. (N=308)	1.1%	0.9%	0.3%	9.2%	14.2%	30.4%	44.0%

We combined the answers to the questions listed in Table 3.1.1 to get an overall score of work engagement. The scores could range from 1 to 7. We considered scores as follows:

- Scores ranging from 1 to 2.99 = low work engagement
- Scores ranging from 3 to 4.99 = moderate levels of work engagement
- Scores ranging from 5 to 7 = high work engagement

The average (mean) score of work engagement among respondents at the worksites in Brazil is 5.7.

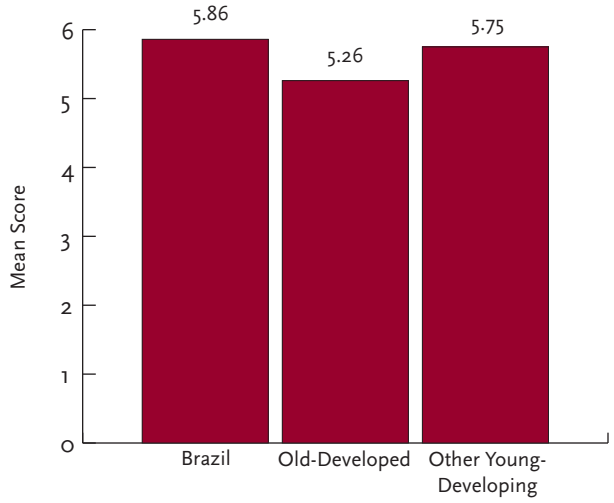
3.1.2 Impact of Country on Work Engagement

- Is work engagement among respondents at the worksites in Brazil different from work engagement among those working in the five "old-developed" countries and the five other "young-developing" countries after controlling for demographic factors, job characteristics, age, career stage, and life stage?

  ⇨ Yes, work engagement among respondents at the worksites in Brazil significantly higher than that of the respondents in the "old-developed" countries. However, work engagement for respondents at the worksites in Brazil is not significantly different from that for respondents in the other "young-developing" countries even after controlling for demographic factors, job characteristics, and age-related factors (see Table 4.2a).

Figure 3.1.2 illustrates the findings regarding work engagement levels at the worksites in Brazil as compared to the two country clusters based on the model depicted in Figure 3.0. The figure below presents the predicted mean scores of work engagement at the worksites in Brazil compared to the two country clusters. It shows that the level of work engagement for respondents at the worksites in Brazil is higher (5.86) than the "old-developed" countries (5.26), even after controlling for demographic factors, job characteristics, and age-related factors.

Figure 3.1.2 Work Engagement at the Worksites in Brazil and the Two Country Clusters, N=9545



Source: Generations of Talent Study

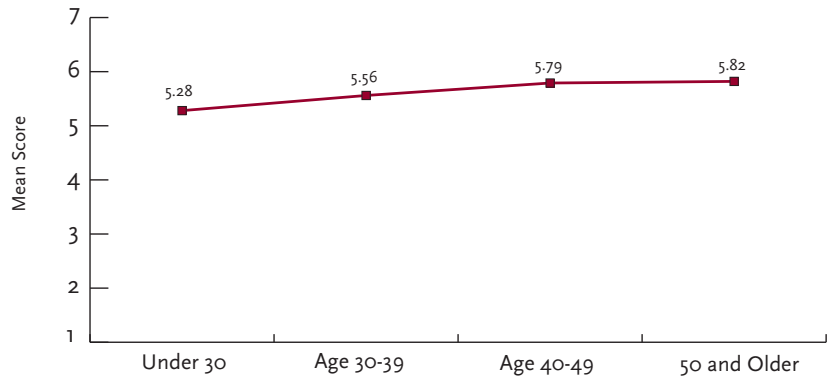
3.1.3 Impact of Age, Career Stage, and/or Life Stage on Work Engagement

- Does work engagement among respondents at the worksites in Brazil vary by age group, career stage, and/or life stage once we control for demographic factors and job characteristics?

  ⇨ Yes, work engagement among respondents at the worksites in Brazil varies by age (see Table 4.2b and Table 4.2b-1).
  ⇨ No, work engagement among respondents at the worksites in Brazil does not vary by career stage or life stage (that is, the differences in the mean scores are not statistically significant after controlling for demographic factors and job characteristics) (see Tables 4.2c and 4.2d).

Figure 3.1.3 illustrates the relationship between age and work engagement among respondents at the worksites in Brazil. This figure presents the predicted mean scores of work engagement by age group at the worksites in Brazil. It shows that even after controlling for demographic factors and job characteristics, the average level of work engagement for respondents under 30 years of age (5.28) at the worksites in Brazil is lower than that for respondents aged 30-39 (5.56), for those aged 40-49 (5.79), and for those aged 50 and older (5.82). In addition, respondents aged 30-39 are less engaged than respondents aged 40-49.

