

ECONOMICS*Sociology*

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Introduction

DR Congo, like several other countries around the world, faces a rapid decrease in funding from donors in the fight against HIV/AIDS (NSP review, 2012, 27). In addition to bilateral and multi-lateral partners, there is a growing need to implicate private sector companies in this struggle, given the rigidity of public finances. The engagement of private companies can be justified by their social responsibility by appealing to their contribution to sustainable development of the communities in which they operate including health (Werner, 2009). However, these partnerships brewing millions of dollars often suffer suspicions of corruption of agents committed to the development and execution of various campaigns, which discourage the commitment of the private sector in this fight (Le potential, 2013). Regardless of this reality, the threat that constitutes the epidemic for these companies themselves, require that they take cause for action. Indeed, increasing evidence has shown that HIV/AIDS is threatening firms' productivity and profitability, deter foreign investments and disrupt other flows of goods and capital as well as the business' researched stability and certainty to support investment in operations and new markets (Nattras *et al.*, 2004, pp. 3-4).

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**RELEVANCY FOR CORPORATES
TO ENGAGE IN THE FIGHT
AGAINST HIV/AIDS IN KINSHASA**

ABSTRACT. Over the years, Africa has become the most HIV/AIDS burdened region worldwide. The epidemic did not spare the workforce as much as all the other social forces of African communities. Success in combating the epidemic requires corporates to join forces with governments and non-profit organisations in addressing the issue. However it is noticed that companies have not been playing their part in the struggle against HIV/AIDS. Product-moment correlation, *t*-Test and multinomial logistic regression performed on empirical data demonstrated that unemployed people are better exposed to HIV/AIDS information than employed ones as they spend more time at work without exposure to HIV/AIDS messages, and are less likely to engage in risky sexual behaviour. Both female and male-employed are highly sexually active, while female-employed are more likely to being unfaithful. In other words, the workforce is at more risk of acquiring the virus, a fact that leads to the necessity for companies' intervention.

Thus, this study intends to investigate the plausibility of an influence exerted by individual's occupational activities on their level of HIV/AIDS knowledge, attitude towards HIV infected persons, exposure to HIV/AIDS information, accessibility to condoms and their sexual behaviour in the quest of empowerment to combat the spread of the epidemic. And, analysis focusing on comparison between unemployed and employed people is conducted in order to highlight the weaknesses of Kinshasa's workforce to their employers who need to be warned that the danger is close to them and have to play their pivotal role in the fight against HIV/AIDS (Dreger, 2009). The results emanating from both statistics will lead companies to get themselves more involved in the struggle against HIV/AIDS by funding organisations promoting safe sexual practices and behaviours to spare loss of human lives which include consumers that represent the companies' source of profit and the workforce that constitute the human capital ensuring companies' productivity. Furthermore, the present study investigated the combined effects of occupation and four other socio demographic factors that are gender, age, level of education and marital status in predicting abstinence, faithfulness, condom use and HIV testing. This will enable to identify demographic factors that amplify unsafe sexual behaviours in interaction with occupation which is at the core of this study.

1. Literature review

Social marketing in the fight against the epidemic helps to implement campaigns that ought to create awareness, raise knowledge on the scope of the disease and change people's behaviour, attitudes and perceptions (Agarwal & De Araujo, 2012, pp. 227-234; Bunnell *et al.*, 2006, p. 855). It differs from education programmes in that they are consumer-oriented and apply strategies tailored to segments (Cheng *et al.*, 2011, p. 20). Hence, investigating effectiveness of HIV/AIDS social marketing campaigns can emphasise also on categories constituting the socio-demographic characteristic such as '*occupation*' in order to find out how it influences worker's ability to counter the spreading of the epidemic. Indeed, researches illustrating how HIV/AIDS is likely to affect some individuals with regard to their profession reveal what is considered as the first challenge of social marketing programmes worldwide by Lefebvre (2011, p. 64), the '*equity*' issue.

Programmes devoted to the struggle against the epidemic are often fingered as digging ditches between different layers of society by favouring some at the expenses of others. For example, gender inequality in the context of HIV/AIDS is emphasised severally as critical factor justifying the propagation of the virus with the female identified as being more vulnerable than their male counterpart, and as such, constitute the core of HIV/AIDS social marketing strategies (Ghajarieh & Kow, 2011; Nicholas, 2010). Likewise, discussions to determine the likelihood to get HIV infected between poor and wealthy people instigate interest of both social marketing scholars and professionals with one stream asserting that poverty is driving the spread of HIV/AIDS while the other supports the contrary (Ayikwa *et al.*, 2013a; Bhana & Pattman, 2011). Consequently, individuals experiencing precariousness should constitute the target of HIV/AIDS campaigns for those who believe that they are the most at risk of HIV acquisition while wealthier people are likely to be approached by the supporters of the concurrent stream. Furthermore, despite that demographic variables such as age, area of location, education, and socio-economic status have been identified as factors that can nullify the relationship between marital status and the magnitude of the virus, the understanding of the risk of HIV infection for married people has remained something complex (Ayikwa *et al.*, 2013b). Indeed, many studies conducted around the world revealed that married people engage the more in unsafe sexual practices compare with singles (Asante 2013; Mondal *et al.*, 2012). Experience from Africa showed that men are often engaged in extramarital sexual activities while married women do not use condoms with their husbands

and depend on their husbands' role as the protector (Golobof *et al.*, 2011, p. 91). Thus, many believe that married women and under-aged married girls are vulnerable because of their marital status and should be empowered in the context of fighting the epidemic.

