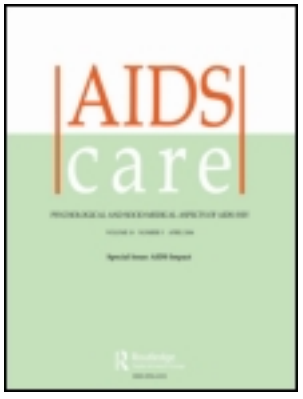

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Empathy and avoidance in treating patients living with HIV/AIDS (PLWHA) among service providers in China

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Empathy and avoidance in treating patients living with HIV/AIDS (PLWHA) among service providers in China

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This study aims to investigate health care providers' empathy levels and its association with avoidance in providing service to patients living with HIV/AIDS (PLWHA) in China. A total of 1760 health service providers were randomly sampled from 40 county hospitals in two provinces of China. Using a self-administered questionnaire, participants' demographic characteristics, work history, empathy level, and avoidance attitudes toward PLWHA were collected in a cross-sectional survey. Empathy was higher among participants aged 31–40 years, those who had an associated medical degree, and those who had served in the medical profession for less than 20 years. Nurses, younger providers, and providers with lower education tended to avoid contact with PLWHA. Multiple linear regression model showed that a higher level of empathic attitude toward patients was significantly negatively associated with avoidance attitude toward PLWHA. Service providers' empathy level plays an important role in providing quality care to HIV-infected patients. Future stigma reduction interventions should cultivate empathy as a platform for understanding, effective communication, and trusting provider–patient relationships. PLWHA could potentially benefit from attitudinal change in medical settings.

Keywords: empathy; HIV/AIDS; stigma; service provider

Introduction

HIV-related stigma is prevalent worldwide and greatly undermines public health efforts to combat the epidemic (Foreman, Lyra, & Breinbauer, 2003; Mahajan et al., 2008; Piot, 2006). Perceived stigma is associated with stress, depression, and lower perceived quality of life among people living with HIV/AIDS (PLWHA) (Simbayi et al., 2007; Venable, Carey, Blair, & Littlewood, 2006; Wingood et al., 2007). More directly, health service providers' stigmatizing attitudes and avoidance behaviors toward PLWHA discourage people from seeking HIV testing and counseling, participating in prevention programs, accessing HIV treatment, and adhering to antiretroviral therapies (Babalola, 2007; Chesney & Smith, 1999; Courtenay-Quirk, Wolitski, Parsons, & Gomez, 2006; Kang, Rapkin, & DeAlmeida, 2006; Lee, Kochman, & Sikkema, 2002; Murphy, Austin, & Greenwell, 2006; Rintamaki et al., 2006).

To start to address HIV-related stigma in health care settings, researchers have made efforts to understand its multiple origins. Factors contributing to stigmatizing and discriminatory responses among service providers include a lack of appropriate knowledge and training (Unger, Welz, & HaRan, 2002); the perception that HIV/AIDS is incurable (Herek, 1999; Skinner & Mfecane, 2004); insufficient institutional support and perceived societal discrimination against HIV (Li et al., 2008; Li, Liang, Lin, Wu, & Wen, 2009); lack of knowledge and supply of universal precautions and postexposure prophylaxis (Lin, Liang, Wu, Lin, & Wu, 2008; Wu et al., 2008); and legislative or policy gaps including health controls, quarantine, compulsory internment, and/or segregation in hospital etc. (Yang, Zhang, Chan, & Reidpath, 2005).

Empathy is defined in patient-care situations as a cognitive attribute that allows providers to understand and discuss a patient's inner experiences and perspective (Hojat et al., 2002). Empathy encapsulates sensitivity to both the informational and emotional aspects of provider–patient communication, so it is often seen as crucial to the effective achievement of patient satisfaction (Sudeh et al., 2008). Empathy has been linked to stigmatization and discrimination in health care (Hodgson, 2006; Webster, 2010). It has been demonstrated that taking the perspective of a stigmatized group member leads to increased empathy and positive attitudes toward the group as a whole (Batson et al., 1997; Galinsky & Moskowitz, 2000). Olapegba (2010) reports that a person who was highly empathic ordinarily would not be expected to

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stigmatize or discriminate against PLWHA, in comparison with someone with a lower level of empathy.