Figure 3.1.3 Work Engagement by Age Group among Respondents at the Worksites in Brazil, N=1277



Source: Generations of Talent Study

Note: Only statistically significant differences among age groups are discussed in the text.

3.2 JOB SATISFACTION

Job satisfaction refers to a pleasurable emotional state resulting from the appraisal of one's job.[6,7,8] Job satisfaction is a widely examined construct in academic and business research in a variety of organizational settings.[9,10]

Employers have good reasons to be concerned with their employees' job satisfaction because job satisfaction can be an important indicator of employees' current and future work behaviors including work performance, absenteeism, and turnover.[11,12,13] Additionally, some research suggests that employees' job satisfaction is significantly correlated with their life satisfaction overall.[14,15]

3.2.1 Job Satisfaction in Brazil

The Generations of Talent questionnaire included 13 items that assessed satisfaction with important aspects of work.[viii] Table 3.2.1 presents the frequencies of responses to job satisfaction items among respondents at the worksites in Brazil. Across all the respondents from the worksites in Brazil, 88.1% and 84.3% are moderately to strongly satisfied with their relationships with their subordinates and their co-workers/peers respectively. Also, 66.3% of respondents are moderately to strongly satisfied with their organizational supervisor. In addition, 73.5% and 71.0% of respondents in the worksites in Brazil are moderately to strongly satisfied with the inclusiveness of their organizational culture in terms of welcoming diverse employees and their job security respectively. However, only 35.6% of the respondents are moderately to strongly satisfied with the benefits that promote health, wellness, and psychological well-being.

viii The index of job satisfaction comprised of 13 items from multiple sources including standardized scales[16,17] and original items developed by the Sloan Center on Aging & Work. Employees were asked to indicate the degree of satisfaction with their job. Each item was assessed on a scale ranging from strongly dissatisfied (1) to strongly satisfied (6).

Table 3.2.1 Job Satisfaction among Respondents at the Worksites in Brazil

	Percent Strongly Dissatisfied	Percent Moderately Dissatisfied	Percent Somewhat Dissatisfied	Percent Somewhat Satisfied	Percent Moderately Satisfied	Percent Strongly Satisfied
*Your job security. (N=1196)	2.1%	2.9%	4.2%	19.8%	48.1%	22.9%
**Resources and opportunities for training and development to improve your skills or learn new skills that your employer provides. (N=1196)	5.4%	6.8%	11.5%	25.6%	33.0%	17.8%
**Benefits that have monetary value such as profit sharing schemes; retirement benefits; paid time off; paid sick days or medical leave; subsidies for child care, dependent care, education, or housing; health insurance; or long-term care insurance. (N=1195)	4.7%	7.7%	11.6%	22.7%	34.9%	18.5%
**Benefits that promote health, wellness, and psychological well-being, such as nutrition programs; fitness facilities; or programs that provide information, counseling, or referrals. (N=1194)	9.9%	12.3%	16.4%	25.9%	21.9%	13.7%
*The sense of accomplishment you get from work. (N=1196)	1.6%	2.9%	8.6%	21.8%	41.1%	23.9%
***The extent to which you use your skills and abilities on your job. (N=1196)	1.4%	3.4%	8.6%	20.7%	47.8%	18.2%
**The way your job allows you to make a difference in your community or the world. (N=1196)	3.3%	7.6%	15.0%	27.5%	30.2%	16.5%
****The person who supervises you -- your organizational superior. (N=1196)	4.3%	4.7%	6.7%	18.0%	38.3%	28.0%
****Your relations with others with whom you work -- your co-workers or peers. (N=1187)	0.3%	0.8%	4.8%	9.8%	44.2%	40.1%
***Your working relationships with subordinates. (N=427)	0.1%	0.5%	1.3%	9.9%	41.6%	46.5%
****Opportunities which exist in this organization for advancement or promotions. (N=1187)	5.7%	4.8%	10.5%	21.5%	36.0%	21.5%
***Your physical work environment. (N=1187)	4.1%	3.3%	5.2%	18.7%	45.2%	23.5%
**The inclusiveness of your organizational culture in terms of welcoming diverse employees. (N=1186)	1.8%	2.0%	5.1%	17.6%	45.9%	27.6%

* Original item developed based on work of Hackman & Oldham (1976)[18]

** Original item developed by Sloan Center on Aging & Work

*** Item adapted from Hofstede (2001)[16]

**** Item from Tsui et al. (1992)[17]

We combined the answers to the questions listed in Table 3.2.1 to get an overall score of job satisfaction. The scores could range from 1 to 6. We considered scores as follows:

- Scores ranging from 1 to 2.49 = low job satisfaction
- Scores ranging from 2.5 to 4.49 = moderate job satisfaction
- Scores ranging from 4.5 to 6 = high job satisfaction

The average (mean) score of job satisfaction among respondents at the worksites in Brazil is 4.6.