From the conclusions drawn by the studies highlighted above, HIV/AIDS programmes' designers, though they must take into account the social justice and equity's aspects while implementing their campaigns to seek the reduction or elimination of health disparities between segments within a group, need at the same time to determine differences in categories' likelihood to acquire the virus to be more effective and efficient. Hence, as efforts to address employed and unemployed individuals cannot be the same, investigation to determine the most vulnerable segment between both occupational groups are imperative. Indeed, among numerous studies conducted in the southern Africa region, more specifically in Mozambique and South Africa, and in the eastern part of the continent, precisely in Tanzania, demonstrated that HIV/AIDS may also be consider as a workplace-related disease (Pennap *et al.*, 2011, pp. 164-168). Therefore, a Work Based Organisation (WBO) strategy would be a significant contribution to the struggle against the epidemic. The necessity to apply such strategy is supported by many findings in the literature. For example, teachers are among the professionals that drawn attention with regard to the burden that HIV/AIDS caused in the workplace. Consequently, the impact caused by the epidemic on the educational sector affects other economic activities not only by reducing the stock of human capital but also maintaining the required turnover of trained and skilled workers in various domains (Levinsohn *et al.*, 2013; Arndt & Lewis, 2001). Healthcare workers also have been identified as people on occupational risk of HIV transmission as most patients are unaware of their HIV status or do not want to disclose it leading professionals such as nurses to treat them as non-infected persons (Tesfay & Habtewold, 2014; Mashoto *et al.*, 2013; Alemie, 2012). Evidence from surveys conducted in Botswana, Mozambique, Malawi, Nigeria, and South Africa have confirmed the HIV dispersers' label of long-distance truck drivers in Sub-Saharan Africa, who engage consistently in irresponsible and highly risky sexual behaviours (Atilola *et al.*, 2010; Kribs-Zaleta *et al.*, 2005). Similarly, companies operating in the mining sector in the DR Congo like in other African countries experienced the hit of HIV/AIDS towards the vulnerabilities to the virus displayed by miners (Stroebel & Mavard, 2008, p. 14). Indeed, the collective nature of the commonly shared norm of "flesh-on-flesh" among miners highlights the importance of HIV/AIDS social marketing programmes that focus on interpersonal and cultural milieu in which sexual behaviour occurs (Tlou, 2009, p. 46).

The scrutiny of the link between the epidemic and occupation does not rely however on the only burden of the disease within the workforce. The consequences of unemployment or job loss because of positive HIV status, stigmatisation and discrimination in the workplace are also matters that interest researchers. Indeed, HIV/AIDS treatment requires frequent medical visits resulting in absences and delays at work which can lead to dismissal. Even the unemployed encounter a problem regarding their professional status as their right to confidentiality is often violated and their quest for a job is barred during medical examinations (Garrido *et al.*, 2007, p. 1). Obviously, in many cases employers' decision-making to hire infected people is negatively influenced by their HIV/AIDS status while employment is an important part of recovery for many people living with the virus (Liu *et al.*, 2011, p. 129). Like any human being, HIV/AIDS infected people aspire to live a normal life. However, it would be interesting, in order to achieve the 'HIV free generation' goal, that infected people behave wisely with regard to their sero-status. By contrast a study conducted in Cape Town, South Africa, revealed that people living with the virus consider their HIV/AIDS status as secondary to their daily life stressors such as poverty, unemployment and gender-based violence (Cloete *et al.*, 2010, p. 1).

At first glance, the private sector companies in Kinshasa, the capital city of the DR Congo, do not seem too interested in the fight against HIV/AIDS for both the general population and their human capital (Entreprendre, 2012). They do not finance HIV/AIDS campaigns in their environment to target the general population or host activities related to the prevention against the HIV virus in the workplace to empower their employees against the epidemic. It is sadly observed that private and public companies in the DR Congo lack (1) HIV/AIDS policy to formalise procedures related to the epidemic in the workplace, (2) education to raise awareness and prevention of HIV infection and discrimination, (3) and reasonable care and support provisions of access to appropriate health care and social services (Stroebel & Mavard, 2008, p. 3).

