

“Business students’ perceptions of an aging workforce, higher retirement age and youth unemployment”

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ARTICLE INFO	Rahat Rahat, Olayemi Abdullateef Aliyu and Chux Gervase Iwu (2019). Business students’ perceptions of an aging workforce, higher retirement age and youth unemployment. <i>Problems and Perspectives in Management</i> , 17(4), 430-440. doi: 10.21511/ppm.17(4).2019.35
DOI	http://dx.doi.org/10.21511/ppm.17(4).2019.35
RELEASED ON	Saturday, 28 December 2019
RECEIVED ON	Wednesday, 24 July 2019
ACCEPTED ON	Wednesday, 13 November 2019
LICENSE	 This work is licensed under a Creative Commons Attribution 4.0 International License
JOURNAL	"Problems and Perspectives in Management"
ISSN PRINT	1727-7051
ISSN ONLINE	1810-5467
PUBLISHER	LLC “Consulting Publishing Company “Business Perspectives”
FOUNDER	LLC “Consulting Publishing Company “Business Perspectives”



NUMBER OF REFERENCES

43



NUMBER OF FIGURES

2



NUMBER OF TABLES

5

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BUSINESS PERSPECTIVES



LLC "CPC "Business Perspectives"
Hryhorii Skovoroda lane, 10,
Sumy, 40022, Ukraine

www.businessperspectives.org

Received on: 24th of July, 2019

Accepted on: 13th of November, 2019

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BUSINESS STUDENTS' PERCEPTIONS OF AN AGING WORKFORCE, HIGHER RETIREMENT AGE AND YOUTH UNEMPLOYMENT

Abstract

The relationship between an aging workforce, higher retirement age, and youth unemployment has already been established in the available literature. However, empirical research on the impact of an aging workforce, and higher retirement age on youth unemployment is limited, has conflicting results, has occurred mostly overseas, and has not considered the perceptions of young people who are about to enter the workforce. Hence, this paper aims to investigate the perceptions of the youth on the relationship between the aging workforce, higher retirement age, immigration policies, and youth unemployment. Structural equation modelling was used to analyze the responses of 183 business students. The findings establish that five relationships were supported out of seven hypothesized relationships. The key research finding reveal that immigration policies and higher retirement age are significantly related to youth unemployment. Lastly, the theoretical and managerial implications of the study were discussed, along with the limitations and recommendations for future research.

Keywords

aging workforce, aging population, higher retirement age, immigration policies, youth unemployment

JEL Classification

J26, J61, J64

INTRODUCTION

Population aging is a global issue. Although every country faces the phenomenon, the process is occurring at different speeds in different parts of the world. It is good news that healthier ways of living and advances made by medical science have led people to live longer than ever before. The trend of people living longer is expected to continue for several decades (Chybalski & Marcinkiewicz, 2014). However, this trend of living longer has led to an increase in the number of aging population. A United Nations (2017) report revealed that the number of people aged 60 years and over was 205 million in 1950, this further increased to around 606 million in 2000 and is projected to increase to 1.2 billion and 2 billion in 2025 and 2050, respectively. Worldwide, one in eight people were aged 60 or over in 2017, while by 2050, one in five people will be aged 60 or over. However, the increase in lifespan has led to a large increase in the number of years an individual may spend in retirement (Sundali, Westerman, & Stedham, 2008). Owing to this, people can obtain more pension funds from their government without working longer or paying more tax. This remarkable change in population age structure can negatively influence the performance of economies, as well as the sustainability of government entitlement programs. Accordingly, various measures have been taken by governments to tackle the issue such as increase in retirement age. However, the proposal to increase the retirement age is subject to disapproval and opposition (Bertoni & Brunello, 2017). Previous studies investi-