3.2.2 Impact of Country on Job Satisfaction

- Is job satisfaction among respondents at the worksites in Brazil different from job satisfaction among those working in the five "old-developed" countries and the five other "young-developing" countries after controlling for demographic factors, job characteristics, age, career stage, and life stage?

  ⇨ No, job satisfaction among respondents at the worksites in Brazil is not significantly different from that of the respondents in the two country clusters, after controlling for demographic factors, job characteristics, and age-related factors, (that is the differences in job satisfaction scores between worksites in Brazil and the two country clusters are not statistically significant) (see Table 4.2a).

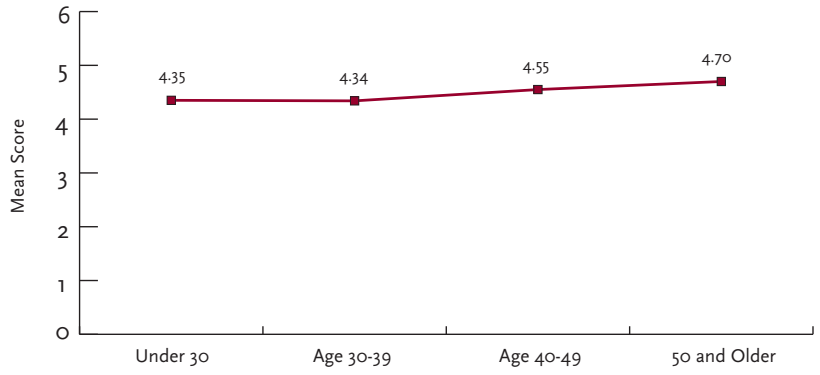
3.2.3 Impact of Age, Career Stage, and/or Life Stage on Job Satisfaction

- Does job satisfaction among respondents at the worksites in Brazil vary by age group, career stage, and/or life stage once we control for demographic factors and job characteristics?

  ⇨ Yes, job satisfaction among respondents at the worksites in Brazil varies by age (see Table 4.2b and Table 4.2b-1).
  ⇨ No, job satisfaction among respondents at the worksites in Brazil does not vary by career stage or life stage (that is, the differences in the mean scores are not statistically significant after controlling for demographic factors and job characteristics) (see Tables 4.2c and 4.2d).

Figure 3.2.3 illustrates the relationship between age and job satisfaction among respondents at the worksites in Brazil. Specifically, this figure presents the predicted mean scores of job satisfaction by age group among respondents at the worksites in Brazil. It shows that even after controlling for demographic factors and job characteristics, the level of job satisfaction for respondents under 30 years of age (4.35) and those aged 30-39 (4.34) at the worksites in Brazil is significantly lower than that for respondents aged 40-49 (4.55) and for those aged 50 and older (4.70).

Figure 3.2.3 Job Satisfaction by Age Group among Respondents at the Worksites in Brazil, N=1229



Source: Generations of Talent Study

Note: Only statistically significant differences among age groups are discussed in the text.

3.3 ORGANIZATIONAL COMMITMENT

Organizational commitment generally refers to the relative strength of an employee's involvement in a particular organization.[19,20] This concept might be characterized by at least three related factors:

- A strong psychological attachment and acceptance of the organization's goals and values;
- A willingness to exert considerable effort on behalf of the organization; and
- A strong desire to remain in the organization.[20,21,22,23,24]

Organizational commitment is central to the study of organizational behavior. Various studies provide support for the relationships between employees' organizational commitment and employees' attitudes or behaviors.[19,25,26] Organizational commitment has been studied in the public, private, and non-profit sector, and internationally.[27,28] Research shows that employees who are more committed demonstrate higher job performance, less job displeasure, diminished intent to leave, and less stress.[29,30]

3.3.1 Organizational Commitment in Brazil

The Generations of Talent questionnaire includes nine questions that assess employees' commitment to the organization adapted from Mowday et al. (1979).[ix] Table 3.3.1 presents the frequencies of responses to organizational commitment items for respondents at the worksites in Brazil. Across all the respondents at the worksites in Brazil, 70.7% moderately to strongly agree that they would be "willing to work harder if they have to in order to help their organization succeed." Moreover, 85.0%

ix We used the U.S. General Social Survey (GSS) adaptation of the original Mowday et al. (1979)[20] organizational commitment scale. Employees were asked to indicate their agreement with statements about their commitment. Each item was assessed on a scale ranging from strongly disagree (1) to strongly agree (6). When creating the scale, we reversed one item so that the higher scores would represent higher organizational commitment.

and 74.8% of respondents at the worksites in Brazil moderately to strongly agree that they "proud to be working with their organization" and that they are "extremely glad to have chosen the specific organization to work for over others they were considering at the time of joining," respectively. Only 16.8% and 32.0% of respondents moderately to strongly agree that they would "take almost any job to keep working for their organization" and that they would "turn down another job for more pay in order to stay with their current organization," respectively.