In China, the first HIV infection was detected in 1985. At the end of 2009, the estimated number of alive people living with HIV in the country was 740,000 (560,000–920,000). HIV prevalence among the general population was 0.057% (0.042–0.071%) (Ministry of Health China, 2010). The HIV/AIDS epidemic increases the demand for medical care in China. Despite the importance of provider empathy in medical care, empirical investigation on the topic is scarce in China. Empathy has long been recognized in Chinese culture, as Confucius said: "do not impose on others what you yourself do not desire." However, the concept has not been clearly identified in the medical education in China and often been confused with "sympathy" (Hsiao, Klimidis, Minas, & Tan, 2006; Huang, Tong, & Luo, 2011). This study aims to identify factors that are associated with the level of empathy among healthcare service providers in China. In addition, to examine if empathy can be translated into the service provided to PLWHA, we also investigated the association between empathy and HIV-related avoidance among these providers. It was hypothesized that providers' empathy levels would be associated with a lower level of avoidance attitudes to PLWHA at work.

Methods

Sample

Data were collected during October 2008 to December 2008 in two provinces in China: Yunnan and Fujian. Yunnan has the highest number of reported HIV infections in China. The majority of the reported cases in Yunnan had been infected through sharing of needles (Ministry of Health China, 2010). In contrast, Fujian is one of the provinces reporting the lowest HIV prevalence rate in China (Lu et al., 2006). HIV/AIDS cases in Fujian are spread mainly through unprotected sexual acts (Yan, Zheng, & Shao, 1999). We included the two provinces that represent China as a whole, due to the varied HIV rates and infection routes in diverse regions.

A two-stage sampling procedure was employed. The first stage was to select hospitals. After receiving administrative support from the Provincial Health Department, all county-level hospitals in the two participating provinces were listed, and 40 hospitals were randomly selected from a total of the 214 county hospitals. The hospitals were comparable in terms of numbers of providers, patient beds, and average patient visits. The second stage of sampling involved a random selection of service providers from each hospital. With the approval of the County Health Bureau and the hospital leadership, a publicly available hospital staff roster was obtained. A systematic sampling approach was applied within each hospital. To reflect the medical staff structure of a county hospital, for example, we set the sample ratio of doctors, nurses, and lab technicians at 5:4:1. Potential participants had to: (1) be at least 18 years old; (2) work at the participating hospitals; and (3) voluntarily agree to participate and sign the informed consent form. Forty-four service providers were randomly sampled from each of the 40 selected hospitals, resulting in a total of 1760 service providers in the study.

Data collection

To recruit participants, research staff approached the selected providers with standardized scripts to ensure all ethical issues were covered. Project staff explained the purpose of the study, procedures, potential risks and benefits, and obtained written informed consent from the participants before collecting data. All participating providers completed the paper–pencil questionnaire assessment independently in a private room, with a trained interviewer available to answer questions. Participants were compensated 50 yuan (US$ 7.50) for their time and efforts. All study documents and procedures were approved by the Institutional Review Board of the University of California, Los Angeles, and the Chinese Center for Disease Control and Prevention.

Measures

The questionnaire of the study was in Chinese. The measures adapted have gone through forward–backward translation procedure done by different translators. After the back-translation, the original and back-translated items were compared and divergence was corrected to more accurately reflect the intent of the wording in the original scale (Maxwell, 1996). All the scales used in this study have been tested in our pilot study to ensure clarity and cultural validity (Li et al., 2007a).

Empathy was measured with the short version of Jefferson Scale of Physician Empathy (Hojat et al., 2002). The scale is wildly used and proven to be a reliable and valid instrument for studying physician empathy (Tavakol, Dennick, & Tavakol, 2011).We adapted 11 items more appropriate for the Chinese setting from the original 20-item scale. These statements included:

(1) I try to imagine myself in my patients' shoes when providing health care to them.
(2) An important component of the relationship with my patients is my understanding of the emotional status of them and their families.
(3) I try to understand what is going on in my patients' minds by paying attention to their nonverbal cues and body language.
(4) I believe that empathy is an important factor in patient treatment.
(5) My patients feel better when I understand their feelings.
(6) Patients' illnesses can only be cured by medical treatment; therefore, affectionate ties to my patients cannot have a significant impact.
(7) I do not allow myself to be touched by intense emotional relationships with my patients and their family members.
(8) I believe that emotion has no place in the treatment of illness.
(9) Attentiveness to my patients' personal experiences is irrelevant to treatment effectiveness.
(10) It is difficult for me to view things from my patients' perspectives.
(11) My understanding of how my patients' and their families' feel is totally irrelevant from medical treatment.

