

Sexual networks and social capital: multiple and concurrent sexual partnerships as a rational response to unstable social networks

Robert Thornton

Department of Anthropology, University of the Witwatersrand, Private Bag 3, Wits 2050, Johannesburg, South Africa

Author's e-mail: robert.thornton@wits.ac.za

Multiple and concurrent sexual partnerships (MCP) are prevalent in southern Africa and have been identified as a primary cause of high HIV prevalence in this region. Sexual liaisons with multiple partners serve to increase the size and diversity of an individual's sexual — and social — network and therefore to increase their social capital. This maximisation of social capital may minimise the risk to relationship(s) at the cost of maximising the biological risk of HIV infection. Many sexually active individuals appear to neglect their biological risk of HIV infection in order to maximise their 'social capital.' This would seem to be irrational from the perspective of any individual actor, but on a larger, social scale, this may give individuals better access to some social and economic goods. The article argues that people who are in unstable and less-connected parts of the sexual network are those most active in building their sexual networks, even where they are not especially promiscuous. However, such strategies may increase exposure to HIV infection in particular populations, such as intravenous drug users, sex workers, and men having sex with men, as well as in the general population of heterosexual southern Africans. What these high HIV-prevalence populations have in common is their participation in sexual-social networks in which individuals try to maximise their social capital by extending the diversity and density of their sexual networks. The discussion shifts analytic attention away from the notion of higher-risk sexual practices of individuals towards consideration for the structure and dynamics of social and sexual networks at a societal level.

Keywords: HIV/AIDS, HIV transmission, risk behaviour, risk perceptions, sexual behaviour, social behaviour, South Africa

Introduction

In the biomedical, psychological, and public health literature, the act of sex is usually understood as an individual behaviour and as an act of reproduction. Against this grain, this article goes beyond consideration of the individual person, or couple, to focus on the larger structure of social relations. Similarly, the concept of risk, drawn originally from business and economics (especially insurance and financial management industries), is now used to discuss sexual choices made by individuals, which are subsequently judged as rational or irrational, or as informed or uninformed. The individual is also the focus for all liberal or neo-liberal political paradigms, for medicine's therapies, and for psychologists. These perspectives dominate efforts to intervene in what is usually called reproductive health, and in HIV/AIDS-prevention programmes. Rarely do HIV-prevention, therapeutic, or public health programmes take seriously the larger-scale social structural and cultural aspects of sex as it is embedded in social relations.

By contrast, the approach taken here shifts focus away from the acts of individual sex, often called 'behaviour' in studies of sex and sexuality. Here, sexual networks are understood as a type of social structure with their own characteristic form and dynamics (Thornton, 2008). An examination of these structures reveals an unsuspected commonality between social categories that are apparently

different in almost all other social and cultural respects, but that share the characteristic of high HIV prevalence.

The argument rests on the claim that dynamic properties and specific configurations of sexual networks impact on the health of populations by dynamically influencing the transmission of pathogens, such as HIV. This conceptual approach is fundamentally different from statistical methods that seek to isolate one or a few limited number of specific causes — causal factors, relative risk or odds ratios, for instance — through examination of statistically aggregated population data using correlation methods applied to factors (variables) that are assumed independent of one another. By contrast, the concepts developed here are 'ecological' — that is, concerned with the dynamics of complex structures in which elements interact with all or most other elements of the system.

The social structure of sex: an expanded view

While the statistical approaches employed in, for instance, randomised controlled trials (RCTs) seek to isolate specific behaviours or factors which, independent of context, increase the risk of a given outcome, the structural approach considers complex structures that rest ultimately on contextual, connected meanings and relationships among persons. A first approximation of a structural approach considers 'sexual networks' as intricate social structures consti-

tuted primarily by sexual relationships (Thornton, 2008). These necessarily involve meanings and emotions (e.g. love, jealousy); social roles (e.g. mother, sex worker) and structural position (e.g. 'father figure') and their attributes (e.g. 'masculine power'); intentional and meaningful social action (such as 'revenge sex,' 'make-up sex'); and economic exchange (e.g. transactional sex, commercial sex, survival sex). These are embedded in other complex social relations (e.g. types of marriage, protection of virginity, honour and shame) and identities (for instance, 'virtuous woman,' 'slut,' 'stud,' 'real man,' etc.). These roles, categories and social types have their equivalents — or alternative and similar cultural concepts and social positions — in all languages and cultures. This methodological contrast, between the structural vision of sexual networks as social structures and a methodological individualism — is fundamental to the style and content of the arguments developed here. Simplistic or reductionist approaches that analytically eliminate these complex social and cultural structures (e.g. Shelton, 2009) fall short of full comprehension.

