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Catherine Campbell and Flora Cornish
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How has the HIV/AIDS pandemic contributed to our understanding of behaviour change and health promotion?

CATHERINE CAMPBELL AND FLORA CORNISH

Introduction

The challenges of HIV prevention, particularly amongst 'hard-to-reach' groups in marginalised settings, has highlighted the urgent need for theoretical renewal in the field of the psychology of health promotion. This is particularly the case in relation to understanding how social factors impact on the possibility of health-promoting behaviour change. Psychologists have traditionally sought to explain health-related behaviour in terms of individual-level psychological constructs, usually within the 'social cognition' tradition (Conner and Norman, 1995). Within this tradition, behaviour is explained in terms of properties of the individual, such as individual cognitions, behavioural intentions and behavioural skills. Accordingly, first generation HIV-prevention programmes sought to promote sexual behaviour change at the individual level, through providing people with knowledge about sexual health risks, and training them in the behavioural skills necessary for the performance of new behaviours.

However, one study after another has highlighted that people often have unprotected sex with multiple partners despite having the necessary knowledge and skills to protect themselves. In her review of HIV-prevention programmes in a range of low income countries, Gillies (1998) concludes that individual-level approaches are unlikely to change the behaviour of more than one in four people, generally the more affluent and educated. This is because health related behaviours are determined not only by conscious rational choice by skilled and knowledgeable individuals, but also by the extent to which community and societal contexts enable and support the performance of such behaviours (see also: d'Cruz-Grote, 1996; Sumartojo, 2000). Accordingly, the applied field of HIV prevention has seen a 'paradigm drift' away from information provision programmes, in favour of participatory community development approaches (Beeker *et al.*, 1998). However, this progress in practice has not been matched by progress in theoretical development (MacPhail and Campbell, 1999). Our understandings of the mechanisms whereby community-level processes impact on the likelihood of behaviour change remain in their infancy. This dramatically undermines our ability to learn lessons from the proliferation of more, and less, successful HIV prevention initiatives.

There is a growing sense of discomfort amongst critical psychologists at their discipline's failure to contribute to the challenge of preventing HIV in less affluent countries. It has been argued that psychological research may even have served as an *obstacle* to HIV prevention efforts. Waldo and Coates (2000) suggest that the overrepresentation of psychologists in HIV-prevention science has persistently directed attention *away* from the social contexts in which HIV flourishes, in favour of a focus on the individual – yet individuals often have little control over their health in high-risk situations. They emphasise the need for more collaboration between academics and health activists in the process evaluations of prevention programmes as a key means of advancing understandings of what constitutes a 'health-enabling community' (Tawil *et al.*, 1995).

The community level of analysis has been relatively neglected in HIV research. As stated above, the micro-social aspects of HIV have been well covered by psychologists, in a stream of scholarly studies linking sexual behaviour to properties of the individual (e.g. cognitive processes, perceived self-efficacy and perceived social norms). At the macro-social level, economists, anthropologists and sociologists have highlighted how poverty, gender inequalities and global capitalism shape the contexts within which the pandemic flourishes. Whilst both micro-social and macro-social perspectives contribute essential frames in the kaleidoscope of factors implicated in the development and persistence of HIV, little attention has been paid to the way in which these factors play out at the local community level.

This level of analysis is important because local communities are key mediators between the macro- and micro-social. They often form the contexts within which people negotiate their social and sexual identities, and often play a key role in enabling or constraining people to take control of their health. In playing this role, communities are profoundly structured by the broader economic and gendered relations of the wider societies in which they are located, and deeply implicated in the processes whereby these broader relations translate themselves into the most intimate areas of peoples' lives.

Social and health psychologists have traditionally tended not to conduct their research on health-related behaviours in the context of real-life health promotion or health policy efforts beyond the world of the academy (Marks, 1996; Waldo and Coates, 2000). However, within the burgeoning multidisciplinary HIV/AIDS literature, there are a growing number of studies - mostly conducted by social scientists, but outside of the frame of traditional disciplinary boundaries – which throw light on the way in which environmental factors impact on the success of health promotion programmes seeking to promote behaviour change. Below, we examine this literature on HIV prevention interventions among sex workers in less affluent countries. We do so in the interests of examining the extent to which it provides a starting point for social psychologists seeking to explicate the impact of social and community structures on HIV-related behaviours. We will argue that while this literature provides many illustrations of aspects of social and community life that undermine HIV prevention programmes, they tend to be descriptive rather than explanatory. Links between context and behaviour are described within their specific micro-contexts rather than explained in terms of generalisable principles of behaviour change, which could be extrapolated to inform the design and evaluation of other HIV-prevention work in other contexts. There is a dearth of attempts to establish theoretical frameworks that explain the psychological processes and mechanisms whereby environmental factors impact on the likelihood of behaviour change. We conclude with reference to current research into community-led HIV-prevention by South African sex workers which seeks to sketch out such a framework (Campbell, 2000; Campbell and Mzaidume, 2001, 2002). This research is located within the more general quest to develop a more critical social psychological approach to healthrelated behaviours, with particular reference to factors shaping the likelihood of condom use. Such a critical approach is motivated by an interest in taking account of, rather than masking, the extent to which behaviour is shaped by community and social relations which lie beyond the context of the individual level of analysis that preoccupies mainstream psychology (Marks, 1996).

Sex workers often have higher levels of HIV than the general population. This is not necessarily because they have multiple partners – correct and consistent condom use would protect them from infection. Rather it is due to a combination of factors. A UNAIDS report (2000) on HIV amongst sex workers in a range of low income settings worldwide identifies several common themes, linking HIV in sex workers to poverty, gender and other forms of social marginalisation. In low income countries, sex workers are often poor and lacking in formal education, and amongst the hardest groups to reach with prevention programmes. They lack the psychological and economic power to negotiate condom use with male clients. Where sex work is illegal or stigmatised, they may be unwilling or unable to access health care services – leading to untreated sexually transmitted infections (STIs), which increase the likelihood of HIV infection. Because they are often outside the protection of the law, they are particularly vulnerable to sexual coercion and rape. Within this context, sex workers provide a useful case for discussing how wider social contexts impact on HIV-transmission and prevention, and how community level factors mediate this impact.