In order to achieve the main goal of this study which is to convince businesses in the DR Congo to engage in the fight against HIV/AIDS for the sake of their workforces if they are not reluctant to go beyond, the following two questions will be answered: (1) What are the nature and strength of the relationships between people's occupation and their HIV/AIDS level of knowledge, attitude towards HIV infected persons, exposure to HIV/AIDS information, opinion on condoms distribution and sexual behaviour? (2) Are employed and unemployed people's differences statistically significant in terms of HIV/AIDS level of knowledge, attitude towards HIV infected persons, exposure to HIV/AIDS information, opinion on condoms distribution and sexual behaviour? In addition to these two questions, a third one with regards to the impact that has the interaction of occupation with gender, age, level of education and marital status in predicting sexual behaviours or practices will be answered. Hence the following question: which socio-demographic factors combined with occupation enhance abstinence, faithfulness, condom use and HIV testing.

2. Methodology

A) Data collection

Data were collected from randomly selected respondents by means of a cross-sectional survey using anonymous and face-to-face questionnaires that borrowed an assistance-oriented approach to avoid any misunderstanding of the questionnaire. A total of five instruments were used in this study. The first instrument that comprises three sub-sections assessed participants' level of knowledge regarding the meaning of HIV/AIDS, the different modes of HIV acquisition and the prevention methods to avoid HIV infection. The second instrument measured their attitude towards HIV infected persons; the third instrument assessed their level of exposure to HIV/AIDS information, while the fourth instrument captured information on outlets that provide them with condoms (accessibility to condoms). The fifth instrument measured variables relating to sexual behaviour of participants. Questionnaires included in the final analysis have been administered to 360 people living in Kinshasa, the capital city of the Democratic Republic of Congo.

B) Participants and Sampling procedures

The study focused on residents of Kinshasa who are established there for at least six months. Trained interviewers assisted in administering the questionnaires to people aged ≥ 18 years old selected randomly from different suburbs. The final analysis included female (44.7%) and male (55.3%); people aged from ≥ 18 to 20 years old (24.4%), people aged from 21 to 30 years old (52.2%), people aged from 31 to 40 years old (18.6%) and people aged from 41 to 50 years old (4.7%). Individuals included in the final analysis of this study that do not schooled represented 3.1% of the total sample, while 68.9% were at university at the time of the survey or attended an higher education institution. The sample was made up of married people (17.8%), single (74.2%), non-married people living with a partner under the same roof (6.7%) and divorced/widow(er) (1.4%). Unemployed people represented 21.9% of the study's

sample while 78.1% were individual employed whether in the public or private sector. People that reported to be self-employed were excluded in the final analysis.

This study mixed a two-stage stratified random sampling method and quota sampling to sample the population under investigation. The first stage was stratified random sampling, which involved classification of the 24 Kinshasa's suburbs according to districts strata. The four districts of Kinshasa are as follows: Funa (7 suburbs), Lukunga (7 suburbs), Mont-Amba (5 suburbs) and Tshangu (5 suburbs). Then, the list of suburbs served as sampling frame. Suburbs were stratified according to their location in districts from which three suburbs were randomly selected. Bandalungwa, Barumbu, Gombe, Kasa-Vubu, Kimbanseke, Lemba, Limete, Matete, Masina, N'djili, Ngaliema, Ngiri-Ngiri and Selembao were the selected suburbs. The second stage was cluster random sampling, whereby streets of the house where to approach a participant were chosen at random from the list of all streets located within the limits of a suburb. Lastly, a quota of 30 respondents has been envisaged by suburb to constitute the sample.

2.1. Survey instrument

The research questions were selected from pre-existing validated scales and surveys. The first section of the questionnaire captured demographic information of the respondent such as district and suburb of residence, gender, age group, level of education, occupation and marital status. The exposure to HIV/AIDS information were measured through identification of channels propagating HIV/AIDS messages among 22 sources such as TV, radio, flyers, magazines/newspaper, etc. Respondents' knowledge on HIV/AIDS have been tested through 25 items measured on a 3-point Likert scale ranging from "disagree" (1), "indifferent" (2) and "agree" (3). Questions such as: HIV/AIDS is a transmitted disease; HIV/AIDS is preventable; A good looking person may be HIV infected were asked. Higher scores implied good knowledge on the meaning of HIV/AIDS, the modes of HIV transmission and methods to avoid getting HIV infected. Cronbach's alpha in the current study was 0.72 confirming that the questionnaire was reliable. Accessibility to condoms were measured through identification of outlets or relationships that provide respondents with condoms such as pharmacy, kiosk, health centre, friends, etc. Participants' sexual behaviour has been measured through 6 yes/no items that asked if they ever had sex in the past six months, the number of partners they are involved with in the past six months, if they use condoms consistently, etc. Respondents' attitude towards HIV infected persons have been tested through 6 items measured on a 5-point Likert scale ranging from "strongly disagree" (1), "disagree" (2), "indifferent" (3), "agree" (4) and "strongly agree" (5). Questions to know if an HIV infected person should have social right to work or study, if an infected person should be isolated, if the respondent can accept to share food with an infected person, etc. were asked. Cronbach's alpha in the current study was 0.79 confirming that the questionnaire was reliable.