Between the large-scale social-structural view and the individualist–statistical approaches to HIV prevalence, however, there is something like a middle view that focuses instead on 'multiple and concurrent partnerships' (MCP). In current discussions (for instance, Halperin & Epstein, 2004; Shelton, 2009), multiple and concurrent partnerships are conceptualised from the 'ego's' point of view, with respect to whom (sexual) 'partnerships' can be said to exist, and that can be counted as 'multiple' (as opposed to monogamous) and judged to be 'concurrent' or sequential. UNAIDS defines MCP as "overlapping sexual partnerships where sexual intercourse with one partner occurs between two acts of intercourse with another partner" (UNAIDS, 2009, online). In short, multiple and concurrent partnerships, or MCP, is a current technical term for what used to be called 'promiscuity,' a term now somewhat outmoded and unsupported by research that shows only a low but convincing positive correlation between absolute number of partners and HIV prevalence for both men and women in all countries studied (Mishra, Medley, Hong, Gu & Robey, 2009).

The concept of MCP is still morally loaded and moralistic, however. Such biases, unexamined, can lead to failure of otherwise well-intentioned interventions and prevention programmes. The concept assumes — like most classical liberal thought — that individuals act with *free choice* and can choose sex with single (faithful, monogamous) or multiple (promiscuous, licentious) partners, as informed (sensible) or uninformed (ignorant) persons making (irresponsibly) risky or safe (responsible, civil) choices on the basis of (irrational) lust or (rational) love. These assumptions set up a contrast between the free but faithful, monogamous, wise, responsible, civil and rational citizen of the sexual republic that is posed against the lust-driven, promiscuous, ignorant, irresponsible and irrational lout or loose woman with many 'partners.' While the 'MCP' approach moves towards a structural understanding, its utility is limited by its implicit moralising and its ultimate reductionism towards the individual. Shelton (2009, p. 368), for instance, talks about the "pernicious nature of concurrent partnerships," while Epstein (2007, pp. 175–183) notes that

a "moralising prescription for HIV prevention" does not imply "superiority, moral or otherwise...except when it comes to HIV risk." The 'therapeutic' or 'interventionist' outcome of this approach is called 'partner reduction' (Halperin & Epstein, 2004 and 2008; Shelton, 2009).

By focusing attention on the social-structural level, however, we see that the dynamic properties of these networks-as-structures arise from persons acting in strategic ways, aimed at maximising their social value or 'social capital.' There is yet another moralism in the notion of social capital itself. This theoretical concept often assumes that social capital is necessarily good, its values always 'positive' and its outcomes beneficial, providing for the greater good of community and the wellbeing of individuals. As we argue here, this is not necessarily the case.

Epstein's (2008) article 'AIDS and the irrational' is a useful case in point. This article in the *British Medical Journal* is framed as an open letter to the new director of the United Nations Joint Programme on HIV/AIDS (UNAIDS). It argues that much more attention should be paid to what Epstein and others call partner-reduction strategies in HIV/AIDS-prevention campaigns, and the author claims that UNAIDS and other agencies, such as USAID, do not focus sufficiently on this factor. Epstein argues that while circumcision is also an effective but neglected method of HIV prevention, both evidence and critical thought suggest that 'partner reduction' is key. Thus, Epstein takes issue with the 'irrational' failure of UNAIDS and other agencies to take this seriously enough.

The 'irrationality' in the title of Epstein's (2008) article refers to two things. First, UNAIDS policies toward HIV/AIDS prevention are not always based on good science but may be based on religious and political commitments of the United Nations' member nations, and on deeply held beliefs about what will work in HIV/AIDS-prevention agencies. The second reference to 'irrationality' is Epstein's assertion that some of the UNAIDS policies contribute to the impression that sex, especially in Africa, is in fact 'irrational' and that only technical, biomedical solutions will stem the tide of new HIV infections in these populations. In particular, Epstein points to the clear evidence that southern Africans continue to have unprotected sex with multiple partners, moving back and forth between them. This is one of the keys elements in understanding why HIV is so prevalent in this region, but it is not clear why people continue to do this despite the likelihood in some parts of this region that one in two potential new or old partners are likely to be infected with HIV. Is this irrational?

There is indeed much evidence, as Epstein (2008, p. 1265) claims, that "irrational beliefs about AIDS persist" in Africa, including beliefs that "traditional medicine is more effective than antiretroviral drugs," and that witches and witchcraft can explain HIV infections. She points to the "dispiriting sense that there is no rational approach to HIV prevention in Africa" (Epstein, 2008, p. 1267). Thabo Mbeki, former president of South Africa, vehemently rejected the notion that Africans were 'irrational' (see VirusMyth Homepage, 2002), but he also rejected the evidence that HIV causes AIDS and that AIDS was the leading cause of death in South Africa.

