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A Dyadic Qualitative Analysis

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Communal or autonomous? Coping experiences of Chinese serodiscordant male couples to HIV care: A dyadic qualitative analysis

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Declarations

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Conflicts of interest/Competing interests

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Ethical approval

This study was performed in line with the principles of the Declaration of Helsinki. Approval was granted by the Ethics Committee of City University of Hong Kong (Reference No.: 21-2021-24-F).

Consent

Informed consent was obtained from all individual participants included in the study.

Availability of data and material

Our data are not publicly available as they contain sensitive information that could compromise privacy of research participants. The data supporting this study's findings can be available on request from the corresponding author.

Code availability

N/A

CRedit authorship contribution statement

Rong Fu: Conceptualization, Methodology, Investigation, Formal Analysis, Software, Data Curation, Writing-Original Draft, and Writing-Review & Editing.

Chen Chen: Formal Analysis, Software, and Writing-Review and Editing.

Yuzhou Gu: Resources and Project Administration.

Dan Wu: Writing-Review and Editing.

Lynae A. Darbes: Writing-Review and Editing.

Nancy Xiaonan Yu: Supervision, Writing-Review and Editing, and Funding acquisition.

**Communal or autonomous? Coping experiences of Chinese serodiscordant male couples to
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Abstract

Limited empirical evidence exists on the interpersonal challenges faced by Chinese serodiscordant male couples in HIV care. This study aimed to explore their coping experiences in HIV care by applying the communal coping process theoretical framework. A dyadic qualitative study using face-to-face interviews with 20 serodiscordant male couples ($n = 40$) was conducted between July and September 2021 in two Chinese metropolitan areas through purposive sampling. Eligibility included one partner living with HIV and the other being HIV-negative, both aged 18 or older, born male, gay or bisexual, and in a relationship together for at least 3 months. A hybrid deductive-inductive approach integrated with dyadic interview analysis and framework method was used for data analysis. We identified three themes in the coping process in HIV care: (1) coping as an autonomous process, (2) coping as a dissonant process, and (3) coping as a contextualized communal process. Concerning autonomous coping, most couples adopted either disengaged avoidance or mutual noninvolvement as negative coping strategies. We also identified potential risk factors for dissonant coping, which are a partner living with internalized HIV stigma and the couple's asymmetric relationship goals. Our results indicate the communal coping process of HIV care is contextual, and our expansion of the communal coping theory sheds light on how serodiscordant male couples cope with stressors connected to HIV care. Our findings provide theoretical insights for the development of dyadic interventions based on health psychology for Chinese serodiscordant male couples to engage in HIV care.

Keywords: HIV, Care Engagement, Male Couple, Coping, Qualitative Research

Introduction

In China, men who have sex with men (MSM) living with HIV confront several barriers to HIV care, including the psychological burden of self-care and HIV treatment (individual barriers) and social-structural barriers such as HIV stigma from healthcare providers (Liu et al., 2016). They may also experience interpersonal issues. Previous research in Western countries identified HIV transmission as a health threat for MSM living with HIV and their HIV-negative male partners (i.e., serodiscordant male couples; Bavinton et al., 2015; Moreau-Gruet et al., 2001) impacting their intimate relationships (Palmer & Bor, 2001; Talley & Ann Bettencourt, 2010).

Researchers posit that self-care for chronic illness is a dyadic process shaped by interpersonal interactions, particularly by the appraisal of illness as a shared stressor and collaboration between patients and their healthy partners (Afifi et al., 2020; Badr & Acitelli, 2017; Berg & Upchurch, 2007; Lyons & Lee, 2018). Helgeson et al.'s communal coping process framework (2018) provides a theoretical foundation to study couples' adaptation to chronic illness. The communal coping theory of chronic illness adjustment proposes that couples facing a shared stressor, such as chronic illness, can benefit from a collaborative approach in which they perceive the stressor as shared and actively cooperate to manage it (Helgeson et al., 2018). The framework is based on shared illness appraisals and collaboration, allowing support interactions to evolve into collaboration within the context of shared illness appraisal. Empirical evidence shows that communal coping promotes physical health, well-being, and relationship satisfaction for patients and partners adapting to chronic illnesses (Weitkamp et al., 2021), notably in diabetes care (Berg et al., 2020; Helgeson et al., 2019, 2020; Van Vleet et al., 2018; Van Vleet & Helgeson, 2019; Zajdel et al., 2018).