gated the impact of an aging workforce on job opportunities among the youth and revealed that increased professional activity of older workers in the workforce limits youth labor force participation (Boeri, Garibaldi, & Moen, 2016; Munnell & Wu, 2013). Other studies analyzed the effect of raising the retirement age on youth employment and have shown that higher retirement age negatively affects youth employment (Boeri, Garibaldi, & Moen, 2017). Therefore, these studies have concluded that an increase in the number of older workers in the labor market and older retirement age, contribute to the pressing issue of youth unemployment. On the other hand, Kreiger (2014) suggested that government immigration policies can also help to deal with the consequences of aging populations. Thomson (2017) stated that immigrants and young working-age people gain employment where workers are required. Hence, immigrants fill jobs where workers are needed. Additionally, immigrants pay taxes by working and, hence, contribute to public finances. Therefore, it can be concluded that immigrants play a dual role in destination countries. Firstly, immigrants help meet labor shortages and, secondly, immigrants contribute to public finance. However, immigrants can also hinder the entry of young graduates into the labor market, contributing to youth unemployment. Also, immigration policies introduced by various governments allow migrants to enter destination countries and, hence, generate new migrant labor. This new migrant labor may exclude native workers from jobs (Sechele, 2015). Consequently, immigration policies can also contribute to youth unemployment.

Ghafar (2016) pointed out the challenges of unemployment, specifically, faced by university graduates. Similarly, Hanna (2014) revealed that globally, the chances of young people being unemployed are around three times higher than for their parents. In the United States of America, Edwards and Hertel-Fernandez (2010) noted that young workers are twice as likely as older workers to be unemployed. In Australia, the rates of youth unemployment tend to be higher with larger swings, compared to the unemployment rates of adults (Carvalho, 2015). In New Zealand, a similar trend has been observed. Unemployment rates increased around 10% among young people aged from 15 to 19 between 2007 and 2009, while for the overall population, rates increased by 3% maximum (Johnson, 2016). This increase in unemployment rates for young people has motivated the researchers to investigate the determinants of youth unemployment. Therefore, this paper has formulated a conceptual framework of four variables (Figure 1). The research objective was to test the conceptual model for these four variables (aging workforce, immigration policies, higher retirement age, and youth unemployment). This study captured the research gap as the empirical research on the impact of aging workforce, higher retirement age on youth unemployment is limited (Bertoni & Brunello, 2017), has contrasting results, and has not considered the perceptions of young people about to enter the workforce. As a result, the current study contributes to literature by studying the student perceptions on a more holistic understanding of the links between higher retirement age, aging workforce, immigration policies and youth unemployment. To achieve this, the study combines the output of previous study and conclusive results from a survey of business students in New Zealand. The remainder of the paper is structured as follows: the literature review on four conceptualized variables is presented along with the research hypotheses. Next, under the methodology, analysis and findings are presented. The paper concludes by discussing the research implications, limitations, and future research directions.

1. LITERATURE REVIEW

1.1. Aging workforce

The aging workforce includes people who are 55 years of age or over and are still in employment or are keen to keep working for longer (Statistics New Zealand, 2013). With an aging population, an aging workforce would also be imminent, as people live longer and healthier lives, their ability and willingness to stay in the workforce will necessar-

ily increase. Johnson (2016) described how older people in New Zealand benefited most from jobs created in the economy since 2010. Fewer than 90,000 older people were in employment in 2010, but this number had increased to 153,000 by mid-2016. Around a quarter of jobs created between 2010 and 2016 went to older people, while people aged from 15 to 19 took up fewer than 2 percent of newly created jobs. Johnson's (2016) findings are consistent with a study by Chmelova (2013), which analyzed whether higher labor force participation

by older people worsened the employment situation of youth. The study confirmed that 10 percent increase in the professional activity of older workers related to a decrease in youth employment of 1 percentage point and 2 percent increase in the inactivity rate of young people. Therefore, it can be concluded that an increase in the employment rates of older people contributes to an increase in youth unemployment rates. However, existing literature reports that there are very few studies of the impact of changes in labor force participation of the older on the jobs available for youth (Queiroz, 2016). In light of the above, this study hypothesized that:

H1: There is positive relationship between aging workforce and youth unemployment.

