

Risky Sexual Transactions across Global Regions: Patterns and Clues from a Lagos-Based Study

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Abstract

Based on the premises that the dominant analytical orientation of research on mobility-related sexuality is grossly inadequate and the incessant calls for innovative and responsive research and methodological design to address the issue, this paper explores certain gaps in the risk-sexuality inclinations of a Lagos-based group of circulatory traders. Employing relevant circulatory-cum- sexuality data of the study group, acquired by a combination of purposive and stratified random sampling designs, the paper employed a set-theoretic approach to the study population along a novel 'origin-destination' by 'risky-cum-riskless' sexuality profile.

The study compared the levels and dynamics in the committal of three specific risk-sexuality variables. It went further to examine how the study population is structured in the context of the devised 'origin-destination' by 'risk-riskless-sexuality' grouping. Further, it also examined how the pattern differentiated the categorized regional destinations, in terms of the risk-designation status of their visitors. The study among others discovered the tendency for greater intensity of risky-sexuality locally than at external destinations; a modal percentage of 'origin-destination' riskless group, but characterised by the least mobility rate, and also a small size 'origin-destination' risky subgroup, but which has the greatest spatial mobility rate. The paper finally explores the research and intervention clues of its findings.

Keywords: Sexuality-Risk, mobile population, disaggregated analysis, intervention,

Introduction

The desire to minimize or totally eliminate the decimating impact of sexually transmitted infections, particularly the HIV/AIDS underpins Social Scientists interest in HIV/AIDS since its appearance. Basically, researchers attempt to identify groups that are characterized by high risk tendencies within a given population as well as the correlates of such behaviour; with the intention to utilize them in devising HIV/AIDS combating interventions.

As logical as the procedure appears, identifying the correlates of risky sexuality to serve as intervention variables may not always engender the maximum degree of intervention success, at least for two main reasons. First, in more conservative societies, where aversion is strong for socially-disapproved sex, the likelihood of obtaining reliable risky-sexuality information through the normal research survey channel is low. The implication is that sexual information provided by the 'no-' and or the 'low-risk' groups, may offer more reliable data to compliment the less-reliable alternative for research-cum-intervention purpose.

Second, attempts at identifying correlates of risky sexuality may sometimes present no definite clues; especially when the intention is to obtain a set of parsimonious correlates primarily for explanation and or intervention. Such a phenomenon is highly probable in societies that had experienced monumental crisis which undermined their economic stability and promoted loose sexuality, similar to what Adegbola and Babatola (1995) observed of the post war Freetown. Undertaking sexuality risk research in societies similar to the post-war Freetown suggests the need to employ a disaggregated data design, which analyzes respectively the correlates of 'risky' and 'riskless' sexual behaviours, rather than focussing exclusively on the former. While the first set of correlates offers clues for combative strategies, the latter highlights clues for proactive intervention.

Besides the foregoing premises, an application of the set theoretic approach (Zhao and Zhang, 2005) to the analysis of risky sexual event committal, between specific origins and destinations produces between one to four distinct non-overlapping groups, among whom, the correlates of risky sexuality as well as their intervention implications may differ. The first group consists of mobile persons which both at their origins and destinations pose no danger to sexual health. The second group exhibits risky sexual disposition in their origins, but refrains from such acts at destinations. The third category on the other hand, constitutes sexuality risk at their

destinations but not at the origin; while the fourth group exhibits sexuality risks both at their origins and destinations.

Many studies on sexuality risk analysis of mobile population have generally overlooked this disaggregating analytical framework despite its potential benefits at enriching both theoretical and intervention issues on mobility-related sexuality. Often, they have examined sexuality risk in the context of those that pose sexuality risks both at their origins and destinations; and to some extent also, those that pose no risk at their origin but do so externally. The failure to disaggregate mobile population groups in the analysis of risk sexuality obviously has had a limiting impact on the achievement of research since social survey became a prominent tool in sexual behavioural analysis.

Among others, it made research oblivious of the importance of probing the extent to which different origin-specific mobile population groups differ in terms of the proportions of each group that fall into each of the theoretical risk-sexuality sub-groups. Secondly, it also made research generally oblivious of the need to probe the extent to which success or failure in programmatic interventions on sexuality risk is traceable to differential response of the specified mobile population sub-groups and the implication of that on intervention revision. In essence a number of research questions the answers to which could have benefitted either theory or intervention or both, were left unattended to by researchers because of the partial purview with which researchers approached the treatment of risky sexuality of mobile population groups.

It is in the context of the observed gap in research, that the present study analyzes the phenomenon of sexuality risk disposition of Lagos international traders across international frontiers. To accomplish the aim of the research, the study will explore the following objectives:

Research Objectives

- (i) Analyze the socio-economic and related attributes of the study population.
- (ii) Examine the level of correspondence between the natures of risky sexual events committed locally and those committed at destination regions by the study population.
- (iii) Characterize the risky sexual inclinations of the study population in the context of a novel 'origin-destination' risk-attribute framework and compare the emergent pattern.
- (iv) Explore the implications of findings in the context of expanding the frontiers of sexuality research for theoretical and intervention benefits.