Serodiscordant male couples have unique needs for comprehensive dyadic HIV care

(Goldenberg et al., 2013), and couple resilience and interdependence can influence collaboration in HIV care (Tan et al., 2018; Yang et al., 2023). Mendelsohn et al. (2015) examined social and behavioral studies on serodiscordant male couples conducted in high-income settings and emphasized the importance of dyadic approaches for improving adherence to antiretroviral therapy (ART). Furthermore, biomedical knowledge plays a crucial role in the daily lives of these couples, as they strive to consistently achieve and maintain undetectable viral loads (Ryan et al., 2022).

Research spanning three decades on the coping experiences of serodiscordant male couples in HIV care has yielded mixed findings. Serodiscordant male couples with a “we” orientation view their health status as interconnected (Gamarel, Starks, et al., 2014; Gamarel et al., 2016). HIV-negative partners are a significant source of support (Haas, 2002) and contribute to the partner living with HIV’s viral suppression (Gamarel, Neilands, et al., 2014) and adherence to HIV medication (Darbes et al., 2012; Remien et al., 2005; Wrubel et al., 2010). In this type of relationship, the partners use “couple identity” to resist HIV stigma (Powell-Cope, 1995; Remien et al., 1995). On the other hand, couples with a personal orientation perceive their health as independent and autonomous, while acknowledging the influence of their partner’s health condition on their coping approach (Gamarel et al., 2016).

Notably, a “we” orientation might be a contextualized concept, with couples’ expectations of involvement in each other’s HIV care changing over time. Self-determination theory illuminates this complex process by describing how a balance between autonomy and relatedness can improve interpersonal and psychological well-being between partners (Deci & Ryan, 2014; Ryan & Deci, 2017). The importance of this balance has been evidenced when examining individual-level ART adherence and well-being in men living with HIV (Igreja et al., 2000;

Kennedy et al., 2004). However, research on serodiscordant male couples' autonomy in HIV care engagement is scarce and needs further exploration.

As such, gaps in the literature leave critical issues addressed regarding the coping experience of Chinese serodiscordant male couples in HIV care engagement. First, Chinese serodiscordant male couples are under-represented in research. Previous studies of HIV care engagement in serodiscordant male couples were conducted in Western countries (Goldenberg et al., 2013; Goldenberg & Stephenson, 2015; Tan, Campbell, Conroy, et al., 2018; Tan, Campbell, Tabrisky, et al., 2018), while Chinese communal coping studies focused on serodiscordant heterosexual couples (Huang et al., 2018, 2019; Yu et al., 2016). Further, previous exploratory investigations on serodiscordant male couples' HIV care experiences were not driven by the communal coping process theoretical framework. Therefore, it is unknown how shared illness appraisal, collaboration, and support interaction shape their HIV care engagement.

By applying the theoretical framework of the communal coping process, we aimed to address the following exploratory questions: (1) How do Chinese serodiscordant male couples appraise and cope with HIV care? (2) What role does communal coping play in their HIV care engagement? (3) Are unique patterns of autonomy evident in their coping experiences? Our work contributes to the adaptation of the communal coping theory of chronic illness adjustment to a new cultural setting and provides theoretical insights for developing future dyadic HIV care engagement interventions for serodiscordant male couples in China.

Methods

Study Design

This dyadic qualitative study was part of a larger mixed-methods observational study evaluating HIV care and prevention among serodiscordant male couples in mainland China. We

followed the Consolidated Criteria for Reporting Qualitative Research (Tong et al., 2007) in the design of the study.