1.2. Higher retirement age

Higher retirement age refers to increase in retirement eligibility age by the government. Extant literature acknowledges the crucial role which aging workforce has in any change in retirement eligibility age as any increase in ability and willingness of people to stay in workforce can increase the retirement eligibility age (Kondo, 2016). On the other hand, research found that an increase in the retirement age can result in youth unemployment (Boeri, Garibaldi, & Moen, 2016). Further, there are evidences, which show that three younger individuals lost their jobs for every additional ten older workers retained due to a rise in retirement age (Bertoni & Brunello, 2017). Research also shows that reduction in youth employment rate was accounted for by approximately 84.3% of the increase in retirement age (Isiaka & Woli-Jimoh, 2017). Although past research seems to focus on the impact of higher retirement age on youth unemployment, however, there is limited attention given to the pivotal role of higher retirement age on youth unemployment. Hence, research shows that this issue has not received much needed attention (Foster, 2012). Therefore, this research hypothesized that:

H2: There is a positive relationship between aging workforce and higher retirement age.

H3: There is a positive relationship between higher retirement age and youth unemployment.

1.3. Immigration policies

Research highlights that the higher retirement age is not a very promising policy to deal with the demographic challenge; immigration policies have therefore been suggested as a countermeasure to the demographic challenge (Kreiger, 2014). To deal with the consequences of aging population, encouraging the older to keep working for longer is a one-way solution. On the other hand, another solution is to promote immigration, usually by young people. These young immigrants take up jobs in the destination country and contribute to public finances, leading to an increase in economic growth along with growth in the labor supply (Muysken, 2008). Thus, immigration is vital to tackle the demographic challenge, as immigrants can increase the working-age population and, hence, financial pressure to pay pensions can be eased. Existing literature reports the positive contribution made by immigrants in Australia. Dean (2018) found a significant positive effect of immigrants on the age structure of Australia. If migration to Australia was cut to zero by 2053, 28.4% of Australians would be 65 years of age or over. However, if inward migration grew by 300,000, then, 21.2 percent would be. It can be concluded, therefore, that international migration has a big long-term impact on destination countries, as it increases the working-age population and grows the tax base. As a result, to manage the consequences of aging population, both aging workforce and immigration policies together play an important role. Hence, this research hypothesized that:

H4: There is a positive relationship between aging workforce and immigration policies.

1.4. Youth unemployment

Within the existing literature, there is a number of studies that examined the impact of immigration on unemployment with varying conclusions, however, most of the studies indicated a negative relationship between immigration and youth unemployment. Birrell and Healy (2013) found that the share of older workers aged 60 or over in the labor force increased from 39 percent in 2003 to 54 percent in 2013, while there were 168,000 recently arrived migrants aged over 15 in Australia. Of this number of recently arrived migrants, 108,200 were employed. Therefore, it was argued that young do-

mestic workers have to compete with the working older, along with an increasing number of migrants looking for the same work. Hence, it is the young domestic workers who have to enter a weak labor market where an increasing share of local workers aged 55 or over also remain in the labor force. All these contribute to higher unemployment amongst local workers aged from 15 to 24 years. Similarly, Johnson (2016) reported that New Zealand already has a persistent number of young people (75,000) not in employment, education, or training. It was emphasized that these youth remain outside the labor force, because as job numbers grow, migrants take those jobs and crowd out the most marginalized workers from the labor market (Johnson, 2016). Past research emphasized the relationship between labor market trends and immigration, however, the impact of immigrants on the labor market of native workers has received limited research attention (Neumark & Shupe, 2018). Therefore, this research hypothesized that:

H5: There is a positive relationship between immigration policies and youth unemployment.