HIV and commercial sex work

The WHO's Ottawa Charter for Health Promotion (1986) sets out the basic principles of health promotion, and provides a programmatic framework, against which we can evaluate our progress in research. The Charter views health as the outcome of intersecting community and social structures. It outlines five principles for health promotion: building healthy public policy; creating supportive environments; strengthening community action; developing personal skills; and re-orienting

health services. We use these principles to structure our review of the social science literature on HIV prevention amongst sex workers in less affluent countries. For this review, we searched the databases Medline and Social Sciences Citation Index for all papers, published since 1990, that focused on female sex workers in low income countries, and which presented descriptions of, or recommendations for, HIV prevention activities in this context. The resultant papers were analysed for their contributions to our understanding of the role of the Ottawa Charter principles in HIV prevention for sex workers. This was done in the interests of examining the extent to which research might inform an analysis of the links between social and community contexts and health-enhancing sexual behaviours. This health promotion literature is highly inter-disciplinary, so that it is inappropriate to categorise the papers according to traditional disciplinary boundaries. This inter-disciplinary quality has facilitated a broad and multifaceted view of health, enabling the full range of influences on health to come under scrutiny. However, without disciplinary theoretical commitments, this widening of the focus has typically stopped short of the theoretical development that would help us to think through the implications of the research in new contexts, and for the challenge of intervention design.

Building healthy public policy

This principle recognises the impact of institutional structures on health, such as taxation, policing and education systems. Health promotion needs to engage with policy makers in arenas that affect health both directly and indirectly. Thailand's '100% Condom Program' provides an example of public policy directly addressed to HIV prevention. Under this policy, brothel managers, local health clinics and police collaborate to monitor levels of STIs among sex workers, and enforce condom use, a strategy which appears to have successfully reduced the incidence of HIV (Rojanapithayakorn and Hanenberg, 1996). On the other hand, the criminalisation of sex work (and resultant police action) is an aspect of public policy with indirect effects on HIV prevention, and one that has received particular

attention in Asian countries. Fears of identification and possible arrest by police have prevented sex workers from welcoming or accessing HIV-prevention efforts in India (Bhave et al., 1995), Thailand (van Griensven et al., 1998) and Indonesia (Ford et al., 1996). These studies identify legislative and policing environments as important social structures impinging on sex workers' lives. However, where an intervention is guided by psychological models, police action is typically discussed as if it were an incidental event that happened to impede an otherwise unproblematic individual-level intervention.

One exception is Asthana and Oostvogels' (1996) evaluation of an intervention in Madras, India, which draws out the links between the macro-social legislative environment, the organisational structures of the sex trade, and the likelihood of condom use. Police target sex workers, encouraged by the criminalisation of sex work and the consequent potential for extortion. Vulnerable to police exploitation, sex workers rely on brothel managers and brokers ('pimps') to organise and control their working conditions. Fearful of identification as sex workers, they are unlikely to congregate in supportive groups. The resulting isolation and reliance on others to control the conditions of the sexual encounter limit women's abilities to protect their health. Through locating sex workers' behaviour within the context of local community settings, which are in turn shaped and constrained by the macro-social environment, Asthana and Oostvogels (1996) provide an important illustration of the role of local community interactions in mediating between the institutional policy environment and health-related behaviour.

Creating supportive environments

This Ottawa Charter principle refers to the importance of creating physical, organisational and social environments that enable and support healthy behaviour. An important stream of literature has highlighted the role of international and national politico-economic environments in structuring HIV risk (e.g. Farmer, 1992), identifying, at the broadest level, economic under-development, population mobility and gender inequalities as key environmental conditions

creating vulnerabilities to HIV (Parker *et al.*, 2000). For example, Beyrer's (2001) study in the Shan states of Burma analyses how the context of civil conflict and military government produces multiple vulnerabilities for Shan women and girls, leading to their being trafficked into the sex industry, and to high rates of HIV infection. Beyrer (2001) calls both for long-term, structural change through international pressure for political change in Burma, and for medium-term, community-based efforts to prevent trafficking and to empower women in the sex trade. Below, we focus on environments at the community level – on sex workers' working environments and their social normative environments.

Working environment

Frequent references are made to the control of sex workers' working conditions by more powerful others. In India (Asthana and Oostvogels, 1996; Jana et al., 1998) and the Philippines (Morisky et al., 1998; Tiglao et al., 1996), for example, a hierarchical organisation of the sex trade gives brothel managers or brokers great power to determine the conditions of a sex worker's sexual encounter. In a social cognition-based study in the Philippines, Sneed and Morisky (1998) found that brothel managers' support for condom use was a better predictor of actual condom use than a sex worker's own attitude or intention. Almost universally, the relative economic advantage of clients, compared to sex workers, enables clients to enforce a preference for unprotected sex, irrespective of the preference of the sex worker (e.g. Lau et al., 2002, in China; Abdool Karim et al., 1995, in South Africa).

Research articles which point to the limited power of sex workers often conclude by suggesting interventions that fail to engage with the roots of this powerlessness. Some suggest that programmes should seek to influence these powerful others to exert their power to promote more healthy behaviour (Fox et al., 1993; Wawer et al., 1996; van Griensven et al., 1998; Sedyaningsih-Mamahit, 1999). Others advocate the development of protective technologies, such as vaginal microbiocides, that do not require the co-operation of others (Laga et al., 1994; Tiglao et al., 1996; Kilmarx et al., 1998). Clearly such

measures have vital health-enhancing potential, and are a key step of prevention efforts. Indeed, in Zimbabwe, sex workers themselves wish for woman-controlled protection methods that might be used without the partner's knowledge (Ray et al, 2001). However, if we are to follow the Ottawa Charter principle, and create supportive working environments, rather than working within existing constraints, there is an urgent need to take these discussions one step further – through developing understandings and interventions that address the power relations in local settings.

Social normative environment

Anthropological perspectives have highlighted the inter-subjective and cultural character of people's sexual experience and behaviour, in opposition to the individual and cognitive view of sexual behaviour that has dominated the health psychology, and indeed, the HIV prevention literature (Parker, 2001). Consequently, the concept of 'social norms' has increasingly gained significance in the literature. For example, Varga's (2001) study in Durban, South Africa, emphasises that the different meanings, to sex workers, of sexual relationships with personal partners, and with clients, are associated with different condom use norms. In a context where condoms are associated with commercial sex, distrust and disease, their use in personal partnerships is symbolically inappropriate. Varga (2001) hopes that social norms may be changed so that condoms signify a social or emotional gain, rather than a loss of health, social standing, intimacy or love.

O'Reilly and Piot (1996) contrast the operation of social norms and of individual knowledge in their discussion of an evaluation of a sex worker intervention in Côte d'Ivoire, which was based on public community meetings (Kale *et al.*, 1994). In this intervention, condom use increased, although knowledge about STIs and HIV did not. O'Reilly and Piot (1996) suggest that behaviour change resulted from a change in the community norms surrounding condom use, generated by group meetings, rather than a change in individual possession of accurate knowledge. Social norms diffuse through communication networks. A study of an intervention in the Dominican Republic

showed that HIV-related norms diffused, following sex workers' mobility, from the intervention city to two neighbouring cities (Welsh et al, 2001). Such findings draw our attention to norms as community products, and remind us that norms are shared, not only within geographical community boundaries, but along mobile social networks.