We developed, piloted, and refined two semi-structured interview guides based on Helgeson et al.'s (2018) communal coping process theoretical framework and previous literature (Beougher et al., 2013; Gamarel et al., 2016; Gamarel & Revenson, 2015; Remien et al., 1995; Tan, Campbell, Conroy, et al., 2018; Tan, Campbell, Tabrisky, et al., 2018). One guide was used during the interview with the index, focusing on HIV-related psychosocial stress appraisals, the impact on the current relationship, and HIV care actions. The other guide was used during the interview with the HIV-negative partner and focused on descriptions of his partner's HIV-related experiences (eMethods in the Supplement).

We defined shared illness appraisal based on Lyons and colleagues' (1998) original formulation: "individual's perception that the responsibility to manage the stressor is joint or shared." (p. 583) This concept focuses on the couple-level perception of responsibility rather than individual responsibility. Similarly, the concept of collaboration reflects joint input, reciprocal effort, and a team-based approach to problem-solving (Berg et al., 2008), all of which are essential for effective coping at the couple level.

Participants and Sampling

For this study, the male partner living with HIV in each relationship was designated as the "index" and his HIV-negative male partner as the "partner." We included couples that met the following criteria: (1) one partner was diagnosed as HIV-positive, and the other partner was self-reported HIV-negative; (2) both were 18 years of age or older; (3) both were assigned male at birth; (4) both reported being attracted to same-sex or bisexual; and (5) the couple had been in a romantic relationship together for 3 months or longer.

We used purposive sampling and partnered with three community-based organizations (CBOs) serving MSM in mainland China: Lingnan Partner Community Support Center, Guangzhou Zhitong LGBT Center, and Changzhi Blue Harbor Working Group. Couples were identified through a multistage process. First, trained recruiters distributed the study materials at CBOs to recruit the indexes. Potential index and partner participants were then invited to take an online screening questionnaire to determine their eligibility. If the partner declined, both were excluded from the study.

Out of the 37 couples we contacted, seven (16%) declined to participate, two (5%) were ineligible, one (3%) did not respond, and five (14%) could not be matched to the interviewer at the time or location, leaving us with 23 candidates. After a priori thematic saturation was reached, the final sample was comprised of 20 couples (Hennink et al., 2017; Saunders et al., 2018).

Data Collection

Between July and September 2021, two master's-level female interviewers (RF and one research assistant) competent in behavioral medicine of HIV interviewed each index and partner to acquire individual and dyadic perspectives on the narratives (Eisikovits & Koren, 2010). The separate and simultaneous face-to-face interviews took place in two private rooms, and each lasted 45–60 min. Before the interview, the interviewers established rapport with the participants by prompting them to skip any questions they did not want to answer and by reassuring them that there were no right or wrong responses.

The interviews were audio-recorded, transcribed verbatim, and then de-identified before being translated from Mandarin into English. We employed professional translation services to minimize the impact of translation on the results. Moreover, we thoroughly reviewed the translations to ensure that the nuances of the language were captured as accurately as possible.

Data Analysis

The data analysis process involved two phases. In the first phase, we used the framework method (Collaço et al., 2021; Gale et al., 2013) and dyadic interview analysis (Eisikovits & Koren, 2010) to analyze the dyadic data, which included a thematic analysis approach useful for identifying similarities and differences within and between dyads. After uploading the transcripts to Dedoose Version 9.0.54 (Dedoose, 2022), authors RF and CC independently open-coded 10% of the transcripts from two couples. A research assistant open-coded two transcripts from one of the couples to provide an alternative perspective on the interview data (i.e., analyst triangulation; Gale et al., 2013). Then, the two authors and research assistant created the codebook (eTable A in the Supplement). We used a hybrid deductive-inductive coding approach (Fereday & Muir-Cochrane, 2006) to independently code all the transcripts and ensured reliability by calculating inter-rater reliability using Cohen's kappa coefficient (Cohen, 1960), which reached 0.85 in the present study.

Author RF derived three pairs of predetermined analytic components based on the communal coping process theoretical framework (Helgeson et al., 2018) and individual and “we” perspectives: appraisal congruence and incongruence, collaborative and individual coping strategies, and interactive and noninteractive support. The data were then charted into a framework matrix, which involved summarizing the data from each couple's transcripts by codes (columns), dyads (rows), and components (tags) in a spreadsheet. We incorporated the couples' background information (age, length of the relationship, length since diagnosis, etc.) into the framework matrix to help identify patterns in the data (eTable B in the Supplement). Finally, RF wrote analytic memos for potential themes covering impressions, thoughts, and interpretations of the data.