Table 3.3.1 Organizational Commitment among Respondents at the Worksites in Brazil

	Percent Strongly Disagree	Percent Moderately Disagree	Percent Somewhat Disagree	Percent Somewhat Agree	Percent Moderately Agree	Percent Strongly Agree
*To help this organization succeed, I am willing to work harder than I have to. (N=1315)	3.0%	2.5%	5.9%	17.8%	32.3%	38.4%
*I would take almost any job to keep working for this organization. (N=1315)	30.1%	17.8%	20.9%	14.4%	12.3%	4.5%
*I would turn down another job for more pay in order to stay with this organization. (N=1315)	8.9%	12.9%	19.8%	26.5%	21.9%	10.1%
*I feel very little loyalty to this organization. (N=317)	44.4%	22.2%	14.4%	10.7%	5.9%	2.4%
*I find that my values and the organization's are very similar. (N=317)	1.2%	6.1%	8.6%	20.6%	37.9%	25.6%
*I am proud to be working for this organization. (N=317)	0.7%	0.5%	3.1%	10.5%	26.9%	58.1%
**I talk up this organization to my friends as a great organization to work for. (N=317)	1.8%	2.7%	2.9%	10.5%	19.1%	62.9%
**This organization really inspires the very best in me in the way of job performance. (N=317)	2.5%	4.2%	6.5%	16.7%	36.9%	33.2%
**I am extremely glad that I chose this organization to work for over others I was considering at the time I joined. (N=317)	2.7%	3.4%	4.9%	14.2%	27.8%	47.0%

* Items from the General Social Survey (Adapted version of Mowday et al. (1979) scale)[31]

** Items from Mowday et al. (1979)[20]

We combined the answers to the questions listed in Table 3.3.1 to get an overall score of organizational commitment. The scores could range from 1 to 6. We considered scores as follows:

- Scores ranging from 1 to 2.49 = low organizational commitment
- Scores ranging from 2.5 to 4.49 = moderate organizational commitment
- Scores ranging from 4.5 to 6 = high organizational commitment

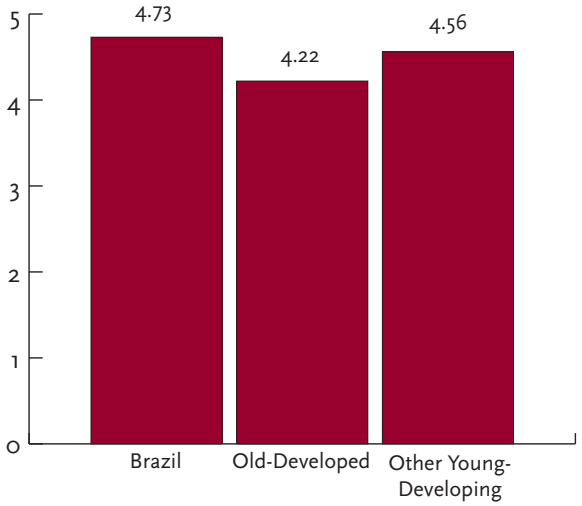
The average (mean) score of organizational commitment among respondents at the worksites in Brazil is 4.7.

3.3.2 Impact of Country on Organizational Commitment

- Is organizational commitment among respondents at the worksites in Brazil different from organizational commitment among those working in the five "old-developed" countries and the five other "young-developing" countries after controlling for demographic factors, job characteristics, age, career stage, and life stage?

  ⇨ Yes, organizational commitment among respondents at the worksites in Brazil is significantly higher than the respondents working in the "old-developed" countries. However, organizational commitment among respondents at the worksites in Brazil is not significantly different from the other "young-developing" countries, even after controlling for demographic factors, job characteristics, and age-related factors (see Table 4.2a).

Figure 3.3.2 Organizational Commitment at the Worksites in Brazil and the Two Country Clusters N=9802



Source: Generations of Talent Study

Figure 3.3.2 illustrates the findings regarding organizational commitment levels at the worksites in Brazil as compared to the two country clusters. This figure presents the predicted mean scores of organizational commitment at the worksites in Brazil compared to the two country clusters. It shows that the level of organizational commitment for respondents at the worksites in Brazil was higher (4.73) than the "old-developed" countries (4.22) even after controlling for demographic factors, job characteristics, and age-related factors.