1.5. Mediating impact of higher retirement age and immigration policies

Extant research acknowledges the direct relationship between aging workforce and higher retirement age (Kondo, 2016), higher retirement and youth unemployment (Isiaka & Woli-Jimoh, 2017)

and aging workforce and youth unemployment (Boeri, Garibaldi, & Moen, 2016). Therefore, aging workforce is related to higher retirement age, which is further related to youth unemployment, while aging workforce is also related to youth unemployment. Hence, available empirical findings establish that higher retirement age mediates the relationship between aging workforce and youth unemployment. Similarly, aging workforce and immigration policies are related as together these can help to tackle the demographic challenge, however, immigration policies can be a potential threat to the youth unemployment. As a result, immigration policies demonstrated to mediate the relationship between aging workforce and youth unemployment. Therefore, in light of the evidence from previous studies, this study hypothesized that:

H6: Higher retirement age mediates the relationship between aging workforce and youth unemployment.

H7: Immigration policies mediate the relationship between the aging workforce and youth unemployment.

1.6. Research model

Based on the findings of literature review, a conceptual framework is proposed (Figure 1).The research model predicts the (i) relationship between aging workforce, higher retirement age, immigration policies and youth unemployment and (ii) high-

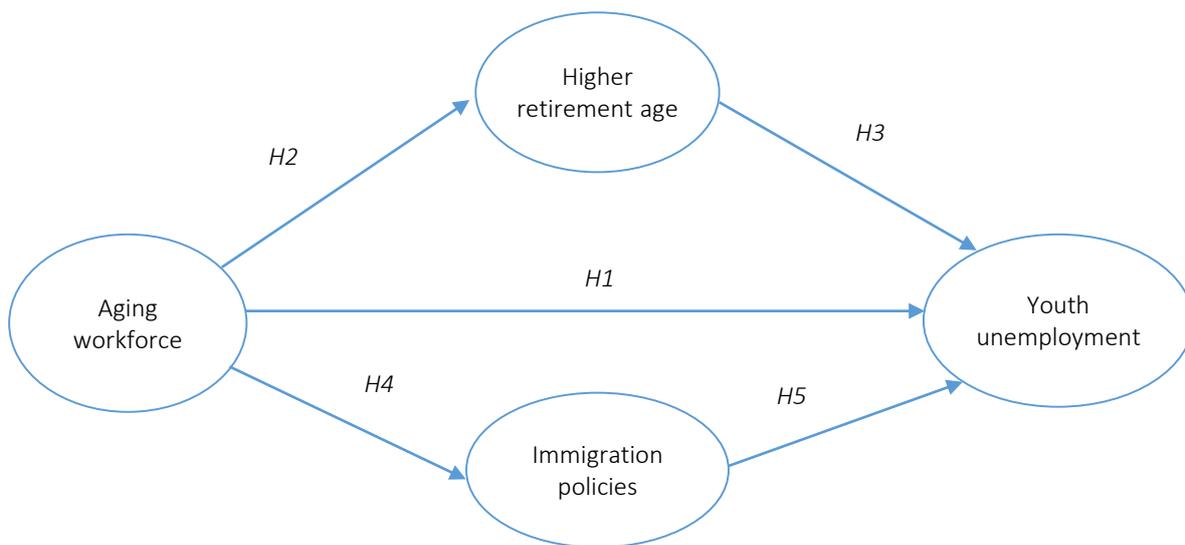


Figure 1. Conceptual framework

er retirement age and immigration policies mediates the relationship between aging workforce and youth unemployment. This conceptual framework grounded in lump of labor theory, which postulates that the amount of work to be done in the world is fixed, and if the amount of work done by one worker increases, then, the amount of work left to do by another worker is reduced. In the case of an aging workforce and immigration policies, this underpinning theory aligns with the assumption that if an older worker does not retire and chooses to stay in the workforce for longer, it means that one less job is available for a young worker. Similarly, in case of immigration policies, immigrants are said to take jobs away from local workers.