In the second phase of analysis, we compared the themes to the communal coping process theoretical framework (Helgeson et al., 2018) to guide the connection between shared illness appraisal, collaboration, and support interaction in HIV care engagement. Authors RF and NXY regularly held meetings to discuss analytic memos, make necessary modifications to the analytical framework, and come to a consensus on recurring themes.

Ethical Considerations

The City University of Hong Kong's Human Subjects Ethics Sub-Committee approved all study procedures (Reference No.: 21-2021-24-F). All participants provided written informed consent. Only the researchers had access to the digital audio recordings and transcripts.

Results

Demographic and Relationship Characteristics

At the time of the interview, the median age of the indexes was 34 years (range: 24–58), while the median age of partners was 35 years (range: 25–53). The median length since the indexes' diagnosis was 4.13 years (range: 2 weeks–14 years). Most of the couples (70%, 14/20) reported being monogamous. Over half of the couples (55%, 11/20) had been together for 1–5 years, and over half of the indexes were living with HIV prior to the initiation of the current relationship. More than half of the couples (60%, 12/20) reported knowing that adherence to HIV medication is a form of prevention commonly referred to as treatment as prevention (TasP). Table 1 reports the participants' demographics, and Table 2 provides the couples' relationship characteristics.

Coping Process in HIV Care

Figure 1 exhibits three themes identified using a hybrid deductive-inductive approach. These three themes illustrate the varied coping processes of Chinese serodiscordant male couples

in HIV care engagement. The first theme explored coping behaviors as a continuum in the context of a consensual appraisal of independence in HIV care for the indexes. The second theme reflected a dissonant coping process, highlighting two incongruent patterns of appraisal and coping strategies in HIV care. The third theme identified a contextualized communal coping process. Quotations were identified by participant role [Index or Partner], couple number [01-20], participant's sexuality [gay or bisexual], and the length of the relationship. To be as illuminating as possible, the quotations presented are contextualized, interpreted, and included in the body of the manuscript (Brinkmann & Kvale, 2015).

Coping as an Autonomous Process

Most couples coped with HIV care autonomously (Figure 1, Panel A). Both parties perceived HIV care as the indexes' problem. Couples typically used two negative coping strategies, disengaged avoidance and mutual noninvolvement, and their support interaction ranged from none to interactive. While couples not mutually involved in HIV care reported no partner support, interactive support was evident within couples who practiced disengaged avoidance.

In the disengaged avoidance scenario, the indexes independently took medications on time, attended follow-up appointments, and communicated with physicians. Instead of burdening his partner, an index believed it was his responsibility as a man living with HIV to manage HIV-related issues on his own:

I was diagnosed with HIV, but he has not yet tested positive for the virus. Therefore, in terms of HIV care, it's something I have to think about on my own, and I can't ask [Partner 06] to do it for me. (Index 06, gay, 10 years)

The partners provided informative and instrumental support to the indexes on an

as-needed basis. Medication reminders and HIV treatment information communication initiated by the partners were the most common forms of support. Having volunteered in HIV-related work for almost a decade, a partner was able to effectively observe the HIV care needs of the index and provide timely support to address any potential issues:

The government promoted vaccination against the coronavirus a while ago, but [Index 06] believed that people with HIV could not be vaccinated. So, I consulted the doctor at the hospital designated for HIV treatment. The doctor said that two doses of vaccination were suggested in the circumstances if [Index 06's] CD4 is not below a certain number, and he is not feeling unwell. Then, I told [Index 06] about it, and he took my advice and got the vaccination. (Partner 06, gay, 10 years)

In the mutual noninvolvement scenario, the indexes explicitly stated that they could complete HIV care independently and did not need their partners' help. One index stated that he has finally reached a level of independence in managing his HIV eight years after his diagnosis. He explained that it has taken a long time to come to terms with his diagnosis, but he can now regulate his medication independently. The index described:

My HIV care is relatively independent because I've taken a long time to deal with the situation from day one. So relatively speaking, I would set the alarm clock before, but now if the time's up, I will naturally go to take the medication. (Index 09, gay, 7 months)

When asked if there was anything he wished his partner would do differently in terms of HIV care, he responded that he was content with their current situation.