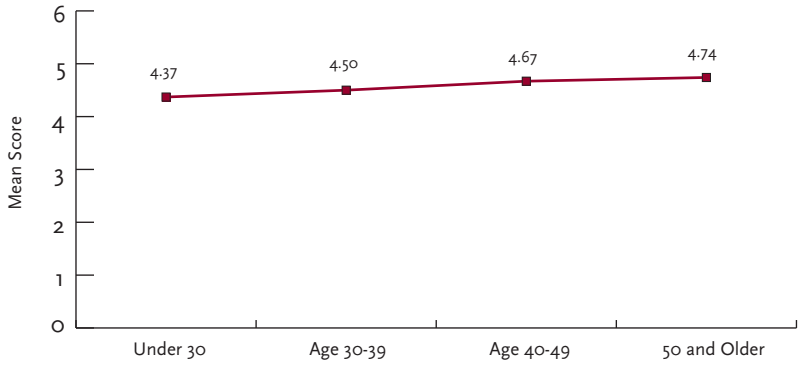
3.3.3 Impact of Age, Career Stage, and/or Life Stage on Organizational Commitment

- Does organizational commitment among respondents at the worksites in Brazil vary by age group, career stage, and/or life stage once we control for demographic factors and job characteristics?

  ⇨ Yes, organizational commitment among respondents at the worksites in Brazil varies by age (see Table 4.2b and Table 4.2b-1).
  ⇨ No, organizational commitment among respondents at the worksites in Brazil does not vary by career stage or life stage (that is, the differences in the mean scores are not statistically significant after controlling for demographic factors and job characteristics) (see Tables 4.2c and 4.2d).

Figure 3.3.3 illustrates the relationship between age and organizational commitment among respondents at the worksites in Brazil. Specifically, this figure presents the predicted mean scores of organizational commitment by age group among respondents at the worksites in Brazil. It shows that even after controlling for demographic factors and job characteristics, the level of organizational commitment for respondents under the age of 30 (4.37) at the worksites in Brazil is lower than that for respondents aged 40-49 (4.67) and for those aged 50 and older (4.74). In addition, respondents aged 30-39 are less committed to their organization than the respondents aged 40-49.

Figure 3.3.3 Organizational Commitment by Age Group among Respondents at the Worksites in Brazil, N=1315



Source: Generations of Talent Study

Note: Only statistically significant differences among age groups are discussed in the text.

Section 4: Methodological Notes

4.1 DATA COLLECTION AND SAMPLE

From May 2009 through November 2010, The Sloan Center on Aging & Work collaborated with seven multinational companies. In total, 24 worksites in 11 countries participated in the study, and 11,298 individual employees responded to the survey. Employees were invited to complete one 30-minute online survey during work time which they were able to access on a secure website. The survey was translated to Japanese, Mandarin Chinese, Brazilian Portuguese, and Spanish.

The survey consists of the core questions (questions that were included in the surveys made available to each respondent) and module questions (additional, complementary questions, a subset of which was randomly assigned to the respondents). The survey focused on employees' perceptions of their work experiences, workplace-based resources, demographic information, and their assessments of their health and well-being at work and in their lives in general.

The data collected in the GOT Study allow us to examine a range of experiences at worksites in Brazil in comparison to worksites in other countries. However, readers should keep in mind that the findings may not be representative of all employees at a worksite, in a country, or in a multinational organization as a whole.

As indicated in Table 4.1a, the sample in Brazil includes employees working for three multinational organizations that have worksites in Brazil. The sample in the other "young-developing" countries includes employees working at five companies that have worksites at some of the five other "young-developing" countries, including Botswana, China, India, Mexico, and South Africa. Three companies participated in the study in China, two companies participated in the study in India and Mexico, and only one company participated in each of the two remaining countries, Botswana and South Africa. The sample in the "old-developed" countries includes employees working at six companies that have worksites in some of the five "old-developed" countries, including the U.S., the U.K., Spain, Japan, and the Netherlands. Three companies participated in the study in the United States and the United Kingdom, and two companies participated in the study in Spain, Japan, and the Netherlands.

Table 4.1a Number of Worksites within Country Clusters

	Countries	Number of Worksites
Old-Developed Countries	Japan	2
	Spain	2
	Netherlands	2
	United Kingdom	3
	United States	3
Young-Developing Countries	Botswana	1
	Brazil	3
	China	3
	India	2
	Mexico	2
	South Africa	1

Overall, the multinational organizations that participated were affiliated with a range of industry sectors including information technology; professional, scientific and technical services; finance and insurance; electricity production, distribution and transport; and pharmaceuticals.