Literature Review and Conceptual Background

The state of knowledge with respect to the connection between population mobility and sexual infections, particularly the HIV/AIDS, partially pioneered by the work of Hunt (1989) has made meaningful strides, yet with much room to cover. Two major themes have emerged in the various attempts to better discern the connection between migration and sexuality and or sexual infections. The first is the quest to determine whether indeed the event of mobility makes movers more susceptible to risky sexuality than their immobile counterparts, given the theoretical differences in the socio-economic as well as psychological characterization of mobile persons in contrast to their immobile counterparts (Lurie, Robinson, Ferry, Akam, De Lozain et al. (2004) and Babatola, 2012). The analysis may go further to determine the degree by which the two groups differ from one another. A sample of numerous studies which include Evian (1995), Brockerhoff and Biddlecom (1998), Lurie, William, Zuma, Mkaya-Mwamburi, Garnett, Sturm, Sweat, Gittelsohn, and Abdool-Kareem (2003); Lydie, Robinson, Ferry, Akam, De Loenzien, et al. (2004); Coast (2005); Coffe, Lurie and Garnet (2007); Saggurti, Schensul, Verma (2009); Babatola (2011); Saggurti, Mahapatra, Verma, Jain, RamaRao, Kumar, Subbiah, Modugu, Halli and Bharat (2008);etc address different shades of this theme.

The second theme generally attempts to determine the factors which differentiate the likelihood to commit risky sex by mobile persons in their domains or at destinations. The degree of similarity in the study designs of these studies sometimes vary, depending on whether 'gender' or distance, or 'away-from-home' duration is employed for analytical purpose. Generally speaking, studies by Anarfi (1992); Anarfi, Ernest, Appiah and Awusabo-Asare(1997); Lurie, Harrison, Wilkinson and Abdool-Karim (1997); Oganista, Organista, Bola, Garcia de Alba (2000); Brummer (2002); Poudel, Jimba, Okumura, Joshi and Wakai (2004); Mudandi, Vissers, Habbema, Gregson, (2006); Yang (2006); Saggurti, Verma, Jain, RamaRao, Kumar, Subbiah, Modugu, Halli and Bharat (2008); Saggurti, Nair, Malviya, Decker, Silverman, et al(2011), Kwena, Camlin, Shisanya, Mwanzo and Bukusi (2013) and a host of others belong to this category. Although their primary focus was the analysis of mobile persons' sexuality, a number of these studies examined actual infections in the study population.

To date, although research has engendered appreciable progress on theory and intervention compared to what obtained in the early 90s, the fact that critical gaps still exist in the state of the art and knowledge on sexuality of mobile population continues to receive mentioning by mobility-cum-sexuality researchers. Gould (2004) and later Babatola (2012) pointed out the inadequacy of the extant methodological designs for capturing information on migrants' sexuality vis-à-vis the more appropriate types which reflect its inherent spatio-temporal essence, and which also enhance their intervention relevance. Babatola (2011 and 2013) further observed the failure of research to adequately explore and adapt existing concepts from the complementary domain of spatial population mobility. In the first paper in which he explored the concept of information field, he demonstrated how a comparative analysis of migrants and non-migrants in the context of their respective information fields would benefit both theory and intervention on notional reorientation on HIV/AIDS. In the second paper he identified a major gap in the application of geo-transport network analysis for studying the sexuality of mobile population, and exemplified its contextual utility.

Apparently driven by the same persuasion, Deane, Parkhurst, and Johnston (2010) contended that the evidence of the links between HIV and mobility is foggy, primarily because abstract and non-identical definitions of mobility parameter are often used in different studies. Indeed the persisting impression despite the intellectual strides made so far is that critical gaps still abound between what is known and what could possibly be known on the linkage between spatial mobility and sexual behaviour at the expense of newer theoretical clarifications and or improved interventions on mobile population's sexuality.

Besides, certain findings such as that by Coast (2006) underpin the need to generate novel research designs on migrants' sexuality, employing either the mobility or sexuality parameter for meaningful progress. To be specific, Coast in his study discovered that rural-urban migrants, both married and unmarried refrained from sexual transactions while away in towns, without necessarily exercising similar restraint back home in their rural origins. The apparent explanation for such contrasting sexual inclinations is the conviction that differences in the rural-urban settings of sexual acts differentiate their degrees of inherent risk.

The above contrasting sexual inclinations raises a number of questions with respect to the degree to which streams of migrants from a given origin may be said to be homogenous in terms of the degree to which they are characterized by risky sexual practices at specific destinations vis-à-vis their origins. Notable among them are (1) What are the major risk-sexuality events that characterize a given mobile population and to what extent do the committal of such sexual events vary between specific origins and destinations? (2) To what extent does a given 'origin-destination' risky-sexuality profile of a mobile population group disaggregate it into heterogeneous groups possessing different implications for sexually transmitted infections either at the origin or at destinations? (3) What are the likely implications of differentiated 'origin-destination risky-sexuality' profile on the need for disaggregated interventionist approach for tackling the problem of sexually transmitted infection among mobile population groups.

It is in the context of the foregoing that the present study examines the risky-sexuality profile of Lagos international circulatory traders with the aim among others, to characterize the domestic patterns of their risky sexuality; determine the extent to which such risky sexual events are perfectly or poorly replicated at external destinations; the extent to which the observed patterns affect destinations in terms of the degree to which they attract risk-differentiated visitors; and whether or not such differences require different strategies for managing the spread of sexual infections particularly the HIV/AIDS.