2.2. Data analysis

Descriptive statistics were performed on socio-demographic variables and all instruments related to HIV/AIDS knowledge, exposure to HIV/AIDS information, accessibility to condoms, attitude towards HIV infected persons and sexual behaviour using SPSS version 23.0 for Windows. Furthermore, *Product-moment correlation* were used to analyse relationship between professional status and level of HIV/AIDS knowledge, exposure to HIV/AIDS information, accessibility to condoms, attitude towards HIV infected persons and sexual behaviour. *Independent T-test* were conducted to analyse difference in means regarding level of HIV/AIDS knowledge, exposure to HIV/AIDS information, accessibility to

condoms, attitude towards HIV infected persons and sexual behaviour between employed and unemployed people. Lastly, multinomial logistic regression enables the identification of socio-demographic variables that predict abstinence, faithfulness, condom use and HIV testing in combination with occupation.

2.3. Findings

The mean scores by variables for the general population shown in *Table 1* demonstrate that people are reasonably knowledgeable regarding HIV/AIDS with a mean score of 13.72, and highly knowledgeable of modes of HIV/AIDS transmission with a mean score of 33.34. They lack, however, knowledge of all the precautions to avoid contamination, with a mean score of 14.76. The results also show a positive attitude towards HIV/AIDS infected persons with a mean score of 24.02. In term of exposure to information, it is indicated that people have a poor exposure to information promoting HIV/AIDS prevention messages, with a mean score of 24.37.

Table 1. Descriptive statistics of constructs measured

	n	Mean	Minimum	Maximum
Level of knowledge about the meaning of HIV/AIDS	360	13.72	6.00	18.00
Level of knowledge about the modes of HIV/AIDS transmission	360	33.34	13.00	39.00
Level of knowledge about the methods of HIV/AIDS prevention	360	14.76	9.00	27.00
Attitudes towards HIV/AIDS infected persons	360	24.02	6.00	30.00
Exposure to information	360	24.37	14.00	42.00
Types of outlets offering condoms	360	8.11	6.00	18.00
Ease of obtaining condoms	360	4.91	2.00	6.00
Sexual behaviour	360	10.56	6.00	18.00

Despite the lack of diversified types of outlets offering condoms with a score of 8.11, people estimate that condoms are easy to obtain with a mean score of 4.17. Lastly, results unveil that people's sexual behaviour is reasonably unsafe with a mean score of 10.56. This means that people are likely to get HIV infected amid engaging in risky sexual behaviours. If, efforts to reverse the adoption of such behaviours by individuals are not made, the negative impact on the economy will consist on loss of human capital that plays a crucial role in companies' production, the reduction of the consumer market that are source of profit and the disinterest of new investments. In addition, the cost of hospital bills and treatment of HIV infected workers will sensibly decrease the performance of companies while increasing at the same time the market price. On the other hand, the incidence of risky sexual behaviours on communities will lead to their extinction due to deaths of members and lack of social support for sick people.

Table 2. Acknowledged types of community based interventions

Partner(s), friends or relatives	1.46	Work	1.06
Church	1.59	Community or public meetings	1.03
School	1.66		

Furthermore, *Table 2* focuses on mean scores of channels providing people with information regarding HIV/AIDS. Results on how community-based interventions are active demonstrate a poor community-based strategy with work-based organisation obtaining the smallest mean score.

Table 3 indicates a practically significant positive correlation between people's professional status and both the level of knowledge about the meaning of HIV/AIDS ($r = .129$; small effect size; $p < .05$) and the level of knowledge about the modes of HIV/AIDS transmission ($r = .177$; small effect size; $p < .01$). It suggests that people have better knowledge regarding HIV/AIDS and modes of acquiring the virus when they have an occupation, while no pattern is found between people's occupation and their level of knowledge about the methods of HIV/AIDS prevention. The results also demonstrate a practically significant positive correlation between people's professional status and the attitude towards HIV/AIDS ($r = .218$; small effect size; $p < .01$), implying that people having an occupation are less likely to display discrimination and stigmatisation towards HIV/AIDS infected people.

Table 3. Correlation between professional status, HIV/AIDS knowledge (3 variables), attitudes towards HIV/AIDS, sources of information, Types of outlets offering condoms, ease of obtaining condoms and sexual behaviour

	Level of knowledge about the meaning of HIV/AIDS (Reasonable)	Level of knowledge about the modes of HIV/AIDS transmission (High)	Level of knowledge about the methods of HIV/AIDS prevention (Low)	Attitude towards HIV/AIDS (High)
R	.129*	.177**	.022	.218**
<i>p</i>	.015	.007	.678	.000
Professional status obs.	Practically significant positive correlation; Small effect	Practically significant positive correlation; Small effect	No practically significant correlation	Practically significant positive correlation; Small effect
	Exposure to information (Poor exposure to information)	Types of outlets offering condoms (Low)	Ease of obtaining condoms (Reasonable)	Sexual behaviour (Reasonably unsafe sexual behaviour)
R	-.193**	.034	.075	-.147**
<i>P</i>	.007	.523	.155	.005
obs.	Practically significant negative correlation; Small effect	No practically significant correlation	No practically significant correlation	Practically significant negative correlation; Small effect

*. Correlation is significant at the 0.05 level (2-tailed).
 **. Correlation is significant at the 0.01 level (2-tailed).