Table 4.1b summarizes the main characteristics of the total sample in Brazil compared to the samples in the "old-developed" countries and the other "young-developing" countries. The last column of this table indicates significant differences of employees' characteristics in Brazil from those in the five "old-developed" countries as well as in the five other "young-developing" countries. The sample in Brazil has a lower percentage of women (41.1%) and a higher percentage of men (58.9%) compared to the other "young-developing" countries (49.9% and 50.1%, respectively). However, the sample in Brazil has a lower percentage of men and a higher percentage of women than the "old-developed" countries (66.5% and 33.5%, respectively). In addition, the sample in Brazil has a higher percentage of full-time workers (98.7%) and a lower percentage of part-time workers (1.3%) compared to the "old-developed" countries (95.2% and 4.8%, respectively). The average work hours reported by the respondents at the worksites in Brazil are longer (45.8 hours) than the "old-developed" countries (42.5 hours) but shorter than the other "young-developing" countries (48.7 hours). The sample in Brazil has a higher percentage of respondents under 30 years of age (47.7%) compared to the "old-developed" countries (10.1%). On the other hand, the sample in Brazil has a lower percentage (26.8%) of respondents in the age group 30-39 compared to the "old-developed" and the other "young-developing" countries (32.6% and 37.5%, respectively). Moreover, the sample in Brazil has a lower percentage of respondents in the age group 40-49 and 50 years and older (18.8% and 6.8% respectively) compared to the "old-developed" countries (32.4% and 24.9%, respectively). Compared to the other "young-developing" countries (11.6%), the sample in Brazil (18.8%) has a higher percentage of 40-49 year old respondents. The percentage of respondents in early career in the sample in Brazil is higher (55.2%) compared to the "old-developed" countries and the other "young-developing" countries (22.5% and 46.5%, respectively). On the other hand, the sample in Brazil has a lower percentage of respondents in mid- and late career (41.7% and 3.1%, respectively) compared to the "old-developed" countries (58.3% and 19.2%, respectively) and the other "young-developing" countries (48.1% and 5.4%, respectively). Moreover, in the sample in Brazil, a higher percentage of respondents have neither child nor elder care responsibilities and elder care responsibilities (52.6% and 17.2%, respectively) compared to the "old-developed" countries (45.8% and 7.1%, respectively). However, the sample in Brazil has a lower percentage of respondents with child care responsibilities (23.9%) compared to the "old-developed" countries (40.3%). Lastly, a lower percentage of respondents in the sample in Brazil have supervisory responsibilities (34.2%) compared to the respondents in the other "young-developing" countries (44.5%).

Table 4.1b Characteristics of the Sample in Brazil and the Two Country Clusters

Characteristics	Brazil	Old-Developed	Other Young-Developing	Significant Differences from Brazil
% Women (N=8961)	41.1%	33.5%	49.9%	Significantly Different from Old-Developed and Other Young-Developing
% Men (N=8961)	58.9%	66.5%	50.1%	Significantly Different from Old-Developed and Other Young-Developing
% Full-time (N=11040)	98.7%	95.2%	95.7%	Significantly Different from Old-Developed
% Part-time (N=11040)	1.3%	4.8%	4.3%	Significantly Different from Old-Developed
Average work hours (N=10147)	45.8	42.5	48.7	Significantly Different from Old-Developed and Other Young-Developing
% Under 30 years old (N=9388)	47.7%	10.1%	45.5%	Significantly Different from Old-Developed
% Age 30 - 39 (N=9388)	26.8%	32.6%	37.5%	Significantly Different from Old-Developed and Other Young-Developing
% Age 40 - 49 (N=9388)	18.8%	32.4%	11.6%	Significantly Different from Old-Developed and Other Young-Developing
% 50 years old and above (N=9388)	6.8%	24.9%	5.4%	Significantly Different from Old-Developed
% Early career (N=9223)	55.2%	22.5%	46.5%	Significantly Different from Old-Developed and Other Young-Developing
% Mid-career (N=9223)	41.7%	58.3%	48.1%	Significantly Different from Old-Developed and Other Young-Developing
% Late career (N=9223)	3.1%	19.2%	5.4%	Significantly Different from Old-Developed and Other Young-Developing
% With neither child nor elder care responsibilities (N=8817)	52.6%	45.8%	48.3%	Significantly Different from Old-Developed
% With child care responsibilities (N=8817)	23.9%	40.3%	28.7%	Significantly Different from Old-Developed
% With elder care responsibilities (N=8817)	17.2%	7.1%	14.4%	Significantly Different from Old-Developed
% With both child and elder care responsibilities (N=8817)	6.3%	6.8%	8.6%	No Difference
% With supervisory responsibilities (N=11123)	34.2%	33.2%	44.5%	Significantly Different from Other Young-Developing

Note: Only statistically significant differences between Brazil and the two country clusters are discussed in the text ($p<.05$).