Data and Methods

The present study derived its data from a multi-perspective research which compared numerous aspects of sexuality risk between mobile and immobile trader groups. For the economy of space only the essential summary of the fieldwork is outlined in the present study, while the detailed information about the fieldwork procedure and rationales may be obtained in Babatola (2011). Given that the target respondents are traders that are identifiable with specific market(s), the study employed the market location survey in preference to a metropolis-based sampling design. The study employed two major criteria to determine the set of markets that qualify for selection. They are: (i) The records from initial pre-fieldwork survey must have shown that the market is not exclusively dominated by local traders. In other words, a sizable proportion of traders in that market must be involved in international commercialism, which compels them to travel outside Nigeria. (ii) Any selected market should not operate as an appendage to another larger market. to avoid double listing of traders who may have stalls in both markets.

Four major markets made the selection list. They are, (1) Balogun International Centre for Commerce (BICC), where traders sell diversified products such as household durables, imported foods, diverse equipments and gadgets etc; (2) ASPADAM, an acronym for Auto Spares Dealers Association Market, the most prominent market for auto spares; (3) Alaba International Market (AI), the foremost market in Lagos for electrical and electronic equipments; and (4) Oyingbo White Sand Market where imported staples from the West Africa region are sold. The projected samples based on the indicated population of circulatory traders for the four markets were as follows: 367 traders out of 3172 traders in BICC; 24 of 208 circulators in ASPANDAM; 58 of the 500 Alabama International traders and 29 of 270 traders respectively in Oyingbo markets. A circulatory trader is defined as a trader who had travelled outside Nigeria solely on commercial purpose at least once. From the outset, the targets sample size was fixed between 400 and 500 respondents. On completion of fieldwork, 450 questionnaires were found suitable for analysis.

The fieldwork: The fieldwork was strategically fixed between December and March, a period when most circulatory traders minimize travels to maximize sales from the Christian festivities associated with this period. The strategy was primarily to ensure that those that were randomly selected, but who had travelled at the beginning of the fieldwork, would have returned for questionnaire administration before the end of the exercise. Notwithstanding the arrangement, persistent absence in a number of cases led to the original samples being replaced by the available ones. The actual fieldwork exercise involved the following sequential steps: (i) Establishment of contact with market leaders for briefing and support (ii) Generating the list of shops in which the circulation status of the owner is listed as part of the shop's identity; (iii) construction of separate sample frames from which the respondent samples were drawn. This was done by first writing the number of individual shops on paper slips, folded and poured into a container from which the numbers of pre-determined samples were randomly selected.

Instrument and Analysis: The administered questionnaire solicited information from respondents on a wide range of issues, which include: socio-demographic and business/economic profiles, domestic and international sexual history and trade-related travel experience. Respondents among others were asked questions on the last seven international trips they have made apart from their very first international trips outside Nigeria. Series of other information about each destination were inquired, particularly those that were to be employed in answering the research objectives. Response to three of such questions, namely, one's indicated marital status, the stated number of spouses, and whether one has a spouse in each of the visited destinations or not, provided the basis for determining whether an acknowledged sexual intercourse in a given destination is risky or not. Detailed questions were also asked on their sexual intercourse with their three last sexual partners, respectively for local and international contexts.

It should be noted that information on the committal of local sexual events relates to sexual intercourses which occurred in the last one year; while the committal of external sexual events refers to the most recent sexual events, which may or may not necessarily be within the last one year. The reason for operationalising the committal of external sexual events that way, is that not all traders had travelled out within the last one year of the study. That fact which implies that those who had not travelled within the last one year could not in any way have committed external sexual events, does not, however, imply that they would not have engaged in risky sexual events had they travelled within that period. To limit the analysis of external sexual events committal to those who travelled out within the last one year would in essence not reflect the true picture of risk sexual transaction among the study population. On the other hand, all the traders involved have spent not less than six to seven months in Nigeria, exposing them to the possibility of contracting sexual intercourse within that period.

Three sexual variables are analyzed to capture the events as well as the degree of sexuality risk. These are, multi-partner sex, commercial sex and condom-defaulting sex. The implications of these parameters on the risk of sexual infections, particularly the HIV/AIDS have been well analyzed in diverse sexuality literature, among which are Anderson, (1988), Anderson, et al. (1991), Orubuloye, Caldwell and Caldwell. (1994), Bond and Dover (1997) Lowndes, Alary, Meda, Gnintoungbé, Mukenge-Tshibaka, Adjovi, Buvé, Morison, Laourou, Kanhonou and Anagonou (2002) Ntozi, Mulindwa, Ahimbisibwe, Ayiga and Odwe (2003); Emilio, Parrado, Chenoa, Flippen and McQuiston (2004) Smith (2007); Do and Meekers (2008), Andre, Renzaho and Maria Pallotta-Chiarolli (2009); Vickerman, Foss, Pickles, Deering, Verma, Demers, Lowndes, Moses, Alary and Boily (2010); etc.