Strengthening community action

The literature makes frequent reference to the difficulties of fulfilling this Ottawa Charter principle, in the conditions of extreme poverty that characterise the lives of many sex workers. They are often dependent on the income from each and every client they serve in a day. If a woman refuses a client who demands sex without a condom, he may simply take his business to another sex worker who will agree to his conditions. Under such constraints, the only way for women to gain more power over the terms of their sexual encounter is to collectively construct a unified code of safe sexual practice that, if all adhere, will improve the absolute level of health in the community. This is the reasoning behind repeated calls for developing means of increasing solidarity and unity among sex workers, in Zimbabwean (Wilson et al., 1990), South African (Abdool Karim et al., 1995) and Indian (Asthana and Oostvogels, 1996) contexts. Introducing further complexity, however, several authors in this area point out that the very same factors that make sex workers vulnerable to HIV infection (such as poverty) also present profound barriers to generating community action among sex workers whose relationships, due to economic circumstances, are often competitive and distrustful, rather than collaborative (Asthana and Oostvogels, 1996; Busza and Schunter, 2001; Varga, 2001).

Much work remains to be done in the conceptualisation of solidarity and how to increase it. Busza and Schunter (2001) describe an intervention for young, debt-bonded sex workers in Cambodia, which sought to generate a sense of shared identity and community as a first step to collective action on HIV prevention issues. The intervention made a safe and inviting space available for sex workers to gather

together, for formal skill-building and discussion activities, as well as informal socialising, with the priorities set by the sex workers themselves. The authors report that these methods brought some success in generating solidarity, but fear that the divergence of interests between the powerful brothel owners and sex workers may limit the potential of sex worker solidarity to generate fundamental health-enhancing change. Busza and Schunter's (2001) thoughtful paper draws attention to the complexity of community intervention, but its ability to inform work in other contexts would be increased with the addition of theoretical tools to conceptualise the processes at work in community change.

Developing personal skills

This principle targets the individual level of analysis, highlighting the role of psychological resources – including health-related information and inter-personal skills – to increase individuals' levels of control over their health and immediate environment. Backed by social cognition theories, the promotion of accurate knowledge about HIV transmission and prevention, and prevention skills, are seen as basic requisites of HIV prevention programmes with sex workers (e.g. Sneed and Morisky, 1998; Witte *et al.*, 1998). Verbal, pictorial and audio-visual aids are produced and distributed among sex workers to inform them about HIV, often accompanied by lectures and group discussions (e.g. in Bombay: Bhave *et al.*, 1995; in Indonesia: Ford *et al.*, 2002). Condom use and quality checking skills are taught, to minimise the likelihood of breakage or slippage.

The provision of the individual resources of knowledge and skills of this kind may be of limited use to individuals who lack the power to actively use them. The sexual encounter is also a social encounter, and for many sex workers in the developing world, it is an unequal social encounter. Thus, use of condoms depends upon client compliance. Consequently, promotion of inter-personal skills, such as assertiveness training and promotion of condom negotiation and client refusal skills, are often recommended (in Thailand: van Griensven et al., 1998; in Singapore: Lian et al., 2000). Here, the focus expands

to include the micro-social interaction within which commercial sex takes place. However, a micro-social focus limits the potential for a full understanding of the dynamics of HIV-related behaviour of sex workers. To treat client refusal as a matter of inter-personal communication skills fails to engage with the determining influence of economic marginalisation on sex workers' lives. All too often, they simply cannot afford to refuse an unco-operative client. Similarly, provision of negotiation skills, in the form of arguments to use with clients, does not guarantee that such skills can be put to use in the often male-dominated power relationship of the sexual encounter. Societal gender norms often severely limit the acceptability, to both men and women, of women asserting their preferences in a sexual encounter. A focus solely on the individual level of 'developing personal skills' fails to engage the wider societal structures.

Responding to the economic marginalisation of sex workers, Gysels et al. (2002) suggest expanding the types of skills promoted, beyond health-specific skills, to general economic and entrepreneurial skills. In their study of a Ugandan trading town, they find that those sex workers who have means of supplementing their income, through bar ownership (which is facilitated by entrepreneurial skills), have much greater control over their sexual encounters, and are able to negotiate good sexual deals with men, both financially and in terms of safer sex. As well as long-term measures to increase the economic and educational resources of women in Uganda, alternative income-generating activities, and associated entrepreneurial skills, are recommended as means of raising sex workers' economic power relative to men. Skillsbased interventions need to take account of the intersections between societal marginalisation, community capacity and individual competencies, intersections that demand social-psychological theoretical articulation.

Re-orienting health services

The final Ottawa Charter principle recommends reorienting health services so that they emphasise prevention as well as cure, are culturally sensitive and rest on a holistic understanding of health. One particularly important issue in the reorientation of services from treatment to prevention is the need for a new formulation of the time-frame of service operation. Whereas treatment activities may take place within a relatively short time-frame, with the steps of diagnosis, treatment and follow-up occurring in quick succession and with a clear indication that the activity has been completed, prevention activities may require a much more extended and slow-moving process. Ehrhardt and Exner (2000) found that interventions of longer duration were more likely to lead to a reduction in risk behaviour than shorter interventions. They encapsulate this finding in the concept of a 'minimal dosage threshold'. Drawing on a medical analogy, they propose that a certain amount of exposure to intervention is necessary for behaviour change to occur.

A small number of studies that reflect on the institutional context of prevention interventions have highlighted the extent of institutional support needed for effective prevention interventions. For example, Walden et al. (1999) document the progress of a nationwide peer education programme in Malawi which sought to train sex workers, who faced difficult and disrupted living and working conditions, to promote healthy behaviour and distribute condoms to their peers. Less than two years into the project, activities had ceased in many intervention sites. With ever-increasing demands on their time, and limited funding, district health management teams had to prioritise which projects should be supported, and in most cases, the sex worker project lost out. Without active institutional support, peer education efforts could not be sustained. Asthana and Oostvogels (1996) describe a similar problem in a peer education project in Madras, India. In this case, after design and initial piloting of a project by an external WHO consultant, management of the project was handed over to a local team. After a period of time, peer educators and affiliates of the project began to report a loss of interest in health promotional activities. The project's inability to sustain such interest was attributed, in part, to a lack of political leverage and project management expertise on the part of the management team.