4.2 NOTES ON DATA ANALYSIS STRATEGIES

4.2.1 Model-building Strategy

In order to investigate each of the questions posed in Section 3, a series of regression analyses were conducted using Stata 11. Each of the outcome variables (work engagement, job satisfaction, and organizational commitment) were regressed on a set of control variables, including gender, income, work hours, full time/part time status, occupation type, supervisor status, education, lives with spouse, and company, in addition to age-related factors and country indicators.

The effects of country were tested simultaneously with all of the age-related factors. These analyses were conducted on the entire dataset including 11 countries and 24 worksites; random effects models were used to control for unique effects of worksites in these models. Table 4.2a below presents these regression analyses for each of the outcome variables.

The effects of age-related factors—age, career stage, and life stage—were tested separately, specifically for the Brazil data. Dummy variables representing each of the worksites were used to control for unique effects of worksites in these models. Joint significance tests for groups of dichotomies representing each of the age-related factors were conducted to make decisions regarding statistical significance of a given age-related factor. Tables 4.2b through 4.2d below present these regression analyses for all the outcome variables.

Based on these regression models, we generated predicted values that are used to graphically illustrate the key findings in the main text. Predicted values were calculated at mean values of all other variables included in regression equations.

4.2.2 Missing Data

As with most surveys where responses are voluntary, the GOT dataset contained a significant amount of item non-response. To address concerns about missing data, we performed multiple imputation by chained equations (MICE),[1] as implemented in Stata 11 (the ICE package).[2] This technique involves predicting missing values on the basis of existing data using regression models; such imputation is done more than once, each time including a random component. Coefficient estimates from each of these multiple datasets are then averaged, and standard errors are combined using a special formula that incorporates the uncertainty of imputation into these errors. Given the fairly high proportion of missing data, we generated and used 20 sets of imputed data to ensure high efficiency of estimates.[3]

Thus, regression results presented in this report have been averaged across the 20 complete datasets using Stata's multiple imputation features. Fully imputed values of our dependent variables (i.e., the three work outcomes) were deleted after multiple imputation (multiple imputation then deletion procedure, or MID);[4] however, we retained those values of work outcomes where only some but not all of the items used to create the scale were imputed.

4.2.3 Weights

As typically happens in survey research, some employees selected to participate in the GOT study chose not to participate. To minimize biases due to such refusals, all univariate and bivariate analyses presented in this report utilized post-stratification weights that were created using raking algorithm in Stata 11. These weights adjust sample distributions for each worksite to age, gender, and part-time/full-time status composition of that worksite. Compositional data were providewd to us by representatives of each multinational organization. As our regression analyses used age, gender, and full-time/part-time status as independent variables, we did not use weights in multivariate analyses.

4.2.4 Additional Tables

Table 4.2a: Random Effects Regression Results for the Effects of Country on Work Outcomes

Variable	Work Engagement	Job Satisfaction	Organizational Commitment
Female	-0.02	0.04*	-0.01
Undergraduate degree [a]	-0.22***	-0.08***	-0.17***
Graduate degree [a]	-0.28***	-0.14***	-0.24***
Income	-0.01	0.01	-0.01*
Lives with spouse/partner	0.07*	0.02	0.03
Work hours	0.01***	-0.00	-0.00
Part-time status	0.16	-0.03	0.17
Professional/technical [b]	-0.23***	-0.11***	-0.14***
Service/sales [b]	0.03	0.05	0.08
Other occupation type [b]	-0.19***	-0.08**	-0.04
Have supervisory responsibilites	0.17***	0.11***	0.11***
Age 30-39 years [c]	0.09	-0.05*	-0.06
Age 40-49 years [c]	0.33***	0.02	0.13**
Age 50 years and above [c]	0.53***	0.15***	0.23***
Mid-career [d]	-0.08*	-0.08***	-0.06
Late career [d]	-0.35***	-0.19***	-0.16**
Child care responsibilities [e]	0.04	0.00	0.07*
Elder care responsibilities [e]	-0.01	-0.08**	0.00
Both child and elder care responsibilities [e]	0.04	-0.04	0.10
Working in "old-developed" countries [f]	-0.60**	-0.21	-0.51**
Working in "young-developing" countries [f]	-0.11	-0.12	-0.17
Constant	5.69***	4.71***	4.91***

Statistically significant effects are indicated as follows: ***p<.001, **p<.01, *p<.05
[a] Reference = less than college; [b] Reference = managerial occupation; [c] Reference = under 30 years of age; [d] Reference = early career; [e] Reference = neither child nor elder care responsibilities; [f] Reference = working in Brazil.