2. RESEARCH METHODOLOGY

2.1. Sample and data collection procedure

A survey questionnaire was used to collect the data from the business students studying in

Toi-Ohomai Institute of Technology in Rotorua and Tauranga campuses. 215 responses were received using a convenience non-probability sampling method. The researchers conducted the Mahalanobis distance test and found that 32 out of 215 responses as outliers. Hence, these 32 responses were deleted from the data set. After the deletion, the total number of respondents was 183. This sample size was consistent with the recommended statistical rule of thumb by Roscoe who proposed that sample sizes more than 30 and less than 500 are suitable for most research (Hills, 1998). By comparing early and late respondents, no response bias was evident in the sample (Armstrong & Overton, 1977). The sample consisted of 41 percent male and 59 percent female with most of the participants of age group over 30 (38.8%).

2.2. Measurements and data analysis

All the measurement items were adapted from the previous literature and all the latent variables were measured using a 5-point Likert scale (1 = strongly disagree; 5 = strongly agree). The measure-

Table 1. Measurement items, factor loadings, Cronbach’s alpha, and composite reliability

Constructs and measurement items	Factor loadings	α	Composite reliability
Aging workforce (AW)		0.718	0.804
AW1: With people now living longer on average, it is right that people should have to work longer	0.425		
AW2: Older people by working longer makes it harder for younger people to get good jobs	0.665		
AW3: Many companies believe older people are more qualified than younger people	0.753		
AW4: Older people dominate New Zealand society more than they should	0.726		
AW5: Older people hold too many positions of power and responsibility in working sector	0.759		
Immigration policies (IP)		0.736	0.789
IP1: Migrants make an important contribution to New Zealand’s economy	0.707		
IP2: Migrants are needed to keep the economy going	0.499		
IP3: Average wages are brought down by the immigrants	0.720		
IP4: Immigration policies introduced by the government have made it more difficult for young New Zealanders to get jobs	0.720		
IP5: Immigrants help to fill jobs where there is a shortage of workers	0.618		
Higher retirement age (HRA)		0.814	0.770
RRA1: Too much public expenditure is devoted to the older	0.574		
RRA2: Workers should be willing to pay extra tax to improve state pensions	0.569		
RRA3: Higher retirement age leads to fewer employment opportunities for young people	0.872		
RRA4: Higher retirement age leads to improved retention of skills and knowledge by allowing the older workers to stay in the workforce	0.870		
RRA5: Historically, people have retired at 65, a further increase to 67 will reduce job opportunities for youth	0.880		
Youth unemployment (YE)		0.789	0.826
YE1: Early retirement should be encouraged to improve job prospects for the young	0.858		
YE2: Youth employment should be more important than employment of over 50s	0.759		
YE3: Preference should be given to young people over the older for hiring for jobs	0.800		
YE4: With people now living longer on average, it is difficult for young students to find employment	0.799		
YE5: The lack of job opportunities is the main cause behind the youth unemployment	0.661		
YE6: Young people should make more of an effort to obtain work	0.647		
YE7: Immigrants taking jobs away from New Zealanders is the main cause behind the youth unemployment	0.745		

ment items for the aging workforce were adapted from MacLeod, Fitzpatrick, Hamlyn, Jones, Kinver, and Page (2012) and Ospina (2015), while the items for immigration policies were adapted from the Ministry of Business, Innovation and Employment (2015) and Dustmann and Preston (2006). The measures for higher retirement age were adapted from Loretto, Duncan, and White (2000) and Litwin, Achdut, and Youssim (2009). Finally, youth unemployment was measured using the items from Loretto, Duncan, and White (2000), and The Swedish National Board of Youth Affairs (2007). The measurement items are shown in Table 1.