These two examples highlight the vast resources of time and energy needed to maintain the momentum in a community-based project.

Rather than viewing behaviour change as analogous to medical treatment (as in the 'dosage' metaphor), where surgical excision or drug treatment quickly eliminates the source of the problem, this approach views behaviour change as a highly complex process, embedded in powerful social and institutional structures, and if services are to be reoriented to prevention, conceptual frameworks to capture this change process are urgently needed.

Worldwide, STI treatment services for sex workers form a key component of many HIV intervention programmes (e.g. in Thailand: Rojanapithayakorn and Hanenberg, 1996; in Bolivia: Levine et al., 1998; in Côte d'Ivoire: Ghys et al, 2001), with emphasis on the provision of appropriate and accessible local STI diagnosis and treatment services. A key factor shaping the behaviour of clinic attendance is the sensitivity of sex workers to the stigma associated with their profession, which may discourage them from accessing services associated specifically with sex work or with STIs, as Bhave et al. (1995) suggest from their research in Bombay. Moreover, experiences of discrimination or stigmatisation by health service staff serve as powerful disincentives for accessing services (Day and Ward, 1997).

Prevention services also confront issues of stigmatisation. Ford and Koetsawang (1999) highlight the aversion of Thai sex workers to prevention programmes that have implicitly blamed sex workers and relied on the fear-provoking consequences of negative messages about HIV/AIDS. They found that stigmatisation of sex work led to low selfesteem and self-efficacy among sex workers, decreasing their likelihood of attempting to protect themselves from HIV. In this context, an open, positive and non-judgemental prevention programme aimed to develop sex workers' sense of self-worth and self-respect and to encourage them to think about their future in positive terms. To this end, sex workers and project workers collaborated in the development and implementation of the intervention. The authors attribute the project's success as much to the non-judgemental ethos of their programme as to its formal content. Such studies point, firstly, to the relationship between societal stigmatising attitudes and the likelihood of behaviour change by sex workers, and secondly, to the ways in which health services mediate that relationship, either resisting or reiterating the stigmatisation, with profound impacts on sex workers' well-being.

More questions than answers?

Taken collectively, the research studies discussed above indicate the range of multi-level dimensions outlined in the Ottawa Charter's recommendations for health promotion. They provide a rich series of case studies of the ways in which various contextual factors may impact on the success HIV prevention programmes seeking to promote behaviour change amongst sex workers. However, whilst these case studies provide an important starting point, they also point to a series of challenges facing those seeking to conceptualise what constitutes a 'health-enabling community context'. While existing studies make frequent reference to the impact of social context on behaviour, such links tend to be asserted rather than explained. These studies tend to operate out of the context of explicitly articulated theoretical understandings of the mechanisms whereby community and social contexts impact on behaviour and on the possibility of behaviour change. Furthermore, these studies generally focus either on the psychological or on the community and social levels of analysis, and there is an urgent need for holistic research that seeks to pull together these levels of analysis within particular case studies.

These issues form the focus of a recent South African study which took the form of a longitudinal process evaluation of a community-led HIV-prevention programme by sex workers in the Summertown gold mining region near Johannesburg (Campbell, 2003). This study sought to address the challenges outlined above through its investigation of the way in which structural inequalities played out at the local community level in ways that undermined the possibility of behaviour change through participatory community-led peer education and condom distribution programmes. This academic research question was framed within the context of a more applied interest in the way in which the 'local community' level was an appropriate level at which to pitch participatory HIV-prevention. The latter question was framed within a more general concern about the

vagueness of the concept of 'community', and an interest in how best to define 'community' in such a way that it would serve as a useful conceptual tool for those seeking to implement 'community-led' approaches.

Community-level influences on HIV amongst sex workers in South Africa

This sex worker-led intervention was one small component of a larger community-led HIV-prevention intervention in the gold mining region of Summertown, which is home to about 200 000 people (including 70 000 migrant mineworkers). For the purposes of the project, the Summertown 'community' was defined in geographical terms.² It included a former white apartheid town, a large black township and a series of informal shack settlements and mine shafts, scattered over an area of 25 square kilometres. The intervention had three dimensions: control of STIs; community-led peer education and condom distribution; and local multi-stakeholder management (Campbell and Williams, 1999). Activities focused on mineworkers, commercial sex workers and young people, three groups living and working in particularly high risk situations for HIV infection. Initiated by a grassroots township grouping and some academics, a lengthy process of negotiation brought together a group of local 'stakeholders', including the township group, representatives of mine management, the trade unions, provincial and national government, and a multidisciplinary research team. This group set up a non-governmental organisation to run the project, and employed three full-time workers. Of these, the outreach co-ordinator was responsible for mobilising sex workers (more than half of whom were HIV-positive) to conduct community-led peer education and condom distribution programmes in a number of shack settlements. These included our case study settlement, located in a geographically isolated spot, housing 400 people in makeshift shacks without running water, sanitation or other amenities. Our three-year study took the form of a longitudinal process evaluation of the sex worker-led peer education and condom distribution programme in this settlement.

Conceptual framework

The research was conducted within the framework of Campbell and Jovchelovitch's (2000) 'social psychology of participation', which highlights the mechanisms underlying the impact of participatory community mobilisation on health-related behaviours. This framework moves beyond traditional social psychology's focus on the individual as the locus of behaviour change, in the interests of locating behaviour change at the level of the community. At the start of the Summertown Project, sex workers already had high levels of knowledge about the transmission of HIV and how to prevent it. However, a range of macro-social obstacles — mediated through local community relations—stood in the way of their desire to increase levels of condom use.

Within such a context, Campbell and Jovchelovitch (2000) argue that behaviour change cannot be expected to result merely from changes in individuals' HIV-related knowledge, attitudes and beliefs. Behaviour change needs to be conceptualised as a community-level phenomenon, involving changes in participants' social identities, their collective empowerment and their access to various forms of healthenhancing social capital.

Social identities play a key role in the reproduction or transformation of unequal social relations. Identities are constructed and reconstructed within a range of structural obstacles (e.g. gender, poverty) and symbolic constraints (e.g. social stigma) which may place limits on the extent to which people are able to construct images of themselves that adequately reflect their potentials and interests (Leonard, 1984). However, at particular historical moments, members of socially excluded groupings may come together to construct identities that challenge their marginalised status. In some circumstances, such identities may form the basis of collective action to improve peoples' material life circumstances or to raise the levels of recognition they receive from other social groups.