Particularly, we observed a stronger connection between the indexes and other individuals living with HIV and CBOs involved in HIV care, rather than their partners. An example of such connectedness is an index's access to HIV care-related information and support

through Bai Hua Lin (a nationwide online platform for people living with HIV to exchange support and information) and Lingnan Partner:

In hospitals or on Bai Hua Lin, other individuals and I discuss these issues [referring to HIV care] from time to time. ... Because of my HIV status, I became a volunteer for HIV testing and counseling at Lingnan Partner and indirectly learned about this HIV care-related information. (Index 09, gay, 7 months)

Consequently, the partners deemed themselves “outsiders” in HIV care, believing that the indexes do not need them. One partner believed that living with HIV is a normal state and that the index is solely responsible for managing his HIV status, as these behaviors have become a part of the index’s daily routine and are not very burdensome for him:

I’ve known [Index 09] for a while, and he told me that he only goes to get his medication three times a year. Does that mean he goes to pick up medicine very often? I don’t think it’s that often. So, what do you expect I can do? I don’t know what I can do. He just doesn’t bring things up. Maybe when later, he quarrels and asks why you don’t take action, then we can put HIV care on the table. But now I’m not receiving any requests from him. (Partner 09, gay, 7 months)

Coping as a Dissonant Process

Stigma Diverges the “We” in Care

Six couples had contradictory claims about their appraisals, individual coping strategies, and support interaction in HIV care (Figure 1, Panel B). HIV care was “my” problem for the indexes, whereas “our” problem for the partners. A conflict was evident between individual coping strategies adopted by these couples. Noninteractive support was depicted, as most of the partners reported providing support that was either not perceived or not needed by the indexes.

Notably, three indexes described feeling stigmatized to such a degree that they refused to have anyone involved in their care, even their partners. These indexes explained they often rejected or were hostile to their partners' support. Since his diagnosis 8 months ago, follow-up appointments have become a crucial part of one index's routine. However, he preferred not to be accompanied by his partner due to the complex 2-hour process and the mixed environment of the hospital:

I didn't think [Partner 18] needed to go to the HIV treatment clinic with me. So, when [Partner 18] asked me if I wanted him to go with me to my follow-up appointment, I refused to let him go. I didn't want people to know who I was going with since the place was so mixed, and there were people from the gay community. Even if I go to the follow-up appointment by myself, I'll disguise myself so that people don't recognize me. Anyway, I just don't want people to know. (Index 18, gay, 6 months)

The partners, on the other hand, considered themselves involved as life partners and felt they had greater HIV knowledge than their indexes. The partners also claimed to provide situational support or empathic responses to the indexes. Given his medical background and experience with men living with HIV, one partner provided his index with advice and reminders regarding medication and daily life:

I would be concerned about whether [Index 18] takes his medication on time every day. His work schedule may cause him to take his medication at irregular times. For example, if [Index 18] has to work late today, I may warmly remind him to take his medication on time. Then, there are tests including viral load and CD4 every 3 months, which I will usually accompany him to do. (Partner 18, gay, 6 months)

In another situation, two indexes described that, during the 2 weeks following their

diagnoses, they felt guilt toward their partners and did not want them involved in HIV care; however, their partners realized HIV was a shock and wanted to stay involved. Both sides reported adopting protective buffering to hide their emotions and thoughts from each other. Indexes were afraid that their partners would feel stigmatized for being in a relationship with someone with HIV. After being diagnosed, one index internalized societal discrimination toward people living with HIV. He had hoped to change negative attitudes toward the LGBTQ+ community by being a good partner to his boyfriend. However, he felt like a joke since he had contracted HIV and worried about others questioning his fidelity during his relationship with his partner:

I would want to kill myself because I have witnessed the kind of terrible pain that my relative with terminal cancer goes through. So, I would think about suicide, but I wouldn't talk about it with [Partner 15] ... I think being infected with HIV is a discriminatory thing. I am worried that [Partner 15] will be discriminated against by others because of me. It's okay that I just carry this kind of burden of thought on my own.