On the other hand, *Table 3* indicates a practically significant negative correlation between people's professional status and the exposure to HIV/AIDS information ($r = -.193$; small effect size; $p < .01$). That means that unemployed people are better exposed to HIV/AIDS information than employed ones as they spend more time in an environment with better HIV/AIDS exposure than work. However, no practically significant correlation was found between people's professional status and both the ease of obtaining condoms and the types of outlets offering condoms.

Lastly, *Table 3* shows a practically significant negative correlation between people's professional status and their sexual behaviour ($r = -.147$; small effect size; $p < .01$) implying

that people having an occupation are more likely to engage in risky sexual behaviour than unemployed people.

Furthermore, *Table 4* looks at the differences between employed and unemployed people regarding all the variables considered. It indicates a statistically significant difference between employed and unemployed people in both the level of knowledge about HIV/AIDS ($F_{(2,358)} = .002$; $t_{(360)} = -2.454$; small effect size; $p < .05$) and the level of knowledge about the modes of HIV/AIDS transmission ($F_{(2,358)} = 4.447$; $t_{(360)} = -3.401$; small effect size; $p < .01$), while no statistically significant difference was found between both employed and unemployed people in the level of knowledge about the methods of HIV/AIDS prevention.

Table 4. Independent samples Test/ Employed and unemployed

		Levene's Test for Equality of Variances		t-test for Equality of Means					
		F	Sig.	t	Df	Sig. (2-tail)	Mean Diff.	95% Confidence Interval of the Difference	
								Lower	Upper
Knowledge about the meaning of HIV/AIDS	EVA	.002	.962	-2.454*	358	.015	-.58386	-1.05169	-.11602
	EVNA			-2.614**	137.822	.010	-.58386	-1.02550	-.14221
Knowledge about the mode of HIV/AIDS transmission	EVA	4.447	.036	-3.401**	358	.001	-1.53358	-2.42024	-.64692
	EVNA			-3.035**	108.813	.003	-1.53358	-2.53499	-.53218
Knowledge about the methods of HIV/AIDS prevention	EVA	8.254	.004	-.415	358	.678	-.09244	-.53005	.34517
	EVNA			-.383	112.986	.702	-.09244	-.57019	.38532
Attitude towards HIV/AIDS	EVA	.033	.856	-4.223**	358	.000	-1.83824	-2.69432	-.98216
	EVNA			-4.257**	126.704	.000	-1.83824	-2.69274	-.98373
Exposure to HIV/AIDS information	EVA	3.104	.886	1.496**	358	.007	.48119	.1774	2.8161
	EVNA			1.496**	100.696	.008	.48119	.1685	2.8275
Type of outlets offering condoms	EVA	11.409	.001	-.640	358	.523	-.05725	-.23325	.11874
	EVNA			-.553	105.174	.582	-.05725	-.26271	.14820
Ease of obtaining condoms	EVA	1.797	.181	-1.426	358	.155	-.12843	-.30551	.04865
	EVNA			-1.334	114.804	.185	-.12843	-.31913	.06228
Sexual behaviour	EVA	.052	.928	2.819**	358	.005	.77499	.23437	1.31561
	EVNA			2.796**	123.846	.006	.77499	.22642	1.32356

* The mean difference is significant at the 0.05 level. EVA: Equality of variances assumed.

The results also demonstrate a statistically significant difference between employed and unemployed people in the attitude towards HIV/AIDS ($F_{(2,358)} = .033$; $t_{(360)} = -4.223$; small effect size; $p < .01$).

On the other hand, *Table 4* indicates a statistically significant difference between employed and unemployed people in the exposure to HIV/AIDS information ($F_{(2,358)} = 3.104$; $t_{(360)} = 1.496$; small effect size; $p < .01$) while no statistically significant difference between employed and unemployed people was found in both the ease of obtaining condoms and the affordability of condoms.

Lastly, *Table 4* shows a statistically significant difference between employed and unemployed people in sexual behaviour ($F_{(2,358)} = .052$; $t_{(360)} = 2.819$; small effect size; $p < .01$).

However, results in *Table 4* do not yet tell which group between both employed and unemployed is higher or lower than the other. To do so, the study proceeded to further analysis as highlighted in *Table 5* below.