Bryne (2010) suggested a factor loading of 0.50 or higher to be significant in this study. Therefore, Table 1 summarizes all the measurement items used in the analyses. The findings indicate that almost all the measurement items have met the cut off criterion for factor loadings suggested by Bryne (2010). The items with negative and low factor loadings were considered for deletion in the final analysis. The Cronbach's alpha of a loading 0.718 was achieved for the aging workforce, while the Cronbach's alpha of 0.736 was attained for immigration policies. Similarly, for higher retirement age and youth unemployment, the value of Cronbach's alpha achieved was 0.814 and 0.789, respectively. The Cronbach's alpha ranges from 0.71 to 0.81, confirming that the measurement items were internally consistent. It can also be noticed from Table 1 that the constructs have exceeded the

recommended criterion of 0.7, suggested by Hair, Black, Babin, Andersen, and Tatham (2010) for the composite reliability. This supports the overall validity of the construct measures used.

2.3. Measurement model

Following the above analyses, structural equation modelling (SEM) using the AMOS software was used to test the hypothesized relationships (H1-H5). As shown in Figure 1, a SEM model was estimated in which aging workforce was an independent variable, higher retirement age and immigration policies were mediating variables and youth unemployment was dependent variable. The research findings obtained through SEM analyses of the structural model are shown in Figure 2.

The findings from the structural equation modelling indicated that 46.6% of the variation in the immigration policies and 64.2% of the variation in the higher retirement age is explained by aging workforce. Furthermore, the cumulative result reveals that the 75.3% of variability in youth unemployment is explained by joint effect of an aging workforce, immigration policies, and higher retirement age. The detailed information about the variance explained (R^2) is provided in Table 2.

As illustrated in Table 3, the fit indices indicated acceptable model fit ($\chi^2/df = 1.18$, p -value = 0.28, CFI = .97, TLI = .96, RMSEA = .03). For statistical acceptance of model, Hair et al. (2010) suggested

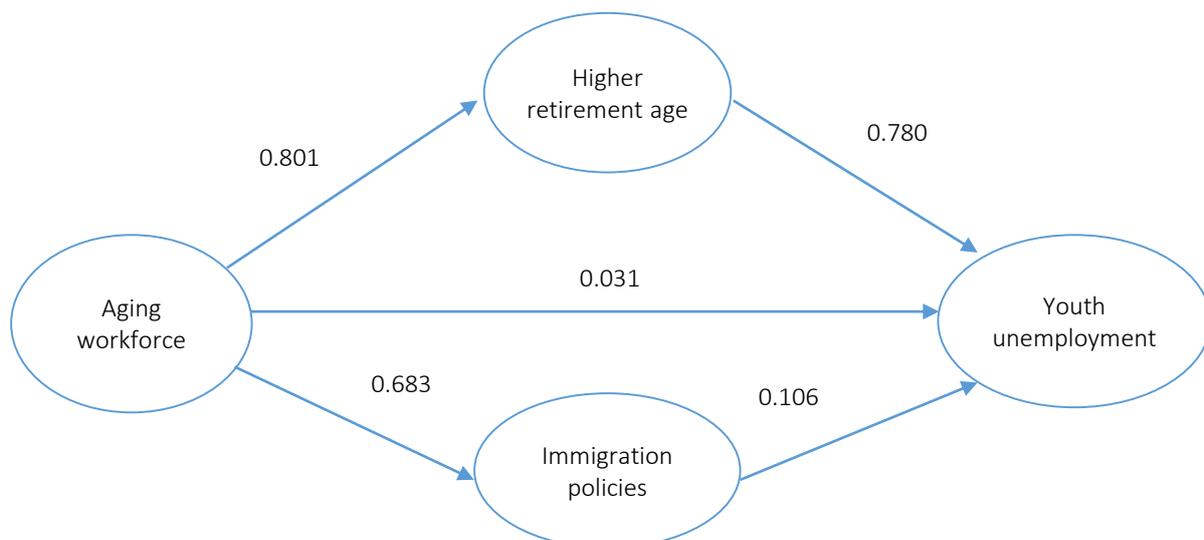


Figure 2. Findings from the structural model

Table 2. Squared multiple correlations (R^2)

R^2 for Endogenous variables	Estimate
Higher retirement age	.642
Immigration policies	.466
Youth unemployment	.753

that it should generate p -value greater than 0.05. The model achieved a p -value of 0.276, which is a substantial indication that the model is statistically acceptable. Despite the Chi-square being statistically significant, all other statistics are within the acceptable ranges (Hair et al., 2010). The results are presented in Table 3.