But, while southern Africans continue to practice higher-risk sex in this way, is it irrational to do so? In order to understand this better, we have to examine more critically the notions of multiple partnership, concurrency, and risk in the southern African context. There may be very good reasons to carry on with 'risky sex,' especially where this may lead to creation of social capital and therefore to improvement in many other aspects of an individual's life.

The populations of South Africa and the states that surround it — Lesotho, Swaziland, Zimbabwe, Botswana and southern Mozambique — are in constant motion across all these international borders. Since all depend primarily on the South African economy in one way or another, here I call the region southern Africa. The networks of sexual partners span this entire region. While smaller networks of sexual contact between lovers are important, the regional expanse of the network is as critical as its dynamic properties. A larger vision of sexual networks allows us to consider spatial and temporal aspects that would otherwise be missed. It also allows us to understand better the relation between sexual choices, cultural frameworks, and the social and political history of the region.

As Epstein (2008) points out there is every reason to recommend partner reduction, even to make it the central part of all HIV/AIDS-education campaigns and interventions. UNAIDS prefers to recommend what Epstein calls 'needlessly over complex...combination prevention,' that is, multiple approaches including the usual 'ABC' method, VCT, treatment of other STIs, education, together with biomedical research on vaginal microbicides, vaccines, and pre-exposure prophylaxis. A great deal of money has been spent on biomedical approaches despite the fact that vaccines, microbicides, or other medical and pharmaceutical interventions have shown little evidence of success.

It is eminently clear that partner reduction does indeed break up what Epstein (2007, p. 176ff; 2008) calls the 'HIV superhighway' of transmission, which a densely connected set of multiple partnerships creates. The theoretical vision implicit in the term 'multiple and concurrent partners,' however, directs our attention to small ego-centred groups (so-called partners) rather than to larger social contexts, and is therefore unable to grasp the dynamics of the larger social system. Shelton (2009, p. 368), for instance, notes that "people seem not completely compelled by culture, economics or circumstance" to engage in what he calls risky sex, but he is reduced to listing 'factors' (such as alcohol abuse, and 'the backdrop of polygamy') to account for this. Such approaches do, in fact, miss the cultural and economic structures in terms of which these social patterns make sense.

The dynamics of sexual networks

Multiple and concurrent partners refers to people who have sex with a number of others, not only in a series of monogamous relationships, but in overlapping relationships that persist over time, often over a very long time (long-term MCP). In other words, lovers may move within and between a small or larger set of other lovers over much of their lives.

If each set of exchanges is limited to a small group, as in strict polygamy (formal and exclusive marriage), then

networks remain limited and do not transmit pathogens efficiently. If sets of multiple and concurrent partnerships lack effective boundaries and their exchange groups overlap with other sets of multiple and concurrent partnerships, then pathogen transfer is likely to be highly efficient. In the first case, partner reduction is both ineffective and unnecessary; while in the second case it may act powerfully to limit infection in a population. Attention to the wider social structure in which multiple and concurrent partnerships occur is therefore critical.

Depending on a number of other cultural and social factors, these sets of lovers may be smaller or larger, and some may be connected to much larger networks that span large distances. This is particularly true in South Africa where sexual networks often span the entire sub-continent as a result of high mobility, economic migrancy, forced relocation, asylum-seeking and trade. Differences of ethnicity, language, wealth and even race are often no bar to sexual contact, even where other social contact is eschewed. As a result, any behaviour-change intervention, including partner reduction, has little impact because the networks function like the Internet: the loss of even a great number of transmission nodes has little effect on the overall efficiency of the whole network (Thornton, 2008).

The question, then, is how and why do large sexual networks continue to exist, despite the biological risk of HIV infection? One factor must be that such networks are not transparent to people who are embedded in them. A lover may be aware that other lovers exist in their lover's life, but ignore this fact, or may conspire with themselves and their friends to remain ignorant of it. Thus, the true *extent* of social networks of many kinds is invisible to their participants. This is true of *sexual* networks especially, but also of illegal trade networks (gold, tobacco, diamonds, herbal and pharmaceutical medicines, and many other commodities) in the informal (cash-only) economy, labourer-employer networks in the informal building industry, transportation networks, criminal and cash-laundering networks, networks of political influence and corruption, among others. All such networks are extensive, unrecorded, untaxed, and reinforce each other. They form 'invisible communities' (Thornton, 2008) within an invisible economy.