Table 5. Group Statistics/ Employed and unemployed

Significant variables in means differences	Occupation	n	Mean	Std. Deviation
Knowledge about the meaning of HIV/AIDS	Unemployed	79	13.4304	1.70733
	Employed	281	14.0142	1.91044
Knowledge about the mode of HIV/AIDS trans.	Unemployed	79	32.5696	4.12212
	Employed	281	34.1032	3.36049
Attitude towards HIV/AIDS	Unemployed	79	23.1013	3.38016
	Employed	281	24.9395	3.42885
Exposure to HIV/AIDS information	Unemployed	79	24.7975	3.24385
	Employed	281	23.8292	3.45264
Sexual behaviour	Unemployed	79	10.9494	2.18326
	Employed	281	10.1744	2.15179

The results shown in *Table 5* indicate that unemployed people ($\bar{x}=22.3544$, $SD=4.64658$) are less knowledgeable regarding HIV/AIDS than employed people ($\bar{x}=22.6548$, $SD=4.43747$), likewise unemployed people ($\bar{x}=13.4304$, $SD=1.70733$) are less knowledgeable of the modes of HIV/AIDS transmission than employed people ($\bar{x}=14.0142$, $SD=1.91044$).

Similarly, results in *Table 5* demonstrates that unemployed people ($\bar{x}=23.1013$, $SD=3.38016$) are more likely to display a discriminative behaviour towards HIV/AIDS infected people than employed people ($\bar{x}=24.9395$, $SD=3.42885$). By contrast, it shows that unemployed people ($\bar{x}=24.7975$, $SD=3.24385$) are better exposed to HIV/AIDS information than employed people ($\bar{x}=23.9494$, $SD=3.41861$). Lastly, *Table 5* indicates that unemployed people ($\bar{x}=10.9494$, $SD=2.18326$) are less engaged in unsafe sexual behaviour than employed people ($\bar{x}=10.1744$, $SD=2.15179$). Thus, it is advisable to have a communication strategy from HIV/AIDS social marketing organisations that convey preventive messages at the workplace.

Table 6. Multinomial logistic regression

	*B(SE)	95% CI for Odds Ratio		
		Lower	Odds Ratio	Upper
<i>Abstinence</i>				
Intercept	-.607(.601)			
Occupation x gender = male	19.159(.982)***	30507934.04	x	x
Occupation x gender = female	18.704(.981)***	19415091.12	x	x
Occupation x marital status = single	-18.343(.621)	1.080E-08	3.198E-09	3.651E-08
R ² = .20 (Cox and Snell) .32 (Nagelkerke); Model $\chi^2_{(8)}=82.319$, $p < .001$. *** $p < .001$.				
<i>Being Faithful</i>				
Intercept	-.443(.488)			
Occupation x gender = female	.972(.304)***	1.458	2.644	4.793
R ² = .05 (Cox and Snell) .07 (Nagelkerke); Model $\chi^2_{(2)}=19.343$, $p < .001$. *** $p < .001$.				

<i>Condom Use</i>				
Intercept	.549(.471)			
Occupation x gender = male	-.656(.259)**	.312	.519	.862
R ² = .03 (Cox and Snell) .04 (Nagelkerke); Model $\chi^2_{(2)}$ = 11.022, p < .001. ** p < .01.				
<i>Testing sero-status</i>				
Intercept	.527(.517)			
Occupation x age = ≥18-20	7.974(.326)***	1531.57	2903.67	5505.00
Occupation x age = 21-30	7.406(.273)***	1034.46	1765.08	3011.723
Occupation x age = 31-40	7.343(.312)***	839.32	1545.88	2847.23
Occupation x age = 31-40	7.797(.378)***	1160.47	2434.07	5105.42
Occupation x education = no schooling	-7.490(.451)***	.000	.001	.001
Occupation x education = primary	-8.294(.587)***	.000	7.916E-05	.001
Occupation x education = secondary	-7.626(.155)***	.000	.000	.001
Occupation x education = Higher education	-8.077(.000)***	.000	.000	.000
R ² = .10 (Cox and Snell) .13 (Nagelkerke); Model $\chi^2_{(8)}$ = 36.205, p < .001. *** p < .001.				

Note: * B are the logistic coefficients that can be used to create a predictive equation (similar to the b values in linear regression) – SE are standard errors;

The table considered only significant interactions in predicting the respective dependent variables in a later step.

The analysis of the combined effects of occupation with gender, age, level of education and marital status demonstrates that male-employed individuals are less likely to abstain from sex than their female counterparts although both have a high propensity to engage in sexual intercourses. On the contrary, results show that single-employed individuals are more likely to abstain from sexual intercourses. It is found that female-employed individuals are more likely to being unfaithful while their male counterparts are slightly likely to use condom during sexual intercourse. Furthermore, the analysis demonstrate that the interaction between occupation and age determines the willingness of taking up an HIV test with the youngest and oldest age groups being less likely to testing their sero-status. On the contrary, results of the interaction between occupation and level of education show a willingness to take up an HIV test for all education groups.