The possibility of collective behaviour change is enabled or constrained by the degree of *empowerment* of female sex workers to insist on condom use by reluctant male sexual partners. Community-led peer education seeks to empower participants in two ways. Firstly, it does this through taking health-related knowledge out of the hands

of experts, and placing it in the hands of lay people. This contributes to an enhanced sense of perceived self-efficacy and increases the likelihood that people will feel they have some control over their health (Bandura, 1986). Secondly, the use of properly implemented participatory educational approaches ideally enables participants to develop a critical awareness of the obstacles to behaviour change, and to collectively discuss ways in which these obstacles might be overcome (Freire, 1970, 1973). A crucial aspect of this involves debate and dialogue about the way in which factors such as poverty and gender undermine the likelihood of safer sexual behaviour. Such a 'critical consciousness' of the way in which social factors inhibit behaviour change would form the starting point for sex workers to engage in well-informed debate and reflection about the possibility of changing existing norms. This debate would also involve sex workers in 'brainstorming' scenario's for alternative ways of being. The mere provision of information about health risks is unlikely to lead to behaviour change – in the absence of peoples' active engagement in discussions of obstacles to change and of alternative behavioural possibilities (Campbell and MacPhail, 2002).

However, such debate and discussion about alternative ways of behaving is unlikely to bear fruit in the absence of efforts to develop community contexts that enable and support behaviour change. It is here that clarification of the concept of 'community' becomes vital. Many community-based health promotion projects use placebased definitions of community, aiming their efforts at members of marginalised social groupings living within particular geographical spaces. There is no doubt that local (geographically demarcated) communities are often the most convenient and practical targets for public health efforts. However, as our sex worker research continually highlighted, marginalised communities are often structured around within-community hierarchies of competing interest groups. Furthermore, local community relations are located within the context and dynamics of extra-community power relations, which exert a stranglehold on the degree of social change that can be effected at the local community level.

The concepts of bonding and bridging social capital provide a useful starting point for operationalising how different dimensions of community need to be targeted by HIV-prevention programmes.

Bonding social capital refers to trusting and co-operative relationships within homogenous peer groups, e.g. within particular sex worker groupings in particular geographical micro-locations. It is within the context of trusting and co-operative relations that marginalised groupings are most likely to develop the collective insights and motivation to change their behaviour. Bridging social capital refers to connections between diverse groups of local stakeholders, that might not otherwise have had contact, and whose collaboration increases the likelihood of programme success. An example here would be an alliance between the traditionally disparate groups of destitute women who sell sex to miners, and representatives of the powerful mining houses that employ sex workers' clients. They have a mutual interest in the promotion of condom use by mine workers, albeit for very different reasons. Multi-stakeholder collaboration is based on the assumption that HIV-transmission is too complex a problem to be solved by any single constituency, even more so by sex workers, the least powerful of social groupings.

This emphasis on the importance of bridges between constituencies with very diverse resources and access to power is consistent with Bourdieu's (1986) claim that unequal access to social capital is one of the key mechanisms whereby unequal power relations are perpetuated. Unless marginalised local groupings form alliances with more powerful constituencies at the local, national and international levels, the chances of the development of health-enabling community contexts are very limited (Campbell and Mzaidume, 2002).

Baseline research with sex workers

Baseline research conducted at the project's inception (Campbell, 2000) suggested that despite high levels of knowledge about the dangers of HIV, sex workers typically engaged in high-risk sex. The construction of gender — in the context of poverty, unemployment and violence — played a central role in undermining the likelihood of condom use. Mineworker clients, driven by macho notions of masculinity associated with high levels of risk taking and multiple sexual partners, were reluctant to use condoms (Campbell, 1997). Women lacked both the psychological and economic power to insist. At the economic level,

women could not afford to offend paying customers. Furthermore, the intensity of their competitive working conditions led to an atmosphere of conflict and jealousy amongst sex workers, which undermined the development of a united pro-condom front to customers. Women also lacked psychological power to assert themselves – both as women in a male-dominated context, and as members of a highly stigmatised profession, with little self-respect or respect from others.

In a context where a permanent relationship with an employed man was the most effective economic survival strategy, almost every sex worker cherished the secret hope that a customer would fall in love with her and set up home with her. This made women particularly vulnerable to unscrupulous men, who tricked them into having unpaid and unprotected sex with insincere promises of love.

Mobilising sex workers to participate in HIV prevention

What were the features of life in the local shack community that enabled or constrained the programme's success? The task of mobilising sex workers to lead a community-based HIV prevention programmes was a challenging one (Campbell and Mzaidume, 2001). In order to gain access to sex workers, the outreach co-ordinator had to negotiate with the shack settlement's un-elected male committee, which governed this highly marginalised community, but had few links with formal local government and more official sources of governance and control. This committee wielded power through the threat and use of violence. This raised the acute contradictions of having to collude with armed men, intent on preserving their absolute authority – in an HIV-prevention programme seeking to empower women to assert themselves in relationships with men. To gain access to the community, the co-ordinator had to continually reassure the committee that the programme would not breach their authority.

After a long process of consultation, sex workers elected 10 women to run the peer education programme. As uneducated and marginal ised people living in conditions of great violence and instability, sex workers had had little prior experience of collaborating in co-operative teams to meet mutually beneficial goals. In the early days of the programme, gossip and conflict plagued the peer education team. Much energy had to go into the personal and collective development of peer educators, working to generate codes of conduct around issues such as punctuality, sobriety at meetings and conflict negotiation. This effort was well-rewarded, with the 10 women coming to constitute an enthusiastic and reasonably united peer education team, distributing condoms to all sex workers, and organising a range of individual and group participatory activities to promote debate and discussion of sexual health issues.

Obstacles to programme success

Macro-social economic and gender inequalities and the stigmatisation of sex work translated into local community relations that undermined the likelihood of the collective identification and empowerment processes outlined above.

Jealousy

Despite the high levels of enthusiasm generated by the peer education activities, a range of obstacles remained to hinder programme success. The first of these was the jealousy that some ordinary sex workers developed of the peer educators. The latter were paid a monthly honorarium of R200 (~£20 or US \$30), which made them something of a social elite. This was due to their regular income, and to the fact that they were 'earning money from their brains rather than their bodies'. This envy caused some sex workers to actively seek to undermine the peer educators' success by refusing to attend meetings and through conducting an on-going back-biting campaign against the programme.

