



Associations between social network characteristics and HIV sexual risk behaviors among same-sex male couples in China

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Introduction

- Men who have sex with men (MSM) are a population bearing a disproportionate burden of HIV infection globally and current evidence shows that new HIV infections often occur from the primary partners among MSM.
- Obviously the frequent UAI within the relationship combined with the ignorance of his partner's HIV status put the HIV-negative partners at high risk of infection unconsciously.
- Social network theory believes that individual behavior can be affected by various social relationships and network structures. Researchers have applied social networks to AIDS research in the MSM population and found that social networks have an impact on the spread of HIV among MSM populations.
- The study was to investigate the associations between social network characteristics and HIV sexual risk behaviors of men who have sex with men (MSM) couples.

Methods

An egocentric social network study was conducted among 204 pairs of MSM couples (408 individual MSM) at an MSM peer friendly HIV testing clinic in Guangzhou, China. The two members of a couple were divided into the insertive role and receptive role according to their sexual role in the anal intercourse. The actor-partner interdependence model (APIM) was used to analyze the actor and partner effects of social network components (network relations, network structures, and network functions) on HIV sexual risk behaviors at the dyadic level.

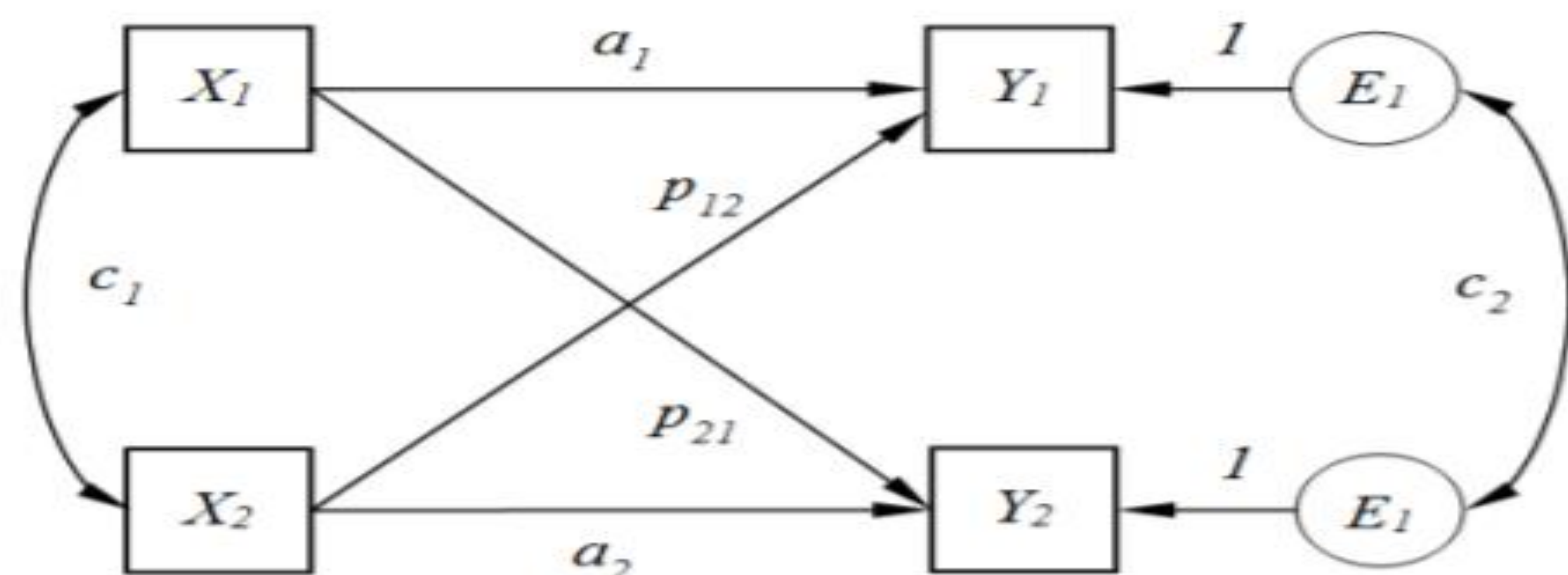


Fig. 1 The structure of APIM

Results

- In the past 3 months, 58.8% of the participants had UAI within the relationship; 10.3% had UAI outside the relationship; 8.1% had concurrent UAI (UAI within and outside the relationship).
- 408 egos nominated 854 alters, with 37.8% being their boyfriends. Among 408 egocentric social networks, the median (P25, P75) of social network size and density was 2.0(1.0,3.0) and 0.0(0.0,0.1) in network relations; the score of closeness and trust was 2.7(3.0,4.0) and 5.0(4.7,5.8) in network structures; the score of tangible support and emotional support was 12.0(10.0,14.0) and 12.5(10.4,14.3) in social support of network functions. The 408 egocentric social networks were sorted into 270 networks in which only boyfriends were included and 180 networks in which only non-boyfriends were included.
- The multivariate results revealed that non-boyfriends social network characteristics had more associated factors with HIV sexual risk behaviors than those from boyfriends. Only tangible and emotional support from boyfriends exerted negative effects on insertive role's UAI outside the relationship ($AOR_{actor} = 0.801$ and $AOR_{actor} = 0.828$). Other associated factors were all from non-boyfriends networks, and majority of these factors were associated with insertive role's HIV sexual risk behaviors, including the network density (concurrent UAI : $AOR_{actor} = 0.085$), the possibility of network members allowed their partners to have one night stay (UAI within the relationship: $AOR_{partner} = 0.631$; UAI outside the relationship: $AOR_{partner} = 2.364$; concurrent UAI: $AOR_{actor} = 6.730$), the possibility of network members insisted on condom use (UAI outside the relationship and concurrent UAI: $AOR_{actor} = 0.510$ and $AOR_{actor} = 0.259$), and the possibility of network members had UAI outside the relationship (UAI outside the relationship and concurrent UAI: $AOR_{actor} = 4.715$ and $AOR_{actor} = 8.673$). Factors associated with receptive role's HIV sexual risk behaviors included the degree of trust from network members (UAI outside the relationship and concurrent UAI: $AOR_{partner} = 3.793$ and $AOR_{partner} = 4.155$), tangible support from network members (UAI outside the relationship and concurrent UAI: $AOR_{partner} = 1.498$ and $AOR_{partner} = 1.690$), and the possibility of network members allowed their partners to have one-night stay (UAI outside the relationship: $AOR_{partner} = 2.290$), and the possibility of network members had UAI outside the relationship (concurrent UAI: $AOR_{partner} = 2.606$).

Conclusions

Both actor and partner effects of social network characteristics were found. Positive social norms were associated with less high-risk sexual behaviors. It is suggested that HIV intervention for MSM couples can be combined with the improvement of social norms.



Fig. 2 A cartoon promoting healthy gay sex.

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