Conclusion

The present study highlights the importance of Kinshasa's private and public sector corporates to get involved in the fight against HIV/AIDS as the workplace occupied the bottom of the five acknowledged community based activities addressing the epidemic issue (see *Table 2*). A better exposure to HIV/AIDS information for employed people in their workplace will surely enhance their already good knowledge about HIV/AIDS and the different modes of acquiring the virus as well as the display of no discrimination and no stigmatisation behaviour towards HIV/AIDS infected people (Liu *et al.*, 2011). At the same time, such policy will certainly help to reverse the actual state of ignorance regarding employed people's knowledge on prevention methods (Chetty, 2005). Lastly, as the ultimate goal of social marketing activities is to switch people's behaviour. Therefore, the study suggests that work-based campaigns duplicate efforts in their quest to change people sexual behaviour when targeting employed individuals as results show that they are more likely to engage in risky sexual behaviour. Success in doing so rely on combined efforts between both social marketers and companies that have to assist their employees as their own profits depend on the good health of their workforce (Dickinson, 2003). Denying it will result in collapsing companies and economies. However, the design of what is people's level of

HIV/AIDS awareness and distribution of condoms (see *Table 1*) calls for consistent efforts for both people with and without an occupation as HIV/AIDS drag along falls in consumer spending which impact negatively on firms profit and sustainability (Nattras *et al.*, 2004). Very few studies in the field of HIV/AIDS have considered the impact of the combined effects of socio-demographic factors in predicting sexual behaviours like this one. From the multinomial logistic regression conducted, it is found that both male and female in the workplace are highly sexually active with male being less likely to abstain from sex. Thus, strategies such as making condoms available at the workplace will be crucial in slowing the spread of the disease. Single-employed individuals' life style that shows a lesser sexual activity could be promoted as model for other marital groups at the workplace. Results demonstrating that female-employed individuals are more likely to be unfaithful while male are more slightly likely to use condoms necessitate a specific strategy targeting women not only for promoting faithfulness but mostly to empower them in term of influencing their sexual partners to use condoms during sexual intercourse. Also, HIV testing campaigns should be encouraged at the workplace regardless of the age group. Indeed, the sooner an individual knows about his sero-status, he can start treatment to extend his life expectancy. Thus, he can continue to provide his expertise and experience for the companies. The gender-age based issue of HIV/AIDS has been pointed-out severally in numerous studies labelling youth, girls and women as the most vulnerable (Gay *et al.*, 2010; Bell & Aggleton, 2013), and this study's findings in addition to supporting the same highlights how their combined effect with occupation worsen the epidemic situation.

This study has like others some limitations that appeal for further research on HIV/AIDS prevention within the workforce in Kinshasa. Although this study did its best to get a realistic sample of the population of Kinshasa, the size of participants is somehow small and a study that could include a bigger sample size will certainly provide better information. Furthermore, the necessity of longitudinal studies that will focus only on employed people to understand their barriers to a better level of HIV/AIDS knowledge, exposure to HIV/AIDS information, accessibility to condoms, positive attitude towards HIV infected persons and adoption of preventive sexual behaviour will be an asset in the context of the struggle against the epidemic. Therefore, it is recommended to conduct the monitoring of the epidemic situation at the workplace continuously in order to tackle efficiently the spread of the virus that can decimate companies' human capital as well as communities, discourage new investments and influence the rising of prices in the market impacting negatively on the economy.

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References

- Agarwal, S. & De Araujo, P. (2012). On the association between HIV knowledge and unsafe sexual behaviour in India. *International Journal of Development*, 11(3), 227-234.
- Alemie, G. A. (2012). Exploration of health-care worker's perceptions on occupational risk of HIV transmission at University of Gondar Hospital, Northwest Ethiopia. *BMC Research notes*, 5, 740.
- Arndt, C. & Lewis, J. D. (2001). The HIV/AIDS pandemic in South Africa: sectoral impacts and unemployment. *Journal of International Development*, 13(4), 427-449.