HIV prevention at odds with existing coping mechanisms

While some women were receptive to the peer educators' health warnings, and tried to use condoms where possible, there was also a hard

core of women, described by peer educators as 'stubborn', who responded with fatalism or denial. They either refused to believe that they were vulnerable to HIV or insisted that there was nothing they could do to protect themselves from HIV/AIDS. Having had little success in countering many problems in their lives, HIV/AIDS was simply one more problem about which they said they could do nothing. In the past, a sense of fatalism had served as an important coping mechanism for dealing with stressful situations in which they had little power. Yet it also served to undermine the likelihood of health-enhancing behaviour change.

Another ambiguously functional strategy that women had developed for coping with their difficult lives was the sale and use of alcohol. The sale of alcohol was a source of income, and the use of alcohol a way of blunting the most unpleasant aspects of their dangerous and unpleasant working and living conditions. On the other hand, alcohol undermined the likelihood of condom use.

One of the goals of the programme was to improve the image of sex workers through the establishment of an effective and respected community health programme – in which sex workers (formerly dismissed as unworthy of respect) played a valuable leadership role. However, due to the very low esteem in which sex work was held, many local women conducted their profession in secret, and as a result, took great pains to dissociate themselves from the peer educators and their activities. Whilst this process of voluntary exclusion played a role for these women in ensuring a sense of respectability, it also served to undermine their access to a potentially health-enhancing local resource (Campbell, 1998).

Local male resistance to the programme

Another key obstacle to programme success was the refusal of men to co-operate in its goals of increasing condom use – for a number of reasons. Many male residents in the shack settlement were unfamiliar with, and disapproving of, the notion of a women-led grouping, and did everything they could to discredit the programme. This was exacerbated by the fact that, as sex workers, these female leaders came

from the lowest social stratum. 'What is there that anyone could learn from a whore?' became something of a cliché amongst these men.

This group included many sex worker's regular boyfriends, who were contemptuous of condom-promotion activities. The likelihood of condom use in non-commercial relationships was further undermined by a norm where many sex workers sought to hide their work from their boyfriends — who in turn often chose to turn a blind eye to their girlfriends' stigmatised professional activities. Both partners often worked hard to promote the illusion of a monogamous relationship — which undermined the likelihood that either partner would insist on the use of condoms, with their social connotations of multiple partnerships.

Resistance by powerful 'stakeholders'

Sex workers attempts to use condoms in commercial encounters were further undermined by the continued unwillingness of many mineworker clients to co-operate. This is linked to the fact that in the first three years of the programme, in which this research was conducted, the broader Summertown Project did not succeed in implementing peer education amongst the vast majority of mine worker clients. Within the gold mining industry health promotion falls under the control of biomedical doctors. Given the predominance of the biomedical model in medical training and practice, many doctors tend to be unfamiliar with the social understandings of disease transmission and prevention that underlie the peer education approach. Within this context, they dismissed peer education as 'vague social science', and preferred to throw their energies into biomedical STI-control programmes. Such attitudes, combined with lack of mineworker trade union commitment to participating in project management, resulted in the project's peer education activities being conducted in a patchy and unsynchronised way. In our three-year research period, the majority of Summertown miners were not exposed to peer education, as outlined in the original project proposal. Yet it was male miners who held both economic and psychological power in encounters with female sex workers. Much remains to be learned

about the factors shaping the likelihood that powerful stakeholders will collaborate in partnerships with local communities in addressing social problems such as HIV-transmission. Much also remains to be learned about how to motivate such collaboration, in contexts where the problems affect members of marginalised communities who have little political or economic power or influence over more powerful stakeholders.

Conclusions

The sex worker case study outlined above sought to conceptualise sexual behaviour change as a community-level goal, moving beyond traditional social psychological models which recommend changing individual cognitions. The insight that community and macro-social relations often undermine the success of community development programmes is hardly a new one. However, much work remains to be done in developing social psychological frameworks capable of tracing the processes and mechanisms whereby such social relations are translated from the macro-social to the community level of analysis, influencing local relationships in ways that undermine the likelihood of behaviour change.

The Summertown sex worker research project conceptualised behaviour change as a process involving the collective re-negotiation of sex workers' sexual identities, their collective empowerment and the development of their critical consciousness of the obstacles to behaviour change. The study highlighted ways in which macro-social poverty, stigma and gender oppression shape daily life and social relations in ways that undermined the development of a sense of collective identity and critical empowerment of sex workers, and which served as obstacles to programme goals of increasing condom use. These macro-social relations played out in ways that resulted in divisions within the local shack community (both between sex worker residents, and between sex workers and other shack settlement residents). They also played out in ways that resulted in divisions between the interests of sex workers and the interests of more powerful constituencies in the immediate geographical surrounds of the shack settlement. A key

obstacle to programme success was the lack of interest by the local mining industry (which employs most of the sex workers' clients) in implementing parallel peer education programmes with mine worker clients, for example.

These multi-level conflicts of interest point to the vital need for HIV prevention theory and practice to operationalise the concept of local community to take account of the impact of internal and external conflicts of interest around which local communities are structured. If a sense of collective identity and collective critical empowerment are key social psychological processes underlying the possibility of behaviour change, programme designers need to design interventions in ways that take very specific account of the way in which local dynamics have the potential to impact on programme goals. Thus for example, at the local level, it cannot be assumed that sex workers constitute a homogenous group, who will be able or willing to work cooperatively towards collectively defined goals. Programmes also need to take account of the way in which the activities and interests of competing local interest groups – both within marginalised communities, and within more powerful local and national constituencies beyond micro-local community boundaries - have the power to enable or hinder programme goals. Very precise and self-conscious efforts need to be made to mobilise each of these constituencies, to implement health systems frameworks to pool their cumulative efforts, and to develop systems of incentives and accountability for monitoring and rewarding their efforts.

Too many HIV-prevention programmes continue simply to mobilise the participation of vulnerable groups (e.g. 'sex workers' or 'truck drivers' or 'young people') in HIV-prevention. This is done in the absence of systematic and self-conscious efforts to understand the social psychological processes and mechanisms whereby complex systems of power, social stigma and conflict of interest shape the likelihood of sexual behaviour change by these groups — and to develop measures which take account of these.