(Index 15, gay, 7 years)

Partners were concerned that indexes' health would worsen because the disease was not promising when diagnosed. One partner expressed concerns and pessimism about his index's condition during the interview, but tried his best not to show it when interacting with the index:

I act optimistic in front of [Index 15], but I would still think that the last stage of his disease would come and be tough for him. (Partner 15, gay, 7 years)

Under this shell of "protection," both partners were hiding their true negative feelings and not communicating openly and honestly.

All is Fair in Love and Care

One couple appraised HIV care incongruently and adopted positive individual coping strategies with interactive supports (Figure 1, Panel C). While Index 20 saw HIV care as “our” problem, Partner 20 saw it as “your” problem. Index 20 assumed HIV care was included in Partner 20’s relationship investment since he was more committed to the relationship than Index 20. Index 20 referred to Partner 20 as a “mommy boyfriend” and delegated most HIV care tasks to him, such as reminding Index 20 to take his medicine and have regular check-ups, interpreting reports, and dispensing pills.

I usually pay little attention to HIV. This is because I’m very optimistic, and the doctor says, ‘Your indicators are normal. You’re in good shape.’ Then, I just ignore the medical report, and only [Partner 20] would look at the detailed data in the report and then grab the doctor when he had the chance and ask what those indicators meant. (Index 20, gay, 2 years)

In contrast, Partner 20 considered Index 20’s mindset as critical in HIV care, claiming he was just responsible for supplementing Index 20’s HIV care. *“I might only play a supporting role because he is very laid back about HIV,”* Partner 20 (gay, 2 years) said.

Coping as a Contextualized Communal Process

One couple coped with HIV care collectively (Figure 1, Panel D). Both considered HIV care as “our” problem, tied to the partner’s inclusion in the index’s care. Partner 01 had accepted that Index 01 was living with HIV when they first met. *“He witnessed me since my diagnosis,”* Index 01 (gay, 2 years) said.

Having been bombarded with HIV information for over 20 years since coming out in the gay community, Partner 01 was not surprised when Index 01 disclosed that he was living with HIV. He trusted Index 01 more than his wife and child because Index 01 was a close life partner

(they lived with Partner 01's wife but had not come out to her) and a solid business associate:

We simply know everything without having to say anything. I may not tell my wife or the kid what's going on at home, but I will absolutely tell [Index 01]. [Index 01] might be half of the family's head. (Partner 01, gay, 2 years)

Positive collaborative coping strategies and support interactions were context-specific. In Index 01's and Partner 01's narratives, they worked as a team for HIV care in the macro context of COVID-19. In the first half of 2020, Index 01's HIV treatment designated hospital was under lockdown due to the COVID-19 epidemic in a central metropolis. Index 01 could not go from a northern metropolis to the hospital for ART medicine:

As I was new to [the northern metropolis] and knew nothing about HIV treatment here, [Partner 01] found and informed me all I needed to know about HIV treatment in local hospitals. ... When my designated hospital was closed due to the COVID-19 outbreak last year, [Partner 01] helped me to borrow medicine in [the northern metropolis]. (Index 01, gay, 2 years)

After communicating, Partner 01 approached CBOs staff working at a local HIV treatment hospital to assist Index 01 in addressing the ART medicine shortage:

When the COVID-19 epidemic was severe, I took [Index 01] to the designated hospital in [the northern metropolis] to borrow medicine. I have a lot of acquaintances at the hospital because I go for HIV testing all the time, and we're all part of the same [gay] circle. (Partner 01, gay, 2 years)

The couple's support interactions were portrayed in the micro-context of everyday life. For example, Partner 01 euphemistically urged Index 01 to take his medication, "*It's time to eat candy.*" Index 01's narrative echoed this. However, both partners mentioned they rarely

discussed HIV-related topics in daily life.