Table 3. Goodness of fit index for the model

Final model	Criteria	Results
CMIN/Df	< 5	1.179
P -value	> 0.05	0.276
GFI	> 0.9	0.976
CFI	> 0.95	0.972
TLI	> 0.9	0.962
RMSEA	< 0.05	0.031

2.4. Hypotheses testing

To test the hypothesized relationships, structural equation modelling (SEM) using the AMOS software was used. Five hypotheses were formulated based on direct relationships between aging workforce and youth unemployment, immigration policies and higher retirement age, and the impact of immigration policies and higher retirement age on youth unemployment. The analysis of five direct structural paths was based on an error level of 0.05. This level indicates 95% confidence that if the data were collected over time, the results would be the same. In Table 4, the results show that aging workforce was significantly related to higher retirement age (standardized estimate .801), immigration policies (standardized estimate .683), in support of $H2$ and $H4$. Hypothesis 1 and 5 are not supported as aging workforce (p -value .886) and immigration policies (p -value .395) were not sig-

nificantly related to youth unemployment. Lastly, Hypothesis 3 is supported, as higher retirement age (standardized estimate .78) was significantly related to youth unemployment. The result of hypotheses testing is presented in Table 4.

Table 4. Results for the direct relationships

Hypothesised Relationships	Estimate	P -value	Status
Aging workforce → Higher retirement age	.801	0.000	Significant
Aging workforce → Immigration policies	.683	0.000	Significant
Higher retirement age → Youth unemployment	.780	0.000	Significant
Aging workforce → Youth unemployment	.031	.886	Non-Significant
Immigration policies → Youth unemployment	.106	.395	Non-Significant

Note: *** = Significant at 1%

2.5. Mediation effects

Both immigration policies (IP) and higher retirement age (HRA) were postulated as mediators in the relationship between aging workforce and youth unemployment. This study followed procedures suggested by Preacher and Hayes (2008) to test mediation effects. The indirect and direct effects between the predictor and outcome constructs were estimated to assess mediation effects. The results in Table 5 show that $H6$ and $H7$ are supported, as immigration policies and higher retirement age fully mediate the relationship between aging workforce and youth unemployment. Full mediation was established, because indirect effects estimates are greater than direct effects estimates. Please refer to Table 5 to understand the mediation effect.

Table 5. Mediation effect

Hypotheses	Exogenous	Mediated	Endogenous	Direct effects estimates	Indirect effects estimates	Mediating hypothesis
$H6$	AW →	IP →	YE	0.031	0.072398	Mediating
$H7$	AW →	HRA →	YE	0.031	0.62478	Mediating

3. DISCUSSION

3.1. Theoretical implications

Past research shows that there has been very little academic literature published on the relationships between aging workforce, higher retirement age, immigration policies and youth unemployment (Davey & Davies, 2006; McGregor & Gray, 2002). Therefore, this research has filled a theoretical gap in the literature, and contributed to more holistic understanding of the relationship between higher retirement age, aging workforce, immigration policies, and youth unemployment. This is a major theoretical contribution in the area of aging workforce, higher retirement age, and youth unemployment. This study has captured the research gap noted by Isiaka and Woli-Jimoh (2017) concerning the relationship between retirement age and youth employment. Thus, the present study contributes further insights into this research stream by establishing the positive significant relationship between higher retirement age, and youth unemployment. Past research shows that most literature on aging workforce, higher retirement age, and youth unemployment was conducted separately; however, this research provides a different theoretical lens by establishing the combined effects of the relationships between aging workforce, higher retirement age, immigration policies and youth unemployment in a single research model. This study has provided empirical evidences that higher retirement age and immigration policies mediate the relationship between aging workforce and youth unemployment.