Response categories ranged from (1) "strongly agree" to (5) "strongly disagree," and the overall scale was the sum of individual items. Some items were reverse-coded so that a higher score indicated a higher level of empathy. Cronbach's alpha for this scale was 0.85.

HIV-related avoidance was measured by providers' responses to a set of hypothetical situations they might encounter at work. The statement items, which were modified from Herek's work (1999), included providers' willingness to provide service in various situations involving potential contact with PLWHA:

(1) If HIV-positive patients visit the hospital, you are willing to provide all services needed.
(2) If you worked with HIV-positive patients, you would provide the same quality of care to them that you provide to other patients.
(3) If your superior asked you to do a physical examination of a known HIV-positive patient, you would be willing to do so.
(4) If you worked with HIV-positive patients, you would interact with them just like other patients.
(5) If you worked with HIV-positive patients, you would wish that you could change your job so that you would not have to deal with them.
(6) If you worked with HIV-positive patients, you would feel afraid to interact with them.
(7) If you were to choose between a Hepatitis B patient and an AIDS patient, you would select the former to provide service.
(8) If you were to choose between a leukemia patient and an AIDS patient, you would select the former to provide service.

The responses to each statement ranged from (1) "strongly agree" to (5) "strongly disagree". Some items were reverse-scored, with a higher score indicated a higher level of avoidance attitude toward providing service to PLWHA. The inter-item reliability of the scale is high (Cronbach's alpha = 0.84).

Demographic characteristics included each participant's gender, age, and years of medical education completed. Type of job (doctor, nurse, or lab technician), years at work, and weekly work hours were collected as occupational profile factors.

Data analysis

SAS statistical software (Version 9.1) was used for data analysis. First, we compared means of empathy and avoidance across levels of demographic characteristics and occupational profile factors. A p value was generated by using t test (for those independent variables with two levels) or ANOVA (for those independent variables with more than two levels). Subsequently, a linear regression model was applied to explore associations between covariates and the level of empathy and avoidance. The regression coefficients and their significant levels are reported.

Results

Table 1 summarizes the demographic characteristics and occupational profile of the participants. The majority of participants were women (67.5%). Participants in each of the age categories ($\leq$30 years, 31–40, and $\geq$41 years) were 29.1%, 42.5%, and 28.4%, respectively. About two-fifths (41.4%) of the participants reported completing a medical degree or higher level of education. Nearly half (49.2%) were doctors and 42.8% were nurses. Lab technicians and other type of providers comprised the remaining 8% of the sample. One-third (33.6%) of participants had served in medical profession for 10 years or less, 40.2% had served between 10–20 years, and the remaining 26.3% had served for more than 20 years. Nearly 40% of the providers on average worked 40 hours or less per week, 40.6% worked 41–55 hours weekly, and 20.2% worked 55 hours or more. The demographics of our participants were comparable to

Table 1. Level of empathy among healthcare providers by demographic characteristics and occupational profile ($N = 1760$).

	Percentage	Empathy score	p	Avoidance score	p
Gender			0.781		0.152
Female	67.5	46.00		18.67	
Male	32.5	45.93		18.36	
Age			<0.001		0.011
30 or younger	29.1	45.99		18.87	
31–40	42.5	46.40		18.22	
41 or older	28.4	45.32		18.78	
Education			<0.001		0.013
Associate medical degree or lower	22.1	45.01		19.04	
Associate medical degree	36.5	46.50		18.25	
Medical degree or higher	41.4	46.01		18.63	
Type of job			0.071		0.013
Doctor	49.2	46.09		18.39	
Nurse	42.8	45.99		18.89	
Lab technicians/others	8.0	45.15		17.97	
Years at work			0.002		0.731
10 years or less	33.6	46.21		18.51	
10–20 years	40.2	46.21		18.51	
More than 20 years	26.2	45.33		18.69	
Weekly work hours			0.402		0.816
40 hours or less	39.2	46.15		18.50	
41–55 hours	40.6	45.86		18.60	
55 hours or more	20.2	45.85		18.67	

the general service provider population in the country, according to 2010 statistics reported by the National Bureau of Statistics of China (2010).