Analysis of the socio-economic and demographic attributes of the population employed the frequency analytical method. The second analysis compares the magnitudes of the selected sexuality risk events, as committed by individual traders in Nigeria and at their foreign destinations. Further analysis of sexuality risk variables by partnership levels, classifies the two sexuality risk parameters, namely, 'intercourse with commercial sexual

partners' (otherwise called 'sex-worker partnership') and 'wrong/no contraception' into two categories respectively. The first category labelled 'Yes' captures those that committed a specified risk at a given level of sexual partnership; while those classified under the 'No' category are those that refrained from that risk at the same sexual partnership level. The 'Yes' and 'No' statuses of two consecutive sexual partnership levels were then cross-analyzed to examine the degree of criss-crossing in risk sexuality status between two partnership levels. In essence, the cross-tabulation analysis was carried out between partnership levels 1 and 2 and also between levels 2 and 3 for locally committed sexual intercourses. Obtained results were then compared with results obtained from similar analysis conducted for sexual intercourses transacted at travel destinations, called external committal. The procedure aims at determining the extent to which the occurrence of a given sexuality risk parameter, for example, condomless sex, at a given partnership level is attributable to those who committed the same risk at the preceding sexual partnership level vis-à-vis those who refrained initially, but did not do so at the subsequent partnership level. The third analysis undertook the characterization of the study population on the basis of their differing committal of risky sex between Nigeria and external destinations, to obtain the regional pattern of the four disaggregated risk-differentiated groups across the 8 classified global regions visited by the circulatory traders.

Results

Table 1 below depicts the socio-economic and demographic attributes of the study population. Gender analysis shows male domination; with the proportion of males being slightly under 90 percent. In other word, for every female circulatory trader, there are eight male traders. Age pattern shows that traders in the 30 and 49 age bracket constitute the single largest group, accounting for slightly above 80%, followed by the 20-29 age brackets. The 50+ group constitutes the least percentage. Marital status of the population shows that 59.1% are married, while 39.3% are single and less than 2% belong to the category 'others', consisting of the separated and widow/ers.

Majority of the traders are Christians, of which the Protestants (35.8%) has the modal proportion, followed by the Pentecostal (29.8%) and the Catholics (29.6%). Adherents of Islam are relatively few (3.7%), which reflects the general religious affiliations of the larger Igbo nation which does not only constitute an overwhelming majority of the current population, but also the most dominant in Nigeria's commercial sector. Educational attainment shows a modal domination of the Primary 6/Full Secondary education (48%), followed by those who had no formal or Incomplete Primary Education (27.3%). Those with either Post Secondary or Tertiary education comprise 22.4% of the population.

Table 1: Selected Socio-Economic and Demographic Characteristics of the Circulatory traders

Selected Variables	Distribution No (%)	Selected Variables	Distribution No (%)
GENDER:	395 (89.6)	REGION OF ORIGIN	
Male	46 (10.4)	S/East	408 (91.9)
Female		S/West	22 (5.0)
AGE GROUPS:		Others	14 (3.1)
20-29	73 (16.8)	YEARS IN BUSINESS	
30-49	349 (80.4)	1-9yrs	147 (33.6)
50+	12(2.8)	10-15yrs	170 (38.9)
Mean/Median	36.3/36	16-32yrs	120 (27.5)
MARITAL STATUS:		YEARS IN LAGOS (AS DOMICILE)	
Single	177 (39.3)	Born in Lagos	56 (12.4)
Married	266 (59.1)	0-9yrs	88 (19.5)
Others	7 (1.6)	10-15yrs	179 (39.8)
RELIGION/DENOMINATION		16-40yrs	127 (28.2)
Christians	433 (96.2)	INVESTED CAPITAL	
Non-Christians	17(3.8)	Less than ₦0.5m	124 (28.2)
Protestants	161 (35.8)	₦0.5m – ₦1.0m	131 (29.7)
Pentecostal	134 (29.8)	Above ₦1.0m	186 (42.2)
Catholic	133 (29.6)	YEAR OF 1ST INTERNATIONAL TRIP	
Unspecified	22 (4.8)	Before or in 1984	16 (3.7)
EDUCATIONAL LEVEL		1985 – 1994	128 (34.9)
None/Incomplete Primary	123 (27.3)	1995 +	289 (61.4)
Pry6/Full Secondary	216 (48.0)		
Post secondary/Tertiary	101 (22.4)		
Unspecified	10 (2.3)		

Traders by their regions of origin shows the domination of the South Eastern (91.9%), the home of the Igbo nation; traders from the South West where Lagos is situated only account for 5%, while the ‘Others’ add up to 3.1% of the population. Duration of business experience shows that traders in the 10- 15 years (38.9%) category constitute the modal group. They are followed by those with up to nine years (33.6%) and then by the 16- 32 years of business experience. Residency duration in Lagos also produced a modal percentage (39.8%) in the 10 – 15 years category. Next to it are those who have stayed over 16 years, followed by the 1 -9 years domicile duration and finally by those born in Lagos. Capital investment analysis shows that those who have invested capital in excess of ₦1million-(US\$8,222) is the modal group. Next to the group is the group whose investments are from ₦0.5m to slightly less than ₦1.0m. Traders with investment value below ₦0.5 are the least. With respect to the year of their first international trips, only 3.7% had their first-ever international trip before 1984. The period when the modal group had their first-ever trip fell in between 1995 to date. Between 1985 and 1994, 34.9% of the traders made their first-ever trips outside. The next section conducts a local-external comparative analysis of risky sexual engagements of the circulatory population.