In summary, we hope that this chapter has achieved four goals. Firstly, we have sought to highlight the shortcomings of traditional social psychological explanations of behaviour as conceptual tools for the design and evaluation of HIV-prevention programmes. The

pandemic points to the urgency of developing frameworks that locate sexual health promotion at the community and social levels of analysis. Secondly, we have pointed to the strengths and weaknesses of the existing multidisciplinary social science literature into HIV prevention amongst sex workers for social psychologists seeking to address this challenge. The strengths lie in its illustration of some of the ways in which local community and macro-social relations and dynamics have had an impact on prevention efforts. Its weaknesses lie in the descriptive nature of many studies, and the lack of integrative theoretical frameworks outlining the general principles underlying the way in which such relations and dynamics have an impact on behaviours in ways that enable or constrain the possibility and likelihood of sexual behaviour change. Thirdly, we have provided an illustration of the way in which the Summertown sex worker research has sought to take up this challenge. It has sought to do this through its focus on the role of collective identities, critical thinking and empowerment in behaviour change, as well as its account of the way in which such processes are enabled or constrained by community and social relations. Finally, we hope to have highlighted the urgent need for further conceptual and empirical work in this area. As an increasing amount of global attention and energy focuses on the development of HIV/AIDS cures and vaccines, it is easy to forget that prevention must also be a key tool in the fight against HIV/AIDS, and how much remains to be learned about factors that promote or hinder prevention efforts. The challenge of conceptualising and developing health-enabling contexts – that enable poor people to take control of their health – has the potential not only to have an impact on HIV/AIDS, but also to strengthen individuals and communities in the face of a range of other threats to their health.

Notes

- Summertown is a pseudonym for the community where this work took place.
- 2. In practice, for pragmatic reasons, health promotional interventions almost always target their efforts at geographically defined communities. However, this geographical notion of 'community' is widely criticised in the academic

literature by those who argue that the essential defining feature of a 'community' is a sense of common identity amongst a group of actors, whether or not they live in the same geographical place (e.g. 'the gay community' or 'the Muslim community'; Barnes, 1997).

References

- Abdool Karim, Q., Abdool Karim, S. S., Soldan, K. and Zondi, M. (1995).
 Reducing the risk of HIV infection among South African sex workers:
 socioeconomic and gender barriers. American Journal of Public Health 85: 1521–1525.
- Asthana, S. and Oostvogels, R. (1996). Community participation in HIV prevention: problems and prospects for community-based strategies among female sex workers in Madras. *Social Science and Medicine* **43**: 133–148.
- Bandura, A. (1996). Self-efficacy in Changing Societies. Cambridge: Cambridge University Press.
- Barnes, M. (1997). Care, Communities and Citizens. London: Longman.
- Beeker, C., Guenther Gray, C. and Raj, A. (1998). Community empowerment paradigm and the primary prevention of HIV/AIDS. *Social Science and Medicine* **46**: 831–842.
- Beyrer, C. (2001). Shan women and girls and the sex industry in Southeast Asia: political causes and human rights implications. *Social Science and Medicine* **53**: 543–550.
- Bhave, G., Lindan, C. P., Hudes, E. S. *et al.* (1995). Impact of an intervention on HIV, sexually transmitted diseases, and condom use among sex workers in Bombay, India. *AIDS* **9**: S21–30.
- Bourdieu, P. (1986). The forms of capital. In *Handbook of Theory and Research* for the Sociology of Education, ed. J. Richardson, pp. 241–158. New York: Greenwood.
- Busza, J. and Schunter, B. T., (2001). From competition to community: participatory learning and action among young, debt-bonded Vietnamese sex workers in Cambodia. *Reproductive Health Matters* **9**: 72–81.
- Campbell, C. (1997). Migrancy, masculine identities and AIDS: the psychosocial context of HIV transmission on the South African gold mines. Social Science and Medicine 45: 273–281.
- Campbell, C. (1998). Representations of gender, respectability and commercial sex in the shadow of AIDS: a South African case study. *Social Science Information* **37**: 687–707.
- Campbell, C. (2000). Selling sex in the time of AIDS: the psycho-social context of condom use by southern African sex workers. Social Science And Medicine 50: 479–494.

- Campbell, C. (2003). 'Letting them die'? Why HIV prevention programmes often fail. Oxford: James Currey.
- Campbell, C. and Jovchelovitch, S. (2000). Health, community and development: towards a social psychology of participation. *Journal of Community and Applied Social Psychology* **10**: 255–270.
- Campbell, C. and MacPhail, C. (2002). Peer education, gender and the development of critical consciousness: participatory HIV prevention by South African youth. *Social Science and Medicine*. **55**: 331–345.
- Campbell, C. and Mzaidume, Y. (2001). Grassroots participation in health promotional projects: peer education and HIV prevention by sex workers in South Africa. *American Journal of Public Health* **91**: 1978–1987 (December).
- Campbell, C. and Mzaidume, Y. (2002). How can HIV be prevented in South Africa? A social perspective. *British Medical Journal* **324**: 229–232.
- Campbell, C. and Williams, B. (1999). Beyond the biomedical and behavioural: towards an integrated approach to HIV-prevention in the southern African mining industry. *Social Science and Medicine* **48**: 1625–1639.
- Conner, P. and Norman, P. (eds) (1995). Predicting Health Behaviour: Research and Practice with Social Cognition Models. Milton Keynes: Open University Press.
- Day, S. and Ward, H. (1997). Sex workers and the control of sexually transmitted disease. *Genitourinary Medicine* **73**:161–168.
- d'Cruz-Grote, D. (1996). Prevention of HIV infection in developing countries. Lancet **348**: 1071–1074.
- Ehrhardt, A. A. and Exner, T. M. (2000). Prevention of sexual risk behavior for HIV infection with women. *AIDS* **14**: S53–8.
- Farmer, P. (1992). AIDS and Accusation: Haiti and the Geography of Blame. Berkeley: University of California Press.
- Ford, K., Wirawan, D. N., Fajans, P., Meliawan, P., MacDonald, K. and Thorpe, L. (1996). Behavioral interventions for reduction of sexually transmitted disease/HIV transmission among female commercial sex workers and clients in Bali, Indonesia. *AIDS* **10**: 213–222.
- Ford, K., Wirawan, D. N., Reed, B., Muliawan, P. and Wolfe, R. (2002). The Bali STD/AIDS study: evaluation of an intervention for sex workers. *Sexually Transmitted Diseases* **29**: 50–58.
- Ford, N. and Koetsawang, S. (1999). A pragmatic intervention to promote condom use by female sex workers in Thailand. Bulletin of the World Health Organisation 77: 888–894.
- Fox, L. J., Bailey, P. E., Clarke-Martinez, K. L., Coello, M., Ordonez, F. and Barahona, F. (1993). Condom use among high-risk women in Honduras: evaluation of an AIDS prevention program. *AIDS Education and Prevention* **5**: 1–10.
- Freire, P. (1970). The Pedagogy of the Oppressed. London: Penguin.
- Freire, P. (1973). Education for Critical Consciousness. New York: Continnum.