Levels of empathy and avoidance attitude were compared across categories of each covariate. Participants aged 31–40 reported higher levels of empathy compared with participants of other age categories ($p \leq 0.001$). Empathy score was the highest among providers holding an associated medical degree ($p < 0.001$). Participants who had served in the medical field for less than 20 years (<10 years or between 10 and 20 years) exhibited a higher level of empathy ($p = 0.002$). Providers younger than 30 years were most likely to avoid contact with PLWHA ($p = 0.011$). A higher level of HIV-related avoidance was also reported among participants with lower education (lower than associated medical degree; $p = 0.013$). Lab technicians and other types of provider exhibited lower level of avoidance as compared to doctors and nurses ($p = 0.013$) probably due to lack of direct contact with patients.

After controlling for other covariates (Table 2), providers with more education exhibited a higher level of empathy ($p = 0.019$). A higher level of empathy was significantly associated with a lower level of avoidance among these providers ($p < 0.001$).

Discussion

In accord with the literature (e.g., Batson, 1991; Unger & Thumuluri, 1997), we confirmed the relationship between service providers' empathy toward patients and their willingness to serve HIV-positive patients. The empathy measured in this study viewed

Table 2. Multiple regressions on level of empathy and level of avoidance attitude among healthcare providers ($N = 1760$).

	Empathy score	p	Avoidance attitude	p
Male	−0.278	0.320	−0.236	0.328
Age	−0.082	0.119	−0.048	0.293
Years of education	0.138	0.019	0.035	0.495
Doctor	0.293	0.340	−0.217	0.413
Years in service	0.004	0.324	0.003	0.496
Weekly work hours	−0.016	0.065	0.008	0.291
Empathy	–	–	−0.350	<0.001

the patient in general, so the explanation goes beyond the care provided for PLWHA only. We demonstrated that service providers' increased empathy for general patients is associated with a higher intention to provide service to HIV- positive patients.

As a highly stigmatized group, PLWHA would benefit greatly from empathetic attitudes from service providers. Providers who develop an empathetic understanding may see patients as more palpable and therefore perceive their needs and demands as more reasonable. Empathy fosters effective communication and a sense that the patient is understood and accepted (Birhanu, Assefa, Woldie, & Morankar, 2010; Brown & Bennett, 2010; Lahti, Tuutti, Hausen, & Kaariainen, 1995). Language and non-verbal cues such as smiles, full attention, and sitting on the same level all convey an important message of caring and empathy (Birhanu et al., 2010). Empathy benefits both service providers and patients: for the patient, interaction with an empathetic health care worker may serve to enhance their sense of self and to relieve anxiety and shame (Zinn, 1993). From a doctor's perspective, respectful communication will help support patients to disclose their disease status, which in turn will help providers to adopt the appropriate self-protective measures.

It is important to understand a patient's suffering shaped by cultural values. In China, family is an important source of social support to individuals with HIV/AIDS (Li et al., 2007b). Therapy emphasizing patients' autonomy may be culturally inappropriate since the Chinese concept of self is embedded in family and social relationships (Chung, Bemak, & Kilinc, 2002). When providing treatment and care to HIV-positive patient, service provider should not only recognize the disease from the perspective of the patient as an individual, but also consider their filial piety social role and cultural values. It is suggested that service providers should express empathy in a culturally sensitive manner, showing understanding of the cultural issues related to patients' distress (Hsiao et al., 2006).

Although many standards and codes of practice refer to the importance of empathy in medical settings, it is often overlooked in medical practice (Price, Spencer, & Walker, 2008). Some researchers have argued that the incorporation of empathy in medical setting will dissuade physicians from having a dispassionate view of patients, therefore interfering with objective scientific decision-making (Bridget & Wohlers, 2010). Such skepticism is unwarranted, as a large body of literature shows that positive clinical outcomes are associated with the quality of the doctor–patient relationship and doctor–patient communication, and that empathy enhances both (Blatt, LeLacheur, Galinsky, Simmens, & Greenberg, 2010; Verheul, Sanders, & Bensing, 2010; Weng et al., 2011). On the other hand, doctors who reported a loss of empathy subsequently showed an increased rate of major medical errors (West et al., 2006).