Sexual secrecy, issues of respect (*hlonipha*) (see Thornton, 2005), decorum and possibly stigma, may also account for this lack of 'transparency' in sexual networks. In a society as violent as South Africa's, one of the principle reasons for not being forthcoming about multiple partnerships is to limit the threat of violence arising from sexual jealousy. This is a powerful force inhibiting all talk about sex, perhaps even greater than issues of stigma, respect or shame. The fact that people may have multiple sexual partners does not mean that they do not feel jealous when they discover that their lovers have (an)other lover(s). Though seemingly irrational, this is a common feature of South African violence, some of it lethal. In my years of ethnographic observation and research in one small South African town, Barberton, it appears that such domestic violence is initiated by both women and men. Evidence for this is literally written on the faces of men, the majority of whom carry visible scars from such domestic fights arising

from jealousy and often exacerbated by alcohol abuse by both partners.

Making the extent of these networks visible and apparent to their participants may be a more effective educational intervention, then, than merely educating people about their personal 'risk.' (But the threat of violent jealousy may make such strategies impossible or at least difficult if it threatens to identify actually existing networks of lovers.)

By shifting the scale of the analysis from ego-centred partnerships towards much larger sexual networks, we move from a perspective focused on the behaviour of an individual towards larger-scale structures and institutions. Some of these are also invisible, such as jealousy, domestic violence, crime, and the invisible economy of cash-only transactions. The scale of these networks may be regional, nation-wide, sub-continental or even global. They are large-scale, social, self-organising wholes with emergent characteristics that exist only at this scale. This is to be contrasted with a perspective — almost inevitable in biomedical and behavioural sciences and education — that focuses exclusively on the individual and the (biomedical) body.

We must also consider the role of time and dynamics at this level. Concurrency implies the perspective of a central sexual actor, 'ego,' who has a number of sexual relationships — or partners — *at the same time*, and *over time*. HIV infectivity varies over time due to the rapid initial rise of the viral load, which makes transmission much more likely in the early phase of HIV viraemia and subsequent decline with or without ARV treatment. There are also many different types and periodicities of these relationships — short-term or long-term concurrency, short- or long-term marriage, polygamy, periodic or seasonal recourse to 'sugar daddies/mommies' for school fees or clothing, for instance — so the overall configuration and efficiency of transmission of the network varies over time and across locales and age groups, too.

The types of sexual relationships — marital, occasional, monogamous (for those involved with partners who are not monogamous), transactional, polygamous, concubinage, and so on — are determined by social structural factors, cultural values, and opportunity. These affect the overall shape of the network, and thus determine the efficiency with which HIV (and other pathogens) is transmitted. Periodicities — the frequency of sexual contact and the fluctuating magnitude of the viral load — also vary and have an effect on the transmission of pathogens across the network. Instead of thinking in terms of long-term concurrent sexual partnerships, then, we might rather think in terms of the dynamics and configuration of large-scale sexual networks with many types of sub-networks and differing periodicities.

The rationality of risk and the formation of social capital

Even from this larger, social-scale perspective, concurrency appears to be irrational. It is not uncommon in southern Africa, however, for a person to have a number of lovers to whom he or she returns repeatedly over a period of time, or even over a lifetime (Shisana, Rehle, Simbayi Parker, Zuma, Bhana *et al.*, 2005; Kenyon, Dlamini, Boule, White & Badri, 2009; Mishra, Agrawal, Alva, Gu & Wang, 2009 [for Zimbabwe & Mozambique only]; Shelton, 2009). There

is a way in which we can understand its social rationale, however, if not its rationality with respect to likelihood of HIV infection.

Having multiple and concurrent partnerships appears to be 'higher-risk behaviour' in the language of many HIV/AIDS agencies and in the HIV/AIDS-related scientific and interventionist discourse. But as Epstein (2008, p. 1267) points out, "The near exclusive emphasis on so-called high-risk behaviour may be the most destructive misconception about AIDS in Africa."

While common or even normative in the context of southern Africa, the existence of multiple and concurrent sexual partnerships is often denied. There are several reasons for this denial. First, while most southern Africans associate the idea of multiple and concurrent partnerships with promiscuity, they do not think of themselves as promiscuous because this undermines their own sense of personal value and moral worth. Their moral standing in the community and in their own eyes may depend on this fact. For instance, two young women in Barberton sued each other in the Equality Court in Barberton over such issues. The Equality Court was initially set up in South Africa to handle accusation of racism and inequality arising from the apartheid legacy, but has become, more often today, a venue for litigation over social reputation. In this case, one woman claimed the other had accused her of being HIV-positive. The accused then sued her friend for claiming that she "is sleeping with white people." The court found that "the words used, namely that the person is 'a tokkelosie' (e.g. said [s]he is HIV-positive)...falls within the framework of section 1(xxii)(a) of the definition of 'prohibited grounds' in terms of the Act." The court ordered "in terms of 21(2)(j)...the respondent must today in writing make an unconditional apology for the words used to wit 'your are HIV positive' (sic), despite the fact that the accuser had entered into the court record that she was 'not willing to accept an apology'" (Equality Court for the District of Barberton, File 1/4/2-E 62/2008, N.T. Gama v. Cynthia Mpila). The risk to social standing was more important to both women than their actual risk of HIV infection, which, in this case, was not at issue.