Risky-sexuality Analysis (Bi-location Analysis)

Table 2 below compares the local and the external committal patterns of the three selected sexuality risk variables, namely, multi-partner sex, commercial sex and no-condom sexual intercourse. The number of traders who had at least one sexual partner in Nigeria within the last one year of the study was 334 (74.2%). Exactly 301 (66.8%) had at least two sexual partners, while 63.8% had at least a third partner respectively, over the same period. The difference between the first and the second sexual partnership committal levels is 7.4% discontinuance compared to 3% between the second and the third sexual partnership level. Sexual partnership at the international scene shows that 128 (28.4%) of the traders have had at least one sexual partner in the course of their international business trips, which represents about 38% of those who contracted at least one sexual partner locally in the last one year.

Those who had at least a second and a third sexual partner were 21.8% and 19.6% respectively of the study population. The number of traders who transacted sexual intercourse up to the second and third sexual partner levels outside Nigeria amounted to 31.6% and 30.7% of those that did so at their corresponding levels locally.

Analysis of commercial sex committal shows that 44% of the 334 sexually active traders who had at least one sexual partner, engaged commercial sexual partners. The percentages went up to 46.5% and 48.1% respectively at the second and third sexual partnership levels. At the international level, the percentages of commercial sexual partnership were comparatively higher than what obtained at the local scene. It varied from 67% at the third partnership level to 69.6% at the first level. This accounts for the negative differential values between local committal and external committal, with its widest difference of -25.6% at the second partnership level. Inappropriate/no-contraception was 14.7%, 25% and 31.4% respectively locally at the first, second and third sexual partners' levels.

The trend of external contraception risk committal showed a lower risk profile than what characterized the local sexual intercourse. From the first sexual partnership level to the third, the percentage values were relatively lower for external committal. The relatively worse off situation of local sexual events in the context of appropriate contraception is reflected by the consistently positive percentage value differences in column 'C' right from partnership level one to three, which respectively are , 2.5, 14.4 and 20 per cents respectively.

Table 2: Local versus External Committal Patterns of Risky sexuality Events

SEXUALITY RISK VARIABLES	Committal Levels (a)	Local committals (b)		External Committals ©		(d) (b) – (c) % difference
		N	%	N	%	(%) b- c
Multi-Partnership Risk (MP)	1 st Partner level	334	(74.2)	128	(28.4)	45.8
	2 nd Partner level	301	(66.8)	98	(21.8)	45
	3 rd Partner level	287	(63.8)	88	(19.6)	44.2
Commercial Sex Risk* (CS)	1 st Partner level	147	(44)	87	(69.6)	- 25.6
	2 nd Partner level	140	(46.5)	67	(68.4)	-21.9
	3 rd Partner level	138	(48.1)	59	(67.0)	-18.9
Inappropriate/Default in Contraception* (IC)	1 st Partner level	49	(14.7)	16	(12.5)	2.5
	2 nd Partner level	71	(25.6)	11	(11.2)	14.4
	3 rd Partner level	90	(31.4)	10	(11.4)	20.0

* The percentage values calculated for each of the three levels of commercial- and contraception-risk events respectively were obtained by expressing each committal value as a percentage of its corresponding value under the Multi-partner (MP) variable. E.g. the 44% value entered for commercial sex risk (CS) at level 1 (local committal) is obtained by dividing the actual value under MP level 1 (334) by the value in 'CS' level 1 multiplied by 100%. (i.e. $147/334 \times 100$)

The patterns of risk sexuality variables examined above while it contains sufficient information on the multi-partnership risk but they are inadequate with respect with reference to commercial sexuality and no-condom/inappropriate contraception. Specifically, every one that contracted more than one sexual partner automatically commits multi-partner sex. The same however same cannot be said of the other two sexuality risk variables. Analysis in the next section changes the issue.

Cross-Tabulation Variations in Commercial and Inappropriate Contraception Risks

Table 3 below shows the sources of variations in the events of commercial sexuality and contraception risks respectively, comparing the local and external dimensions. The table analyzes the committal profile of a given sexuality risk parameter across the levels of sexual partnership. Specifically, it cross-tabulates the 'Yes' and 'No' categorical responses of the precedent sexual partnership level with those of the subsequent partnership level. The procedure seeks to determine the extent to which the occurrence of a given sexuality risk parameter at a given sexual partnership level is attributable to those who committed the same risk, vis-à-vis those who refrained from its committal respectively at the precedent level. Generally speaking, obtained results on the committal of commercial sexuality risk did not show much variation across sexual partnership levels. The minimal variation however seems to characterize local sexual intercourse events than the external ones. For example, between sexual partnerships 1 and 2, only 5.5% of non-sex-worker clients contracted sexual workers at level 2 compared to 11 (4.3%) that did so between partnership levels 2 and 3. In both situations, the percentage of those who maintained their status as sex-worker clients converged at 97.7%. The committal pattern differs somewhat with respect to the external sexuality; as 25% of those who engaged a non-sex worker at partnership level one, contracted sex-workers at the second partnership level. The change between levels 2 and 3 resembles closely the pattern with the local sexual scenario.