Table 4.2b: Ordinary Least Squares Regression Results for the Effects of Age on Work Outcomes in Brazil

Variable	Work Engagement	Job Satisfaction	Organizational Commitment
Female	-0.03	0.06	0.01
Undergraduate degree [a]	-0.36***	-0.24***	-0.29**
Graduate degree [a]	-0.38**	-0.26**	-0.29**
Income	-0.01	0.01	-0.01
Lives with spouse/partner	0.04	-0.03	-0.01
Work hours	0.00	0.00	0.00
Part-time status	0.32	-0.03	0.24
Professional/technical [b]	-0.02	0.03	-0.06
Service/sales [b]	0.27	0.26**	0.20
Other occupation type [b]	0.05	0.07	0.16
Have supervisory responsibilites	0.07	0.13*	0.06
Age 30-39 years [c]	0.28**	-0.01	0.13
Age 40-49 years [c]	0.51***	0.20*	0.29**
Age 50 years and above [c]	0.54**	0.35**	0.36*
Worksite 2 [d]	0.94***	0.54***	0.63***
Worksite 3 [d]	0.67***	0.23***	0.40***
Constant	5.09***	4.25***	4.43***

Statistically significant effects are indicated as follows: ***p<.001, **p<.01, *p<.05
[a] Reference = less than college; [b] Reference = managerial occupation; [c] Reference = under 30 years of age; [d] Reference = worksite 1.

Note: The effects of age were graphically illustrated in the text only if the three age group dummies were jointly significant.

Table 4.2b-1: Differences in Work Outcomes across the Age Groups

Age	Significant Difference (Work Engagement)	Significant Difference (Job Satisfaction)	Significant Difference (Organizational Commitment)
Under 30	Significantly different from 30-39, 40-49, and 50+	Significantly different from 40-49 and 50+	Significantly different from 40-49 and 50+
30-39	Significantly different from under 30 and 40-49	Significantly different from 40-49 and 50+	Significantly different from 40-49
40-49	Significantly different from under 30 and 30-39	Significantly different from under 30 and 30-39	Significantly different from under 30 and 30-39
50+	Significantly different from under 30	Significantly different from under 30 and 30-39	Significantly different from under 30

Table 4.2c: Ordinary Least Squares Regression Results for the Effects of Career Stage on Work Outcomes in Brazil

Variable	Work Engagement	Job Satisfaction	Organizational Commitment
Female	-0.05	0.05	-0.00
Undergraduate degree [a]	-0.38***	-0.24***	-0.30**
Graduate degree [a]	-0.37**	-0.26**	-0.29**
Income	0.01	0.02	0.00
Lives with spouse/partner	0.11	-0.01	0.03
Work hours	0.00	-0.00	-0.00
Part-time status	0.32	-0.01	0.24
Professional/technical [b]	-0.08	0.01	-0.09
Service/sales [b]	0.27	0.26**	0.21
Other occupation type [b]	0.08	0.10	0.17
Have supervisory responsibilites	0.05	0.13*	0.04
Mid-career [c]	0.13	-0.07	0.05
Late career [c]	0.05	0.02	0.14
Worksite 2 [d]	1.04***	0.63***	0.71***
Worksite 3 [d]	0.73***	0.26***	0.43***
Constant	5.15***	4.29***	4.46***

Statistically significant effects are indicated as follows: ***p<.001, **p<.01, *p<.05
[a] Reference = less than college; [b] Reference= managerial occupation; [c] Reference = early career;
[d] Reference = worksite 1.

Table 4.2d: Ordinary Least Squares Regression Results for the Effects of Life Stage on Work Outcomes in Brazil

Variable	Work Engagement	Job Satisfaction	Organizational Commitment
Female	-0.04	0.05	0.00
Undergraduate degree a	-0.36***	-0.25***	-0.29**
Graduate degree [a]	-0.35**	-0.27**	-0.28**
Income	0.02	0.02	0.00
Lives with spouse/partner	0.10	-0.03	0.01
Work hours	0.00	-0.00	-0.00
Part-time status	0.33	-0.01	0.25
Professional/technical [b]	-0.10	0.03	-0.09
Service/sales [b]	0.26	0.26**	0.20
Other occupation type [b]	0.08	0.11	0.18
Have supervisory responsibilites	0.06	0.12*	0.05
Child care responsibilities [c]	0.08	0.07	0.05
Elder care responsibilities [c]	-0.03	-0.05	-0.03
Both child and elder care responsibilities [c]	0.17	-0.01	0.20
Worksite 2 [d]	1.05***	0.62***	0.71***
Worksite 3 [d]	0.72***	0.25***	0.42***
Constant	5.17***	4.29***	4.47***

Statistically significant effects are indicated as follows: ***p<.001, **p<.01, *p<.05
[a] Reference = less than college; [b] Reference = managerial occupation; [c] Reference = neither child nor elder care responsibilities; [d] Reference = worksite 1.

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