Because the number of partners per person is often small — smaller than the average number of new partners in many parts of the world — people who engage in concurrent sexual partnerships may not consider themselves promiscuous. With the emphasis of HIV prevention placed on promiscuity, they will not think of themselves as vulnerable. Although they are engaged in what they view as ordinary relationships it is these people who may be most susceptible to HIV infection. Why? Research on sexual networks on Likoma Island in Malawi (Kohler & HELLERINGER, 2006; HELLERINGER & KOHLER, 2007) shows that it is not the most highly linked people in the densest parts of sexual networks that are most vulnerable, but rather people on the periphery. Kohler & HELLERINGER (2006, p. 15) state that:

An individual with only one partner residing in this giant component may be at a significantly higher risk of contracting any STD than an individual with many more partners who is located in a much smaller disjoint component.

Here, the ‘giant component’ refers to the 65% of the study population linked together in the largest mutually connected part of the island’s network, while the ‘disjoint component[s]’ are those that are less well-connected or not connected to the large component. Paradoxically, it was the sparser (less densely connected) regions of the network that showed higher HIV prevalence (Helleringer & Kohler, 2007). Epstein (2008, p. 1265) also speaks of “people who have watched numerous non-promiscuous friends and relatives succumb to the disease.” This is an experience which I and many others in southern Africa share. Much of the epidemiological and HIV-prevention literature blames so-called high-risk individuals — commercial sex workers, truck drivers, ‘sugar daddies’ and ‘sugar mommas’ — but this view is not supported by the limited knowledge that we do have of sexual networks. The fact that young women in southern Africa and elsewhere are, in general, less well connected to sexual networks (they report fewer partners) yet have much higher HIV prevalence partly demonstrates this (Shisana *et al.*, 2005; Mishra, Medley, Hong, Gu & Robey, 2009).

The key to the conundrum may be that multiple and concurrent partnerships may offer risk reduction for those who are involved in them. The risk that is reduced, however, is not the individual’s biological risk of STIs, but rather the risk to the person’s self-esteem, social capital, and position in social networks. In other words, it is not the risk of HIV infection that they are primarily concerned with, but rather the risks to their social relationships and own emotional wellbeing.

It is self-evident, given the very high HIV prevalence in some areas of southern Africa, that many people are not correctly assessing their biological risk. This is either because they are irrational and uncaring, that they are ignorant of the health risk, or that they are prioritising other risks. Let’s consider the last option.

Where sexually active individuals seem to neglect their biological risk of contracting an STI, they may do so in order to maximise their social capital through increasing the size and diversity of their social network. One very important part of their social network is their sexual network. By extending their social network through sexual liaisons, they maximise their social capital but also their risk of infection. The result seems irrational when viewed from the perspective of any individual actor, but on a larger, social scale, the result is greater social capital.

Social networks and social capital

Social networks often constitute the primary form of what has been called social capital (see Bourdieu, 1977; Coleman, 1988; Becker, 1996; Putnam, 2000; Lin, 2001; Halpern, 2005). ‘Social capital’ is the value inherent in informal social connections with others and with the community. Social capital is the direct value (in cash, kind, reputation, ‘distinction,’ or other tangibles and intangibles) that persons may derive from social structures, roles and networks. The notion of networks has become extremely important in social science in the last decade or so and the accumulation of social capital has come to be seen as an important consequence of social networks (Quillian & Redd,

2006). Some argue that increasing social capital by means of developing social networks will help to ameliorate poverty by developing local economies through community-based micro-lending, for instance, or help to reduce community and family violence. Making small loans to women, repayment of which is enforced by groups of other borrowers in communities (such as that practiced by the Grameen Bank in Bangladesh) is predicated on precisely this notion.