Changes in the pattern of 'wrong/no contraception' is somewhat unique, especially in the context of the local sexual transactions. Specifically, 12.5% of those who did not default in the use of condom with the first sex

partner, failed to use condom with second partner. The actual figure (50) represents 70.4% of the total population that defaulted on the use of condom at the second partnership level. In between the second and the third sexual partnership levels, 7.7% (29) of previous condom users, which represents 47.5% of entire condom-use defaulters at the third partnership level, failed to use condom with their sexual partners. The pattern of wrong/no contraceptive for external sexual intercourse differs from the pattern which characterized local sexuality. Exactly 1.3% of previous condom users failed to do so with the second partner. Defaulters on condoms use between the second and the third sexual partners amounted to 1.3% of those who used condoms with second partner and 11.1% of the entire condom defaulters at the third sexual partnership level. Analyses so far have explored differences in the occurrence pattern of selected sexuality risk variables; the next section adapts the set theoretical approach to explore the origin-destination pattern of sexuality-risk disposition profile of the study population.

Table 3: Origin-Destination Pattern of Commercial sex and Condomless sexual Partnership

COMMERCIAL SEXUALITY (LOCAL)					COMMERCIAL SEXUALITY (EXTERNAL)				
Between	CPat.2	Σ	CPat.3	Σ	CPat.2	Σ	CPat.3	Σ	
	YES		YES		YES		YES		
	no (%)		no (%)		no (%)		no (%)		
CPat 1	NO	15 (5.5) (10.71)	275	19 (7.1) (13.77)	266	5 (9.5) (8.06)	25 (88)	2 (90.5) (3.70)	58
	YES	125 (97.7) (89.29)	128	119 (98.31) (86.23)	121	57 (90.5) (91.94)	63 (71.9)	52 (89.7) (96.30)	21
	$\alpha = 0.00$ $X^2 = 327.523$			$X^2 = 301.329$			$\alpha = 0.00$ $x^2 = 42.705$		$\alpha = 0.00$ $x^2 = 4.766$
CPat 2	NO		11 (4.3) (7.97)	257			1 (3.7) (1.85)		
	YES		127 (97.7) (92.03)	130			53 (96.7) (98.15)		
Σ									
CONDOMLESS SEXUALITY (LOCAL)					CONDOMLESS SEX (EXTERNAL)				
	CtraPat2	Σ	CtraPat3	Σ	CtraPat2	Σ	CtraPat3	Σ	
	no (%)		no (%)		no (%)		no (%)		
CtraPat1	NO	50 (12.5) (70.42)	401	27 (7.5) (55.10)		1 (1.3) (12.5)	401	6 (75) (85.71)	70
	YES	21 (42.9) (29.58)	49	22 (24.4) (44.90)		7 (58.3) (87.5)	49	1 (9.0) (14.29)	8
	$X^2 = 327.523$					$\alpha = 0.00$ $x^2 = 47.571$			
CtraPat2			29 (7.7) (32.22)	378			9 (100) (90)	9	
			61 (85.9) (67.78)	71			1 (1.3) (10)	77	
Σ			90	450				86	
		$X^2 = 288$ $\alpha = 0.00$		76.395		$\alpha = 0.00$		$x^2 =$	

Origin-destination Sexuality-Risk Characterization profile.

Table 4 below characterizes the traders into an 'origin-destination' sexuality-risk profile and compare their relative mobility statuses in the context of the number of international trips undertaken by them. It classifies the entire population into four groups namely, those who constitute no risk both at origin and outside, which constitute 23.8% of the study population; the 'at-destination-only' risky (8.3%), the 'at-origin-only' risky (47.8%), which is the largest

Table 4: Origin-destination Sexuality-Risk-characterization and Total Trip Profile

Risk classification groups	Frequency	%	Total Trips/ (Trip/person)	%
No risk at both	107	23.8	254 (2.4)	19.7

ends				
Destination-only risky	42	9.3	128 (3.0)	9.9
Origin-restricted Risk	215	47.8	587 (2.7)	45.5
Both ends risky	86	19.1	320 (3.7)	24.8
Total	450	100	1289 (2.9)	100

group, and the risky 'at-both-ends' groups (19.1%). Although the 'at origin-only' risky group is the largest as to population, the 'risky-at-both-ends' group exhibits the greatest degree of mobility with an average of 3.7 trips per trader; almost 1 trip above the entire average of 2.9 trips for the four groups together. Interestingly, the least mobile is the 'origin-destination' riskless group, which has an average value of 2.4 trips per trader. Those that exhibits 'destination only' risky sexuality orientation ranks next to the 'both ends risky' group, in contrast to the 'risky only at origin' which has a lower mobility rate of 3.0 trips per trader.

A clear impression from the pattern is that the degree of sexuality risk associated with a trader tends to associate with the volume of trips undertaken by them. Analysis in this section has stratified the population into four subsets on the basis of their origin-destination sexuality-risk profile as well as contrasting them in terms of the average frequency of international trip undertaken by them. Further analysis in the next section depicts the 'origin-destination' risky sexuality sub-sets in the context of their undertaken trips to globally defined regions.

Regional Characterization of Risky-sexuality sub-groups.