This study has implications for stigma-reduction interventions. Early intervention and training programs among service providers mainly focus on correcting misconceptions and improving knowledge (Buskin, Li, Yin, Yu, & McGough, 2002; Wu et al., 2002). However, having identified the important role of empathy in reducing stigmatized behavior, attitudinal change intervention should be given priority to reduce HIV-related stigma and its correlated avoidance behavior in health care settings. There are many ways to induce and enhance empathy, including training in communication skills and education in the medical humanities (Haslam, 2007). Parker and Aggleton (2003) have developed a theory to increase empathy and altruism, primarily by providing correct information and psychological skills to more effectively manage the emotional responses that are unleashed by HIV and AIDS. Personal contact with PLWHA, either through face-to-face conversations or hearing a testimonial from affected individuals, would demystify and dispel misinformation and generate empathy, which in turn would reduce stigma and avoidance in treating PLWHA (Brown, Macintyre, & Trujillo, 2003; Markham et al., 2000). Lueveswanij, Nittayananta and Robinson (2000) have demonstrated that by engaging in interviews with PLWHA, health care personnel exhibited increased knowledge, positive attitudes and higher willingness to provide services for PLWHA.

Our data also indicate that empathy attitudes vary across different sub-groups of service providers. The level of empathy tend to decline with the duration of medical service. The finding was supported by previous studies that the loss of empathy can possibly be attributed to burnout (Neumann et al., 2011; Rosen, Gimotty, Shea, & Bellini, 2006). In other words, emotional fatigue is linked to a self-protective disengagement from people's suffering and the tendency to depersonalize patients (Haslam, 2007). Providers who have experienced major medical errors also tend to lose empathy (West, 2007). It has been suggested that remedying burnout and increasing well-being among service providers is accompanied by a higher level of empathy (Shanafelt et al., 2005). In our study, providers who had an associate's degree or lower medical education were likely to be less empathetic. The participant between 31 and 40 years of age showed highest empathy level and lowest avoidance at work, since most of the highly educated service provider with relatively short duration of medical

services fell into this age category. It is recommend that empathy be inculcated and assessed at all levels of medical education. In general, medical schools should emphasize the importance of taking patients' perspectives (Hojat, Gonnella, Mangione, Nasca, & Magee, 2003).

The study has several limitations. First, the cross-sectional design of this study limits our ability to make causal inferences. Second, self-reported data might be subject to social-desirability bias. Third, the variation in empathy and avoidance measures is low. Despite these limitations, our findings clearly identified an essential link between empathy and avoidance in treating PLWHA in health care settings. This information contributes to the design and implementation of future training and intervention programs among service providers in China.

References

Babalola, S. (2007). Readiness for HIV testing among young people in Northern Nigeria: The roles of social norm and perceived stigma. *AIDS and Behavior*, *11*, 759–769.

Batson, C.D. (1991). *The altruism question: Toward a social psychological answer*. Hillsdale, NJ: Lawrence Erlbaum.

Batson, C.D., Polycarpou, M.P., Harmon-Jones, E., Imhoff, H.J., Mitchener, E.C., Bednar, L.L., ... Highberger, L. (1997). Empathy and attitudes: Can feeling for a member of a stigmatized group improve feelings toward the group? *Journal of Personality and Social Psychology*, *72*, 105–118.

Birhanu, Z., Assefa, T., Woldie, M., & Morankar, S. (2010). Determinants of satisfaction with health care provider interactions at health centres in central Ethiopia: A cross sectional study. *BMC Health Service Research*, *10*, 78.

Blatt, B., LeLacheur, S.F., Galinsky, A.D., Simmens, S.J., & Greenberg, L. (2010). Does perspective-taking increase patient satisfaction in medical encounters? *Academic Medicine*, *85*(9), 1445–1452.

Bridget, C., & Wohlers, G.N.P. (2010). Empathy: Provider friend or foe? *Journal of Palliative Medicine*, *13*(5), 611.

Brown, M., & Bennett, C. (2010). Motivational interviewing and concordance with antiretroviral therapy. *Nursing Standard*, *25*, 51–56.

Brown, L., Macintyre, K., & Trujillo, L. (2003). Interventions to reduce HIV/AIDS stigma: What have we learned? *AIDS Education and Prevention*, *15*(1), 49–69.