Both concepts — (social) capital, and (sexual) networks — however, should be regarded as useful metaphors rather than empirical descriptions. The term networks draws on an image of a fishing net or woven fabric, and implies that sets of concrete, observable, static links connect people to each other in webs of stable social relations. In social reality, these connections are episodic and variable, and often depend on implicit values and intangible relations. Similarly, social ‘capital’ is difficult to measure because it also depends on social values, such as status, sense of wellbeing, happiness, fulfilment, and engagement with others, including sexual engagement; a sense of personal identity associated with community involvement is also crucial, but intangible. Increasing social capital is held to reduce social alienation and hostility, or to mend a sense of loss or loneliness. The sources of these emotions are often obscure or even opaque to social research and to ordinary people who feel these emotions. The fact that networks, in particular, are often invisible to most social research methodologies, as to their participants, makes both concepts hard to quantify as capital. As such, both concepts may possess a misplaced concreteness. However, if we keep the dynamic and often evanescent nature of both these ideas in mind, then we can begin to better understand why multiple and concurrent sexual partnerships may make sense.

‘Seriousness’: An investment in the sexual–social network

In southern Africa, many people develop a web of sexual liaisons as part of their overall social networking. Men and women seem to develop sexual relationships with a range of other people, often across distances, and across many other forms of social difference, such as language, age, ethnicity, race and class. The sexual networks give access to goods, services and many other kinds of values. My own ethnographic observation (this is often the only and the best knowledge in both network and sexuality studies since these phenomena are usually invisible to other methodologies) suggests that sexual liaisons for many people give access to goods, values and services that conventional social networks may not. Sexual networks therefore extend the effectiveness of other kinds of social networks. Precisely because of the risks involved, sexual liaisons, especially those that involve ‘flesh to flesh’ (*nyama ne nyama*) and fluid transfers may be felt to be ‘more serious,’ and therefore *more valuable* than other kinds of social relationships.

What makes these contacts most biologically risky, then, also makes them most socially serious. The risk of not wearing a condom is offset by the gain in social capital of appearing to be (or actually being) *serious*, committed to, and fully involved in a social relationship, of which only part

is sexual. The deliberate exposure to potential HIV infection, then, and actual transfer of bodily fluids, represents an investment in the network, in this case, the particular relationship that is secured by an act of unprotected sex.

For instance, young girls may offer sex to older teachers or shopkeepers in exchange for good grades or goods that would otherwise be inaccessible. Immigrants from rural areas or from other countries often seek to develop sexual liaisons as a primary means of integration and access in their new environments. Political leaders, chiefs, religious leaders, and businesspeople — anyone with higher office, privileged access or goods to offer — may develop sexual liaisons with followers and clients as a way of consolidating power or extending their clienteles. On the other hand, these clienteles — or simply the poor and powerless — seek sexual access to 'leaders' as a way to achieve their goals. In all cases, sexual links permit access across otherwise unbridged social categories and statuses, while requiring a 'serious' commitment to make them real. The seriousness of the interaction, and the 'social risk,' is signalled by the degree of risk of infection.

Participation in such networks — far from being opportunistic, risky, or sporadic — is often a fundamental part of southern African social structures. The political elites of South Africa's ANC government, for instance, are mostly involved in closely overlapping sexual relationships that help to secure their positions and privilege. For example, the controversial former Minister of Health was widely understood to be secure in her position because her husband, Mendi Msimang, was the Treasurer of the African National Congress. Nkosazana Dlamini-Zuma, Minister of Foreign Affairs and former Minister of Health, was married and divorced from the current President, Jacob Zuma, who has had many other wives and girlfriends of public record. General gossip links most other ANC elites to each other, though none of this is provable. The suspicion suggests that there is some basis in reality, especially since this is true of most other South African organisations. This pattern is repeated at every level of South African society, and across all of its ethnic and racial segments.

Sexual networks, then, may link people across class, linguistic, ethnic and other social distinctions and so form links that transcend these differences. The medium of exchange is direct bodily contact and exchange of fluids, while the measure of trust is the willingness to so engage. Sexual liaisons often allow people to escape their normal social environments. They may achieve access that is otherwise difficult or impossible within compact communities in which people seem to know what everyone else is doing. This is another reason (apart from fear of jealousy and violence) that it is often said to be difficult to talk about sex in southern African societies: too much is invested in these somewhat secret sexual networks which provide significant rewards. Specifically, the sexual networks are a valuable form of social capital made all the more valuable for not being talked about.

Extending sexual liaisons outside of the personal community may be an important way to seek employment, a better life, or simply escape the confines of a small town, a farm, or an oppressive household or workplace.

Sexual networks are often unpredictable in their form, but offer access to social opportunities that might otherwise be denied. This may be true of exploitative, transactional or even coerced sexual links as well; if not, these may provide merely the hope of access, acquisition or escape.