In Table 5 below, the different destinations visited by the study population have been categorized under 8 global regions namely, West Africa, Central/Middle Africa, East Africa, Southern Africa, Rest Africa, Asia, Europe, and the Americas. West African destinations attracted the largest trips totalling 43% of generated trips. It is followed by Asia (29.8%), Europe (10.3), Rest Africa (8.7%), Southern Africa (3.9), East Africa (2.2), Americas (2.2) and the Central/Mid Africa (1.3) regions.

Table 5: Origin-Destination Characterization of Sexuality Risk Profile

Origin-destination risk profile	West Africa	Central/Mid Africa	East Africa	South Africa	Rest Africa	Asia	Europe	America	Total
'O-D' ¹	94(37.0) ^a	1(0.4)	6(2.4)	7(2.8)	17(6.7)	83(32.7)	37(14.6)	9(3.5)	254
RISK-LESS	(17.2) ^b	(5.9) ^b	(2.4)	(2.8)	(6.7)	(32.7)	(14.6)	(3.5)	(19.7)
DESTINATION ONLY	21(16.4)	0(-)	5(3.9)	0(-)	9(7.0)	69(53.9)	22(17.2)	2(1.6)	128
	(3.8)	(-)	(17.2)	(0)	(8.0)	(18.0)	(16.5)	(7.1)	(9.9)
ORIG-IN ONLY	294(50.1)	12(2.0)	14(2.4)	20(3.4)	49(8.3)	153(26.1)	38(6.5)	7(1.2)	587
	53.7)	(70.6)	(48.3)	(51.3)	(43.7)	(39.8)	(28.6)	(25)	(45.5)
'O-D' RISKY	138(43.1)	4(1.2)	4(1.2)	12(3.7)	37(11.6)	79(24.7)	36(11.2)	10(3.1)	320
	(25.2)	(23.5)	(13.8)	(30.8)	(33.0)	(20.6)	(27.1)	(35.7)	(24.8)
Total	547(43.4)	17(1.3)	29(2.2)	39(3.0)	112(8.7)	384(29.8)	133(10.3)	28(2.2)	1289

¹'O-D' Stands for Origin-destination ^a The figure in the upper parenthesis shows the % value of each entry in proportion to the row total. ^b The entry in the lower parenthesis expresses the main entry score in that cell as a % of its column total

Because of the preponderant share of West African regional destination, the volume of trips attracted to it under each sub-set exceeded other regions almost in all cases, except under the 'destination-only' risky sexuality sub-group, in which it attracted 16.4%, compared to 53.9% by Asia and 17.2% by Europe. Intra-regional analysis shows that the modal sexuality-risk category to West African destinations is the 'origin-only' risky group. It

accounted for 53.7% of the region's generated trips. The same group, dominated travellers to Central/Mid Africa (70.6), Southern Africa (51.3%), East Africa (48.3%), Rest Africa (43.7%), Asia (39.6%) and Europe (28.6%).

The 'origin-destination' risk-prone group feature prominently in the West Africa region (43.1%), in Asia (24.7%), Rest Africa (11.6%) and Europe (11.2%). Intra-regional analysis of the 'origin-destination' risky group shows that it was the group that had the modal percentage visit (35.7%) to the Americas. The 'origin-destination' riskless group feature prominently in all regional destinations except in Central/Mid Africa where it recorded less than one percent. Of the total trips made by this risk group, 37% were attracted to West Africa, 32.7% to Asia, 14.6% to Europe and 6.7% to Rest Africa. The percentage values of the trips made by the members of this group to other global destinations were generally below 5%. Besides, it is the only group that did not subscribe a modal level of trip attraction to any of the regional destinations.

Discussion

A number of findings have emerged in this study which requires further clarifications. First, traders from the South East geopolitical region of Nigeria constitute the modal percentage (91%), compared to those from the South West (5.0%), the region in which Lagos is located. The dominance of the South East citizens reflects the dominance of the Igbo people in commerce, not only in Lagos, but in most parts of Nigeria. The sheer domination of the Igbo people is further reflected also in the traders' religious profile which shows the combined preponderance of the different Christian denominations (96.2%) vis-à-vis non-Christians which constituted 3.8% of the traders.

The travel history of the study traders shows that only 3.7% had ever travelled before 1984 when the level of reliable knowledge on HIV/AIDS was still very low, with a large proportion of the citizenry still in doubt of the veracity of claim about the infection. In the decade between 1985 and 1995, 34.9% of the traders had their first international travel experiences. This shows that much of the travels analysed in this study occurred when HIV/AIDS had become a worrisome health concern globally.

The symmetrical analysis of risky sexual events committal shows that multipartnership risk is committed by traders both at the origin, that is, Nigeria and at international destination, albeit the degree and consistency in continuance between levels of sexual partnership vary between the two scenarios. The degree of multi-partnership and sex-worker partnership is higher for locally-contracted sex as expected, given that traders have longer time to stay at home than at the different destinations. Furthermore, although traders' committal of multipartnership sex is seriously lower outside Nigeria, there is a close similarity in the committal patterns of multi-partners sex as practised by the traders locally and externally.