3.2. Methodological implications

Along with the theoretical contributions, this research has contributed to the methodological knowledge. The present study has identified relevant measurement instruments for the conceptualized variables and tested these relationships using SPSS and AMOS (SEM). Past research carried out a quantitative survey in China to investigate

the perceptions of people to investigate the impact of increase in the retirement age on youth employment (Li, Xi, & Ning, 2016). However, present research reports that there are very limited quantitative researches conducted with identified constructs (aging workforce, higher retirement age, youth unemployment, and immigration policies). Hence, the current research addressed this gap by undertaking similar quantitative research.

3.3. Managerial implications

In terms of managerial implications, the findings of this study suggest major implications for policymakers and government agencies whose main concern is to plan and implement employment policies to provide better access to labor market for everyone. First, the findings highlight that any increase in the retirement age will also increase youth unemployment. The past research shows that policies introduced by the government to increase the retirement age benefit the government and older; however, the present study suggest that higher retirement age negatively impacts the youth unemployment. Therefore, a major implication of this study is that policymakers and government agencies need to plan and introduce better employment policies for older people and youth. Second, the findings established that immigrants do not crowd native workers out of the labor market. This result has provided the empirical evidence that immigration policies implemented by the government have a positive impact on the labor market. Third, the findings revealed that immigrants can potentially slow population aging, can fill jobs and provide services needed by the aging population, as they complement the skills of native workers and represent an important contribution to population growth (Kreiger, 2014). Therefore, the study suggests that policymakers should encourage larger immigration flows of skilled workers who will contribute to society. This would help mitigate the consequences of an aging population along with meeting labor shortages.

CONCLUSION

This paper has investigated the impact of an aging workforce, higher retirement age and immigration policies on youth unemployment. The study provides evidence that higher retirement age has a negative impact on youth employment. Therefore, there is a need to employ relevant strategies in order to

tackle the higher rates of youth unemployment. The introduction of the higher retirement age policy is a great event to encourage the older to stay in the workforce for longer. However, the government must adequately consider the negative effects which this higher retirement age policy may have on youth employment and, hence, active and effective measures must be taken to deal with them. Under the severe unemployment rates for young people, policymakers and government agencies should consider the crowding out effect of higher retirement age on youth employment. The findings from this study provide a sound argument in support of more youth employment compared to older people. If this issue is not urgently addressed, likely consequences could be the youth involvement in crimes, insecurity in the nation and other long-term consequences of unemployed people. Despite the achieved findings, this study has some limitations. First, there are various other determinants of youth employment, besides those focused on in this study (aging workforce, higher retirement age, and immigration policies). Consequently, the study's focus is limited to the impact of an aging workforce, higher retirement age, and immigration policies on youth unemployment. Future researchers might, therefore, explore the other determinants of youth unemployment, which remain unexplained in this study. Second, the current study deals with snapshots of business students' perceptions of the impact of an aging workforce, higher retirement age, and immigration policies on youth unemployment within a short time frame. Hence, the cross-sectional design of the research may be a limitation. Lastly, the other limitation observed by the researchers is the sample of 183; in multivariate analysis, this small sample is a methodological limitation. Some of the limitations of this research can be addressed by emphasizing the areas for future research. The current research focused on the impact of three variables on youth unemployment; the study suggests that there is a need for future research to study in detail, other determinants of youth unemployment such as employer attitudes, education, and training and the skills of young people (Ministry of Social Development, 2015). The authors conducted a detailed literature review to establish that aging workforce, higher retirement age, and immigration policies affect the youth unemployment. Likewise, it will be important for future researchers to conceptualize other constructs for measuring youth unemployment. Although the research findings have shown that the aging workforce showed a positive, but insignificant impact on youth unemployment, the researchers believe that further investigation is needed due to the mixed opinions of researchers in past studies of the impact of an aging workforce on youth employment. Furthermore, a limitation of this study was that it used a cross-sectional design, so future research is needed to apply longitudinal design to the model, to establish causative relationships.

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