It follows from these observations that people who are seeking to develop their social networks — and through this, their social capital — may use sexual networking as a means to do this. It also follows that people with fewer relationships, or those with relationships that are already highly constrained, may resort to larger networks of new sexual contacts, and do so more frequently, than those who already possess social capital through their own more stable and productive social networks.

Thus, it is marginal people, not those at the centre of social networks or communities that are more likely to form unstable, changing and heterogeneous networks. Those who are already in less stable networks, with fewer contacts, are also those who will use sexual liaisons to extend their access to other, new and more productive relationships. If social capital is accumulated through membership in stable, secure social networks, then it follows that people with less social capital are more likely to embed themselves in less stable social networks as a means of achieving their goals.

This means that they are more likely to lead social lives — including sex lives — that are also less stable, more insecure, and therefore more likely to include multiple and concurrent sexual partnerships. They are also more likely to be at risk of HIV infection. Their risk of infection, however, is *not* due to their ignorance of facts about HIV and AIDS, nor to their immorality, promiscuity, attitudes or sexual practices (although these may also be involved). Instead, it is the consequence of trying to *limit their social risk by building social capital* through social networks that include sexual relations in addition to other social connections. This is not, as it may seem, a choice by an individual to *risk* HIV infection. It is a dynamic property of the network itself. The risk to relationship trumps risk of infection under these structural conditions.

Similarly, those who already have a high level of social capital by virtue of already having stable and productive social networks are less in need of engaging in dynamic network building. This may also apply to their sexual networks. Those who are in stable and relatively secure social positions (as limiting or oppressive as these may be) are less likely to extend their social networks by means of sex. However, since most southern Africans find themselves in insecure, shifting and changing social networks, few are in this position. Large numbers are therefore entangled, at some point, in a sexual network that probably spans the sub-continent. By seeing the whole social form of the sexual network, rather than merely the behaviour of individuals as concurrent partners, we may be in a better position to understand the extraordinarily high prevalence of HIV in southern Africa.

Counter argument: sex cannot be social capital

This finding will go against the grain for many. There are reasons why this is so. First of all, the concepts of social capital and social networking are treated as positive factors

in the overwhelming majority of social-science studies. Sex and sexuality, by contrast, are held by all but a handful of academic researchers of sexuality to be inherently risky, 'irrational' (e.g. Max Weber and Sigmund Freud are explicit on this), irresponsible, immoral, or worse. It is difficult therefore to conceptualise apparently higher-risk sex as a form of social capital: it is an apparent contradiction in terms. According to the economic metaphor behind risk and capital, risk offsets capital, and vice versa. But profit is also seen as a just compensation for risk, properly managed. It would appear that people who engage in higher-risk sex also believe themselves to be capable of managing their risk, but for gain.

Second, sex is generally considered a 'behaviour,' a characteristic of the individual and motivated by internal biology, as impulse, or as a largely unconscious response to a stimulus from internal physiology or external events. It is rarely considered to be a building block of fundamental social structures — though it certainly is. Since social capital is intrinsically *social*, it is not obvious that such an apparently individual, 'impulsive' behaviour could constitute a form of it.

A third important reason why we may find it difficult to see sexual networks as social capital is that the root metaphor for 'networks' and 'capital' are strongly positive, static and visual. It is difficult to think of them in the dynamic terms demanded here. In this case, it is not the number of sexual contacts (multiple concurrency) or the time over which they occur (long-term concurrency) that is the issue, but rather the frequency with which they *change*, and the fact that this strategy entails maintaining several relationships at the same time, moving between them according to specific needs and opportunities and social rules. A static image of a concrete stable network, or *accumulation* of (social) capital, however, implies the opposite. The static image of such a network — built into many simulation 'models' concerning HIV transmission and HIV-prevention programmes — implies the opposite: that it is the *number* of links between sexually active persons, rather than their dynamic shifts that is key.

If people actively utilise sex for building social networks, and therefore increasing social capital, they depend on the dynamic shifts in their linkages and what these may provide them. The greater the social need, therefore, the greater instability and dynamism of the sexual network.

Conclusions

Prioritising 'risk to relationship' over 'risk of infection'

By the same token, those who are on the margins of sexual-social networks are also those who will be the most dynamic actors. This characteristic would include the poor, immigrants, the spatially mobile (such as transport workers, truckers, etc.) and marginalised sexual communities, such as men who have sex with other men (including those who identify as gay and those who do not) and sex workers. What links them may be less their 'choice' to engage in higher-risk sex or behaviour that is not adequately informed by public health messages, but rather their marginal and unstable location in larger social networks.