Buskin, S.E., Li, L., Yin, H., Yu, T., & McGough, J.P. (2002). HIV/AIDS knowledge and attitudes in Chinese medical professionals and students before and after an informational lecture on HIV/AIDS. *Journal of Public Health Management and Practice*, *8*(6), 38–43.

Chesney, M.A., & Smith, A.W. (1999). Critical delays in HIV testing and care: The potential role of stigma. *American Behavioral Scientist*, *42*, 1162–1174.

Chung, R.C.Y., Bemak, F., & Kilinc, A. (2002). Culture and empathy: Case studies in cross-cultural counselling. In P.R. Breggin, G. Breggin, & F. Bemak (Eds.), *Dimensions of empathic therapy* (pp. 119–128). New York, NY: Springer Publishing Company.

Courtenay-Quirk, C., Wolitski, R.J., Parsons, J.T., & Gomez, C.A. (2006). HIV-seropositive gay and bisexual men's perception of HIV-related stigma in the gay community. *AIDS Education and Prevention*, *18*, 56–67.

Foreman, M., Lyra, P., & Breinbauer, C. (2003). *Understanding and responding to HIV/AIDS-related stigma and discrimination in the health sector*. Washington, DC: Pan American Health Organization.

Galinsky, A., & Moskowitz, G. (2000). Perspective-taking: Decreasing stereotype expression, stereotype accessibility, and in-group favoritism. *Journal of Personality and Social Psychology*, *78*, 708–724.

Haslam, N. (2007). Humanising medical practice: The role of empathy. *Medical Journal of Australia*, *187*(7), 381–382.

Herek, G. M. (1999). AIDS and stigma: 1999 Survey items. Retrieved from psychology.ucdavis.edu/rainbow/html/Stigma_items_99.pdf

Hodgson, I. (2006). Empathy, inclusion and enclaves: The culture of care of people with HIV/AIDS and nursing implications. *Journal of Advanced Nursing*, *55*, 283–290.

Hojat, M., Gonnella, J., Mangione, S., Nasca, T.J., & Magee, M. (2003). Physician empathy in medical education and practice: Experience with the Jefferson scale of physician empathy. *Seminars in Integrative Medicine*, *1*(1), 25–41.

Hojat, M., Gonnella, J., Nasca, T., Mangione, S., Vergare, M., & Magee, M. (2002). Physician empathy: Definition, components, measurement, and relationship to gender and specialty. *American Journal of Psychiatry*, *159*, 1563–1569.

Hsiao, F.H., Klimidis, S., Minas, H., & Tan, E.S. (2006). Cultural attribution of mental health suffering in Chinese societies: The views of Chinese patients with mental illness and their caregivers. *Journal of Clinical Nursing*, *15*(8), 998–1006.

Huang, Z.J., Tong, W.F., & Luo, Q. (2011). Application of "Empathy" in building of a harmonious doctor-patient relationship in surgery. *Zhong Guo Yi Yuan*, *6*, R197.3.

Kang, E., Rapkin, B.D., & DeAlmeida, C. (2006). Are psychological consequences of stigma enduring or transitory? A longitudinal study of HIV stigma and distress among Asians and Pacific islanders living with HIV illness. *AIDS Patient Care and STDs*, *20*, 712–723.

Lahti, S., Tuutti, H., Hausen, H., & Kaariainen, R. (1995). Opinions of different subgroups of dentists and patients about the ideal dentist and the ideal patient. *Community Dentistry and Oral Epidemiology*, *23*, 89–94.

Lee, R.S., Kochman, A., & Sikkema, K.J. (2002). Internalized stigma among people living with HIV/AIDS. *AIDS and Behavior*, *6*, 309–319.

Li, L., Liang, L.J., Lin, C., Wu, Z., & Wen, Y. (2009). Individual attitudes and perceived social norms: Reports on HIV/AIDS-related stigma among service providers in China. *International Journal of Psychology*, *44*(6), 443–450.

Li, L., Liang, L.J., Wu, Z.Y., Lin, C., & Wu, S. (2008). Institutional support for HIV/AIDS Care in China: A multilevel analysis. *AIDS Care*, *20*(10), 1190–1196.