- Ghys, P. D., Diallo, M. O., Ettiegne-Traore, V. et al. (2001). Effect of interventions to control sexually transmitted disease on the incidence of HIV infection in female sex workers. AIDS 15: 1421–1431.
- Gillies, P. (1998). Effectiveness of alliances and partnerships for health promotion. *Health Promotion International* **13**: 1–21.
- Gysels, M., Pool, R. and Nnalusiba, B. (2002). Women who sell sex in a Ugandan trading town: life histories, survival strategies and risk. *Social Science and Medicine* **54**: 179–192.
- Jana, S., Bandyopadhyay, N., Mukherjee, S., Dutta, N. and Saha, A. (1998). STD/HIV intervention with sex workers in West Bengal, India. AIDS 12: S101–S108.
- Kale, K., Gnaore, E., Mah-bi, G., Tawil, O., Tiemele, A. and Djadji, E. (1994).
 Evaluating a behavioural intervention in high risk settings in Abidjan, Cote d'Ivoire. Program and abstracts: Tenth International Conference on AIDS: International conference on STD in Yokohama, Japan 2: PB0741.
- Kilmarx, P., Limpakarnjanarat, K., Mastro, T. D. et al. (1998). HIV-1 seroconversion in a prospective study of female sex workers in northern Thailand: continued high incidence among brothel-based women. AIDS 12: 1889–1898.
- Laga, M., Alary, M., Nzila, N. et al. (1994). Condom promotion, sexually transmitted diseases treatment, and declining incidence of HIV-1 infection in female Zairian sex workers. Lancet 344: 246–248.
- Lau, J. T. F., Tsui, H. Y., Siah, P. C. and Zhang, K. L. (2002). A study on female sex workers in southern China (Shenzhen): HIV-related knowledge, condom use and STD history. AIDS Care 14: 219–233.
- Leonard, P. (1984). Personality and Ideology: Towards a Materialist Understanding of the Individual. Oxford: Blackwell.
- Levine, W. C., Revollo, R., Kaune, V. et al. (1998). Decline in sexually transmitted disease prevalence in female Bolivian sex workers: impact of an HIV prevention project. AIDS 12:1899–1906.
- Lian, W. M., Chan, R. and Wee, S. (2000). Sex workers' perspectives on condom use for oral sex with clients: a qualitative study. *Health Education and Behavior* 27: 502–516.
- MacPhail, C. and Campbell, C. (1999). Evaluating HIV-prevention programmes: Do current indicators do justice to advances in intervention? *South African Journal Of Psychology* **29**: 149–165.
- Marks, D. (1996). Health psychology and context. *Journal of Health Psychology* 1: 7–22.
- Morisky, D. E., Tiglao, T. V., Sneed, C. D. *et al.* (1998). The effects of establishment practices, knowledge and attitudes on condom use among Filipina sex workers. *AIDS Care* **10**: 213–220.
- O'Reilly, K. R. and Piot, P. (1996). International perspectives on individual and community approaches to the prevention of sexually transmitted disease and

- human immunodeficiency virus infection. Journal of Infectious Diseases 174: S214–S222.
- Parker, R. (2001). Sexuality, culture, and power in HIV/AIDS research. *Annual Review of Anthropology* **30**: 163–179.
- Parker, R., Easton, D. and Klein, C. (2000). Structural barriers and facilitators in HIV prevention: a review of international research. *AIDS* **14**: S22–S32.
- Ray, S., van de Wijgert, J., Mason, P., Ndowa, F. and Maposhere, C. (2001). Constraints faced by sex workers in use of female and male condoms for safer sex in urban Zimbabwe. *Journal of Urban Health* 78: 581–592.
- Rojanapithayakorn, W. and Hanenberg, R. (1996). The 100% condom program in Thailand. *AIDS* **10**: 1–7.
- Sedyaningsih-Mamahit, E. R. (1999). Female commercial sex workers in Kramat Tunggak, Jakarta, Indonesia. *Social Science and Medicine* **49**: 1101–1114.
- Sneed, C. D. and Morisky, D. E. (1998). Applying the theory of reasoned action to condom use among sex workers. *Social Behaviour and Personality* **26**: 317–328.
- Sumartojo, E. (2000). Structural factors in HIV prevention: concepts, examples, and implications for research. *AIDS* **14**: S3–S10.
- Tawil, O., Verster, A. and O'Reilly, K. (1995). Enabling approaches for HIV/AIDS promotion: can we modify the environment and minimise the risk? *AIDS* **9**: 1299–1306.
- Tiglao, T. V., Morisky, D. E., Tempongko, S. B., Baltazar, J. C. and Detels, R. (1996). A community PAR approach to HIV? AIDS prevention among sex workers. *Promotion and Education* III: 25–28.
- UNAIDS (2000). Gender and AIDS Almanac. Geneva: UNAIDS.
- van Griensven, G. J., Limanonda, B., Ngaokeow, S., Ayuthaya, S. I. and Poshyachinda, V. (1998). Evaluation of a targeted HIV prevention programme among female commercial sex workers in the south of Thailand. *Sexually Transmitted Infections* **74**: 54–58.
- Varga, C. A. (2001). Coping with HIV/AIDS in Durban's commercial sex industry. AIDS Care 13: 351–365.
- Walden, V. M., Mwangulube, K. and Makhumula-Nkhoma, P. (1999). Measuring the impact of a behaviour change intervention for commercial sex workers and their potential clients in Malawi. *Health Education Research* 14: 545–554.
- Waldo, C. R. and Coates, T. J. (2000). Multiple levels of analysis and intervention in HIV prevention science: exemplars and directions for new research. AIDS 14: S18–S26.
- Wawer, M. J., Podhisita, C., Kanungsukkasem, U., Pramualratana, A. and McNamara, R. (1996). Origins and working conditions of female sex workers in urban Thailand: consequences of social context for HIV transmission. *Social Science and Medicine* 42: 453–462.

- Welsh, M. J., Puello, E., Meade, M., Kome, S. and Nutley, T. (2001). Evidence of diffusion from a targeted HIV/AIDS intervention in the Dominican Republic. *Journal of Biosocial Science* **33**: 107–119.
- WHO. (1986). Ottawa Charter for Health Promotion. http://www.who.int/hpr/archive/docs/ottawa.html
- Wilson, D., Sibanda, B., Mboyi, L., Msimanga, S. and Dube, G. (1990). A pilot study for an HIV prevention programme among commercial sex workers in Bulawayo, Zimbabwe. Social Science and Medicine 31: 609–618.
- Witte, K., Cameron, K. A., Lapinski, M. K. and Nzyuko, S. (1998). A theoretically based evaluation of HIV/AIDS prevention campaigns along the trans-Africa highway in Kenya. *Journal of Health Communication* 3: 345–363.