Writing about nomads, migrants, and pastoralists in particular, Habib & Jumare (2008, p. 179) note that "greater HIV risk is frequently associated with family and social disruptions...experienced by travellers and migrants," and they note that "Decosas [Kane, Anarfi, Sodji & Wagner] (1995) postulated that the social disruption that characterises migration is the determinant of vulnerability to HIV and not migration alone."

Gay men are by definition marginal to many types of social networks, such as procreative families, marital partnerships, conventional church congregations, political parties and political office, and so on. The more marginal they are, the more susceptible they may be to seeking diversity in their sexual and other social networks. This is not because they are gay, or having sex with men, or engaging in specific sexual practices, such as anal sex, but rather because they utilise sexual networks to build social networks and social capital. This structural strategy puts them in the same category as the poor, migrants, nomads, transport workers and prostitutes. Epstein (2008, p. 1265) notes, for instance, that "age adjusted HIV infection rates in southern Africa are nearly as high in the general population as they are among sex workers and migrant labourers." Sex workers, of course, use sex to build *real* capital too — that is, to make money — but that does not mean that they are not also using it to construct social networks *and social capital*. (Indeed, sex workers very often do this, hoping for a change of profession; romantic comedies such as *Pretty Woman* make such strategies explicit.)

This hypothesis also helps to explain the very high rate of HIV infections in southern Africa. Southern African society, in contrast to most of the rest of the settled world, is very young, and highly unstable. The current South African political order dates from its current constitution adopted in 1996. The same is true within a decade or so of all southern African countries. South Africa, the country, came into being only in 1910, within its current borders; before that it consisted of tribes, colonies, states and quasi-states, kingdoms and chiefdoms, with complex trade and political linkages between them. None of these contemporary social formations predated 1800 at the earliest, and all were literally in motion across the face of the land for most of the 19th century, and often a good deal of the 20th century. No ethnic or linguistic identity is more than two centuries old. The large majority of the contemporary population is, at most, 1 000 years old. Almost no South African has any ancestor that lived in current South Africa more than 500 to 700 years ago (Muller, 1969; Swanepoel, Esterhuysen & Bonner, 2008). (This excludes the remnants of the Khoi and Bushman people who ceased to exist as autonomous political entities in the late 19th century, although many people, especially those called 'coloured' in South Africa could trace their genetic ancestry to them, including Nelson Mandela. This is a tiny minority of the South African population.) This can be compared with the populations of Europe, the Middle East, North Africa and Asia, which are at least a factor of 10 or even 20-times older. Native North American and Australian populations are also much older. Similarly, the foundation of political, cultural and religious order in most of the rest of the world is also much older than southern Africa's.

South Africa's population, and cultural and political orders, are very young then. As a consequence, they are extremely unstable. All came into existence in comparatively recent historical times. All were in the process — and still are — of incorporating each other culturally, politically, and genetically. South Africa has also incorporated huge refugee population from the rest of southern and central Africa in recent decades. High personal mobility in southern Africa is not a recent phenomenon. South African people have been mobile and unstable as long as they have been in the southern continent. Mobility itself contributes to high HIV prevalence in the case of migrant workers and transport workers, but since there are also highly mobile populations in the rest of the world with much lower HIV prevalence, the structural mechanism operating through sexual networks may be a more important factor.

In sum, the apparent willingness to engage in risk with respect to sex, far from being irrational, may be a relatively rational consequence of unstable networks attempting to become more stable — as people who are 'marginal' to these networks seek to increase the density and variability of their social networks, thus increasing their social capital. The social risk, or 'risk to relationship,' is prioritised over risk of HIV infection. Paradoxically, sexual contacts may be made even more valuable by deliberate risk of infection through direct contact and fluid exchanges that essentially signal trust or 'seriousness.' They therefore create social value or capital through deliberately engaging in sex without condoms and with 'risky' partners despite the biological risk of HIV infection. The effect of this cannot be seen in individual cases, however, but only when the dynamics of time and the larger social scale is taken into account. Under these conditions, so-called risky sex is an unavoidable but unintended consequence of efforts to increase personal social-standing social capital.

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The author — Robert Thornton holds a PhD from the University of Chicago and has held positions at the University of Chicago, the University of Cape Town, the Institute for Advanced Study (Princeton, New Jersey), Rutgers University (New Brunswick, New Jersey), and the University of the Witwatersrand (Johannesburg, South Africa). His work focuses on eastern and southern Africa, theory of culture, and ethnography. His latest book is *Unimagined Community: Sex, Networks and AIDS in Uganda and South Africa* (2008: University of California Press). He currently does field research in medical anthropology and cultural anthropology, focusing on traditional authorities (chiefs) and traditional healers in Mpumalanga, South Africa.

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