Discussion

This dyadic qualitative study examined the coping experiences of Chinese serodiscordant male couples in HIV care. Most couples presented with an autonomous coping process in which they adopted various negative coping strategies on a support continuum from no support to interactive support. Our previous study of serodiscordant heterosexual couples in rural China uncovered the heterogeneity in their dyadic adjustment to HIV (Huang et al., 2019). We expanded this knowledge by elucidating couple-level patterns of serodiscordant male couples in the coping process, notably the role that autonomy plays in HIV care in their nonspousal relationship.

Implications for Theory and Practice

Chinese serodiscordant male couples demonstrated a range of negative coping strategies related to the autonomous coping process of HIV care engagement. The indexes and partners jointly adopted a disengaged avoidance coping strategy, a finding that provides new evidence for serodiscordant male couples' autonomy in coping with HIV care. Tan et al. (2018) described this phenomenon as "peripheral dyadic coordination," in which both partners engage in HIV care and treatment on an "as-needed" basis. However, previous research with breast cancer patients and their partners has indicated that this is a form of avoidant coping (Kayser et al., 2007; Manne et al., 2005) that may diminish relationship satisfaction and psychological well-being (Ptacek et al., 1994), resulting in higher distress for both patient and partner (Manne et al., 2006; Ptacek et al., 2007). We also identified a mutual noninvolvement coping strategy that may be explained by the self-determination theory, which consists of three concepts: autonomy, competence, and relatedness (Ryan & Deci, 2017). Years of adherence to ART medications, regular viral load,

CD4 testing (competence), and awareness of TasP imbued indexes' self-care with confidence and willpower (autonomy). To our surprise, the indexes' interactions with other individuals living with HIV or gay men and participation in voluntary HIV counseling and testing activities organized by CBOs led to a greater sense of belonging (relatedness) in HIV care than the inclusion of the partners.

The dissonant coping process of HIV care has two implications for the extension of the communal coping theory of chronic illness adaptation. First, our findings suggest two potential individual and dyadic risk factors that may contribute to the dissonant coping process. According to Lyons and Lee's (2018) theory of dyadic illness management, risk factors contribute to greater appraisal incongruence and less collaboration. At the individual level, internalized HIV stigma caused indexes to regard HIV care as their problem and neglect or resist their partners' support. At the dyadic level, partners' relationship characteristics, especially their inconsistent or lack of relationship goals, were found to contribute to their incongruent appraisal of HIV care and divergent coping strategies, particularly among couples who had been together for a longer period. Second, we discovered that inconsistent appraisals, especially when indexes perceived HIV care as "my" problem and partners perceived it as "our" problem, led to divergent negative coping strategies and noninteractive support. Further theoretical research on this mechanism is warranted.

The communal coping process of HIV care was contextual among Chinese serodiscordant male couples. This finding supports the communal coping process theoretical framework of chronic illness adaptation (Helgeson et al., 2018; Lewis et al., 2006): when patient and partner perceive joint efforts as helpful or needed, they communicate about the illness, which not only facilitates collaboration but also transforms supportive interactions into collaboration. In this

context, patients are more likely to interpret supportive behaviors, such as medication reminders, as a sense of shared commitment to a common goal.

Our study focused specifically on coping among Chinese serodiscordant male couples in HIV care, but the theoretical basis for developing dyadic interventions that presented in the present study can be applied to other chronic diseases and diverse cultural contexts. The present study highlights the dissonant process in HIV care among serodiscordant male couples and the importance of developing interventions that focus on dyadic disease appraisal. Specifically, optimizing the preferences and assessment of the value of HIV care for the partner living with HIV can improve shared decision-making and help serodiscordant male couples plan for HIV care. Previous studies have suggested that in couples' coping with chronic diseases, such as breast cancer, dementia, and HIV (Badr et al., 2010; Gamarel & Revenson, 2015; Orsulic-Jeras et al., 2019), their consistency in coping lessens distress in the partner living with the disease and facilitates their adaptation to the disease, particularly when they view the disease as a shared health threat. Based on the self-determination theory, a dyadic psychological intervention study for breast cancer patients and their partners shed light on the negative coping strategies that emerge in the autonomous coping process (Badr et al., 2015). Thus, interventions aimed at improving the sense of relatedness among serodiscordant male couples could focus on teaching problem-solving skills, effective communication, and support mobilization and maintenance. For example, in the intervention programs Stronger Together (Stephenson et al., 2021) and Partner STEPS (Bazzi et al., 2016), researchers used a couples HIV testing and counseling session to improve ART adherence of the partner living with HIV by setting shared goals.