- Asante, K. O. (2013). HIV/AIDS knowledge and uptake of HIV counselling and testing among undergraduate private university students in Accra, Ghana. *Reproductive Health Journal*, 10, 17.
- Atilola, G. O., Akpa, O. M. & Komolafe, I. O. O. (2010). HIV/AIDS and the long-distance truck drivers in South-West Nigeria: A cross-sectional survey on the knowledge, attitude, risk behaviour and beliefs of truckers. *Journal of Infection and Public Health*, 3(4), 166-178.
- Ayikwa, L. C., De Jager, J. W. & Van Rensburg, D. B. J. (2013a). Reconsidering the gender and age-based HIV/AIDS prevention strategies for a successful outcome in Kinshasa-Democratic Republic of Congo. *Mitteilungen Klosterneuburg Journal*, 63(12), 106-116.
- Ayikwa, L. C., De Jager, J. W. & Van Rensburg, D. B. J. (2013b). Investigating the role of marital status on the magnitude of HIV/AIDS in Kinshasa, Democratic Republic of Congo. *Mitteilungen Klosterneuburg Journal*, 63(12), 71-83.
- Bell, S. & Aggleton, P. (2013). Social influences on young people's sexual health in Uganda. *Health Education*, 113(2), 102-114.
- Bhana, D. & Pattman, R. (2011). Girls want money, boys want virgins: the materiality of love amongst South African township youth in the context of HIV and AIDS. *Culture, Health & Sexuality*, 13(8), 961-972.
- Bunnell, R., Mermin, J. & De Cock, K. M. (2006). Implementing Positive Prevention in Africa- HIV Prevention for a Threatened Continent. *JAMA*, 296(7), 855-858.
- Cloete, A., Strebel, A., Simbayi, L., Van Wyk, B., Henda, N. & Nqeketo, A. (2010). Challenges Faced by People Living with HIV/AIDS in Cape Town, South Africa: Issues for Group Risk Reduction Interventions. *AIDS Research and Treatment*, 1-8.
- Cheng, H., Kotler, P. & Lee, N. R. (2011). *Social Marketing for Public Health: Global Trends and Success Stories*. Jones and Bartlett Publishers, London.
- Chetty, D. (2005). *Module 2.3: HIV/AIDS in the educational workplace*.
- Dreger, M. (2009). HIV and AIDS in the workplace. *Journal of Occupational and Environmental Medicine*, 51(2), 243-250.
- Entreprendre (11th May 2012). Kinshasa abrite la 1^{ère} Table ronde sur la responsabilité sociale des entreprises. Accessible at: <http://www.entreprendre.cd/2012/05/une-table-ronde-sur-la-responsabilite-sociale-des-entreprises-va-se-tenir-a-kinshasa.html>.
- Garrido, P. B., Paiva, V., do Nascimento, V. L. V., Sousa, J. B. & Santos, N. J. S. (2007). AIDS, stigma and unemployment: implications for health services. *RevSaúdePública*, 41(2), 1-7.
- Gay, J., Hardee, K., Croce-Galis, M., Kowalski, S., Gutari, C., Wingfield, C., Rovin, K., and Berzin, K. (2010). *What Works for Women and Girls: Evidence for HIV/AIDS Interventions*. Executive Summary. Open Society Institute. Accessible at: www.whatworksforwomen.org
- Ghajarieh, A. B. B. & Kow, K. Y. C. (2011). Addressing Men and Gender Diversity in Education: A Promising Solution to the HIV/AIDS Epidemic. *Health Care for Women International*, 32, 314-327.
- Golobof, A., Weine, S., Bahromov, M., and Luo, J. (2011). The roles of labor migrants' wives in HIV/AIDS risk and prevention in Tajikistan. *AIDS Care*, 23(1), 91-97.
- Lefebvre, R. C. (2011). An integrative model for HIV. *Journal of Social Marketing*, 1(1), 54-72.
- Le potentiel (6th December 2013). Congo-Kinshasa: De la responsabilité sociale à la valeur partagée. Accessible at: <http://fr.allafrica.com/stories/201312070083.html?viewall=1>.
- Levinsohn, J., McLaren, Z. M., Shisana, O. & Zuma, K. (2013). HIV Status and Labor Market Participation in South Africa. *Review of Economics and Statistics*, 95(1), 98-108.

- Liu, Y., Canada, K., Shi, K., and Corrigan, P. (2011). HIV-related stigma acting as predictors of unemployment of people living with HIV/AIDS. *Sexually Transmitted Infections*, 129-135.
- Mashoto, K. O., Mubyazi, G. M., Makundi, E., Mohamed, H. & Malebo, H. M. (2013). Estimated risk of HIV acquisition and practice for presenting occupational exposure: A study of Healthcare Workers at Tumbi and Dodoma Hospitals, Tanzania. *BMC Health Services Research*, 13, 369.
- Natrass, N., Neilson, T., Bery, P., Mistry N., Sievers, S. E. (January, 2004). *Opportunities for Business in the fight against HIV/AIDS*. A framework for analysis of the impact of HIV/AIDS on business and the benefits of direct company action in the global response.
- Nicholas, R. (2010). HIV prevention for young women of Uganda must now address poverty and gender inequalities. *Journal of Health Organization and Management*, 24(5), 491-497.
- NSP Review (April-June 2012). *Better budgets for better health*. Edition 2. A publication of the Treatment Action Campaign and SECTION 27.
- Pennap, G. R. I., Chaonda, M. & Ezirike, L. (2011). A review of the impact of HIV/AIDS on education, the workforce and workplace: The African Experience. *The Social Sciences*, 6(2), 164-168.
- Stroebel, I. & Mavard, B. (2008). *Étude de l'impact du VIH/SIDA sur les entreprises congolaises du secteur minier*. PCS-AFD, 1-49.
- Tesfay, F. A. & Habtewold, T. D. (2014). Assessment of Prevalence and Determinants of Occupational Exposure to HIV infection among Healthcare Workers in Selected Health Institutions in Debre Berhan Town, North Shoa Zone, Amhara Region, Ethiopia. *AIDS Research and Treatment*, 2014, Article ID 731848, 11.
- Tlou, E. R. (2009). *The application of the theories of reasoned action and planned behaviour to a workplace HIV/AIDS health promotion programme*. UNISA, Department of Psychology. Unpublished Thesis.
- Werner, W. J. (2009). Corporate Social Responsibility Initiatives Addressing Social Exclusion in Bangladesh. *Journal of Health Population and Nutrition*, 27(4), 545-562.