This is evidenced by the fact that observed differences in the percentages of multipartnership sex committal locally and its external destinations from partnership level of 1 to 3 appear rather stable, hovering between 44.2% and 45.8%. The scenario seems to indicate that a fraction of those who commit multi-partner sex locally are the ones involved in its practice externally. Here is where further research becomes necessary to determine the attributes of such critical group, an objective beyond the ambit of the present analysis.

Furthermore, the proportion of those who engaged in multipartnership sex and did so with sex workers were generally higher at destination location than in Nigeria. This accounts for the consistently negative percentage differential values, at the first (-25.6%), second (-21.9%) and third (-18.9%) partnership levels of the commercial sexuality events. Sexuality risk in the context of the condomless sex shows that traders showed better compliance outside than locally, with minimum criss-crossing between levels of partnership

The apparent contrast is due perhaps to the fact that traders realise the greater risk associated with sex workers partnership in a less-familiar terrain and tend to use more of condom at international business destination than locally. This in a way corroborates Coast's finding on risky sexuality and rural-urban migration in Tanzania.

The findings obtained in the inter-level analysis of the committal of commercial and condom-defaulting sex only corroborate the first set of findings discussed above. It underscores the greater magnitude of commercial sexuality risk at traders' destinations as well as a greater compliance with the use of condoms with sexual partners outside Nigeria. The major findings from the disaggregated analysis of the study population using 'origin-destination' by risk-committal status' show that the group which constitute the single largest percentage among the traders is the 'origin-only' risky group (47.8%) followed by the no-risk-at-both-ends' group (23.8%).

However, the 'both-end-risky' group has the greater propensity to travel with the highest travel rate of 3.7 trips per head. It contrasts appreciably with the 'no-risk-at-both-ends' group which incidentally is the least mobile of the four groups.

The findings raises a number of concerns that ought to stimulate the interest of future researchers at employing the disaggregated analysis offered by the set-theoretic approach to dissect in greater details different dimensions of sexuality analysis for mobile population groups than currently obtained.

Further analysis of the 'origin-destination' profile of risky sexuality by global regional destination shows that while the origin-destination' riskless group did not show any particular concentration among the global regions, the 'both-end-risky' group show some focal concentration. Even though in terms of its population, the 'both-end-risky' is the smallest group, it commanded the modal trip volume to the Americas (35.7%), ranks second (24.7%) and third (43.1%) respectively in the volume of trips attracted respectively to the Asian and West African regions.

Summary and Implications for further Research and Intervention

This paper conceived its aim in the context of obvious gaps in the methodological-cum-research- design aspect of mobility-related sexual behavioural analysis. Employing a multi-dimensional data which focuses on sexual behaviour, travel history and relevant socio-demographic variables, the study compared risky sexual practices by a Lagos-based circulatory trader group, with the intention to enrich theory and generate relevant clues for intervention as much as possible.

Convinced of the sharper capability of the set theoretic approach at extracting more distinct clues, the paper disaggregated the mobile population into four mutually exclusive categories, namely, the 'origin-destination', sexually riskless group, the 'origin-only', risky group, the destination-only', and ' at origin-cum-destination' risky groups, to achieve a more robust analysis of the various element of risky sexuality among the study population.

Findings among others show that the population of traders is dominated by the Igbos, a people very versatile in commerce, dominantly Christians and spatially mobile. The implication of this finding is that more studies which have broader ethnic frame would be required to validate the findings that the present study may highlight.

Second, the findings reveal that each of the three sexuality risk variables analysed in terms of the degree of their occurrences are committed by the study population at the origin, which is Nigeria, and the visited international destinations. The degree of multipartners sex is greater locally, that is in Nigeria, than at destinations.

The proportion of those who commit commercial sex is higher at destinations than locally, which explains why inappropriate contraceptives is greater inside than at destination. Further research would be necessary on this issue, particularly to determine what factors can explain observed relative differences in the magnitude of committal noted for commercial sex vis-à-vis the other two risk-sexuality events.

The study further analysed the disaggregated groups in terms of their volume of trips to the study's regional destinations. Among others, it found that the group with the modal population, the origin-destination riskless group is characterised by the least travel propensity, while the least group in terms of population, the 'both-end' risky group possess the modal mobility tendency. The implication is that the most risky group possesses the greatest mobility tendency, suggesting a great danger in terms of available opportunities for them to commit risky-sexual events than other less-risky groups. Indeed, the study shows the tendency for 'higher-risk' level to associate with higher mobility tendency. Besides, employing the disaggregated analytical approach in longitudinal sexuality studies would help research to discover whether or not an intervention programme is working, by observing the degree of criss-crossing occurring between the more-risky groups and the 'no' or low risk categories.

Furthermore, findings show that certain regions of the world, particularly West Africa, Asia, and the America have greater concentration of the 'higher-risk' groups than other regions. This calls for a differentiated intervention attention among nations as well as the degree of intervention designed for different destinations. Perhaps the most important clue for research is the need to determine if the observed differences in the sexuality-risk affinity by the four sub-groups are indications of significant differences among the sub-groups: in terms of their socio-economic and demographic attributes as well as their other equally relevant travel-cum-trip attributes of itinerancy. Such an analysis will further enlighten theory on the concept of migrants' selectivity in the context of risk sexuality as well as the implication for intervention on migrants' sexuality.

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