Li, L., Sun, S., Wu, Z., Wu, S., Lin, C., & Yan, Z. (2007b). Disclosure of HIV status is a family matter: Field notes from China. *Journal of Family Psychology*, *21*(2), 307–314.

Li, L., Wu, Z., Wu, S., Zhao, Y., Jia, M., & Yan, Z. (2007a). HIV-related stigma in health care settings: A survey of service providers in China. *AIDS Patient Care and STDs*, *21*(10), 753–762.

Lin, C., Li, L., Wu, Z., Wu, S., & Jia, M. (2008). Occupational exposure to Human Immunodeficiency Virus (HIV) among health care providers: A qualitative study in Yunnan, China. *Journal of the International Association of Physicians in AIDS Care*, *7*(1), 35–41.

Lu, F., Wang, N., Wu, Z.Y., Sun, X., Rehnstrom, J., Poundstone, K., ... Pisani, E. (2006). Estimating the number of people at risk for and living with HIV in China in 2005: Methods and results. *Sexually Transmitted Infections*, *82*, 87–91.

Lueveswanij, S., Nittayananta, W., & Robinson, V.A. (2000). Changing knowledge, attitudes and practices of Thai oral health personnel with regard to AIDS: An evaluation of an educational intervention. *Community Dental Health*, *17*, 165–171.

Mahajan, A.P., Sayles, J.N., Patel, V.A., Remien, R.H., Sawires, S.R., Ortiz, D.J., ... Coates, T.J. (2008). Stigma in the HIV/AIDS epidemic: A review of the literature and recommendations for the way forward. *AIDS*, *22*(Suppl. 2), S67–S79.

Markham, C., Baumler, E., Richesson, R., Parcel, G., Basen-Engquist, K., Kok, G., & Wilkerson, D. (2000). Impact of HIV-positive speaker in a multicomponent, school-based HIV/STD prevention program for inner-city adolescents. *AIDS Education and Prevention*, *12*(5), 442–454.

Maxwell, B. (1996). Translation and cultural adaptation of the survey instruments. In M.O. Martin & D.L. Kelly (Eds.), *Third International Mathematics and Science Study (TIMSS) technical report, Volume I: Design and development*. Chestnut Hill, MA: Boston College.

Ministry of Health China. (2010). *China 2010 UNGASS country progress report (2008–2009)*. Retrieved from http://data.unaids.org/pub/Report/2010/china_2010_country_progress_report_en.pdf

Murphy, D.A., Austin, E.L., & Greenwell, L. (2006). Correlates of HIV-related stigma among HIV-positive mothers and their uninfected adolescent children. *Women and Health*, *44*, 19–42.

National Bureau of Statistics of China. (2010). *China statistics yearbook, 2004*. Retrieved from http://www.stats.gov.cn/tjsj/ndsj

Neumann, M., Edelhäuser, F., Tauschel, D., Fischer, M.R., Wirtz, M., Woopen, C., ... Scheffer, C. (2011). Empathy decline and its reasons: A systematic review of studies with medical students and residents. *Academic Medicine*, *86*(8), 996–1009.

Olapegba, P.O. (2010). Empathy, knowledge, and personal distress as correlates of HIV/AIDS-related stigmatization and discrimination. *Journal of Applied Social Psychology*, *40*, 956–969.

Parker, R., & Aggleton, P. (2003). HIV and AIDS-related stigma and discrimination: A conceptual framework and implications for action. *Social Science & Medicine*, *57*(1), 13–24.

Piot, P. (2006). AIDS: From crisis management to sustained strategic response. *Lancet*, *368*, 526–530.

Price, R., Spencer, J., & Walker, J. (2008). Does the presence of medical students affect quality in general practice consultations? *Medical Education*, *42*, 374–381.

Rintamaki, L.S., Davis, T.C., Skripkauskas, S., Bennett, C.L., & Wolf, M.S. (2006). Social stigma concerns and HIV medication adherence. *AIDS Patient Care and STDs*, *20*, 359–368.

Rosen, I.M., Gimotty, P.A., Shea, J.A., & Bellini, L.M. (2006). Evolution of sleep quantity, sleep deprivation, mood disturbances, empathy, and burnout among interns. *Academic Medicine*, *81*, 82–85.

Shanafelt, T.D., West, C., Zhao, X., Novotny, P., Kolars, J., Habermann, T., & Slogan, J.A. (2005). Relationship between increased personal well-being and enhanced empathy among internal medicine residents. *Journal of General Internal Medicine*, *20*, 559–564.

Simbayi, L.C., Kalichman, S., Strebel, A., Cloete, A., Henda, N., & Mqeketo, A. (2007). Internalized stigma, discrimination, and depression among men and women living with HIV/AIDS in Cape Town, South Africa. *Social Science & Medicine*, *64*(9), 1823–1831.

Skinner, D., & Mfecane, S. (2004). Stigma, discrimination and the implications for people living with HIV/AIDS in South Africa. *SAHARA Journal*, *1*(3), 157–164.

Sudeh, C.-S., Hole, A.R., Mead, N., McDonald, R., Whalley, D., Bower, P., & Roland, M. (2008). What patients want from primary care consultations: A discrete choice experiment to identify patients' priorities. *Annals of Family Medicine*, *6*, 107–115.

Tavakol, S., Dennick, R., & Tavakol, M. (2011). Psychometric properties and confirmatory factor analysis of the Jefferson Scale of Physician Empathy. *BMC Medical Education*, *11*(1), 54.

Unger, L.S., & Thumuluri, L.K. (1997). Trait empathy and continuous helping: The case of voluntarism. *Journal of Social Behavior and Personality*, *12*, 785–800.

Unger, A., Welz, T., & HaRan, D. (2002). *The impact of HIV/AIDS on health care staff at a rural South African hospital, 1990–2001*. Paper presented at the XIV International AIDS conference, Barcelona, Spain.

Venable, P.A., Carey, M.P., Blair, D.C., & Littlewood, R.A. (2006). Impact of HIV-related stigma on health behaviors and psychological adjustment among

HIV-positive men and women. *AIDS and Behavior*, *10*(5), 473–482.

Verheul, W., Sanders, A., & Bensing, J. (2010). The effects of physicians' affect-oriented communication style and raising expectations on analogue patients' anxiety, affect and expectancies. *Patient Education and Counselling*, *80*(3), 300–306.

Webster, D. (2010). Promoting empathy through a creative reflective teaching strategy: A mixed-method study. *Journal of Nursing Education*, *49*(2), 87–94.

Weng, H.C., Steed, J.F., Yu, S.W., Liu, Y.T., Hsu, C.C., Yu, T.J., & Chen, W. (2011). The effect of surgeon empathy and emotional intelligence on patient satisfaction. *Advances in Health Sciences Education Theory and Practice*, doi: 10.1007/s10459-011-9278-3

West, C. P., Huschka, M.M., Novotny, P.J., Sloan, J.A., Kolars, J.C., Habermann, T.M., & Shanafelt, T.D. (2006). Association of perceived medical errors with resident distress and empathy: A prospective longitudinal study. *Journal of American Medical Association*, *296*, 1071–1078.

Wingood, G.M., DiClemente, R.J., Mikhail, I., McCree, D.H., Davies, S.L., Hardin, J.W., … Saag, M. (2007). HIV discrimination and the health of women living with HIV. *Women & Health*, *46*(2–3), 99–112.

Wu, Z., Detels, R., Ji, G., Xu, C., Rou, K., Ding, H., & Li, W. (2002). Diffusion of HIV/AIDS knowledge, positive attitudes, and behaviors through training of health professionals in China. *AIDS Education and Prevention*, *14*(5), 379–390.

Wu, S., Li, L., Wu, Z., Cao, H., Lin, C., Yan, Z., … Cui, H. (2008). Universal precautions in the era of HIV/AIDS: Perception of health service providers in Yunnan, China. *AIDS and Behavior*, *12*(5), 806–814.

Yan, Y., Zheng, Z., & Shao, Y. (1999). Analysis on the epidemic characterization and trend of AIDS in Fujian Province. *Zhonghua Liu Xing Bing Xue Za Zhi*, *20*(1), 23–26.

Yang, Y., Zhang, K.-L., Chan, K.Y., & Reidpath, D.D. (2005). Institutional and structural forms of HIV-related discrimination in health care: A study set in Beijing. *AIDS Care*, *17*(Suppl. 2), S129–S140.

Zinn, W. (1993). The empathic physician. *Archives of Internal Medicine*, *153*, 306–312.