Qualitative Rigor

In the present study, we have demonstrated a rigorously applied methodology to ensure

the qualitative validity and reliability of our findings, as guided by established guidelines (Nowell et al., 2017). To establish credibility, we conducted a pilot study to evaluate the interview protocol and provided training to the primary interviewer and investigators. We also ensured dependability by providing a detailed and transparent account of our study methods, including a draft of the study protocol. Our commitment to confirmability was further exemplified by our reporting of the researchers' positions and demographics in the manuscript, triangulating sources across diverse backgrounds and specialties, and maintaining an extensive audit trail throughout the research process. To address transferability, we identified data saturation and used thick descriptions in the semi-structured interviews to enrich the portrayal of participants' experiences. Our study significantly contributes to the literature by establishing theoretical transferability, which is exemplified by our application of the communal coping process theoretical framework to a novel cultural setting.

Limitations

Our study has several limitations. First, the data were collected in two Chinese metropolitan cities and may not apply to all serodiscordant male couples in mainland China. Some inland male couples feared exposing their serodiscordant status to or being interviewed by female researchers, which may have impacted our data collection in a more diverse population. Future studies are recommended to arrange male interviewers. Second, our goal was to provide a broad overview of serodiscordant male couples' coping process in HIV care, without exploring the dynamic process of their coping over time or in critical clinical events, such as HIV drug resistance. This is a topic worth exploring in future research. Third, due to the sensitivity of the study topic, we did not conduct conjoint interviews with couples and videotape the interviews to observe interactions between partners as Helgeson's team suggested (Helgeson et al., 2018).

However, it is worth noting that separate interviews with each partner have their benefits, particularly the power imbalances within same-sex male relationships (Neilands et al., 2019). Lastly, this study did not explicitly explore supporting HIV-negative partners, which is an important aspect of HIV prevention and stigma research, and a topic that could be considered in future studies.

Conclusions

This study reveals how Chinese serodiscordant couples cope with HIV care individually and collectively. Our expansion of the theoretical boundaries of the communal coping theory of chronic illness adjustment provides valuable insights into the risk factors and mechanisms for couples navigating HIV care. Our findings will also inform the development of dyadic interventions for Chinese serodiscordant male couples for effective HIV care engagement.

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Table 1 Demographic characteristics of participants (n = 40)

Characteristics	Index n (%) (n = 20)	Partner n (%) (n = 20)
Age, median (range), y	34 (24–58)	35 (25–53)
Time since diagnosed, median (range), y	4.13 (0.04–14)	—
Education		
Junior high school	3 (15)	6 (30)
High school or equivalent	7 (35)	4 (20)
College degree or equivalent	8 (40)	7 (35)
Graduate degree	2 (10)	3 (15)
Monthly income		
No income	1 (5)	1 (5)
¥ 2,000–2,999	1 (5)	3 (15)
¥ 3,000–4,999	5 (25)	6 (30)
¥ 5,000–9,999	9 (45)	5 (25)
¥ 10,000–19,999	2 (10)	5 (25)
¥ 20,000 or above	2 (10)	0

Table 2 Relationship characteristics of 20 couples

Relationship Characteristics	Couples n (%)
Relationship type	
Monogamous ^a	14 (70)
Mostly monogamous, but we have sex with casual partners separately	1 (5)
Monogamous but also engage in threesomes involving both partners	2 (10)
Monogamous but we still stay married to our wives	1 (5)
None-monogamous ^b	2 (10)
Length of relationship	
3–12 months	2 (10)
1–5 years	11 (55)
6–10 years	5 (25)
> 10 years	2 (10)
Living arrangements	
Together	16 (80)
Apart	4 (20)
Relationship goals	
Having long-term goals in this relationship	6 (30)
Having no goals in this relationship	9 (45)
Only one person has long-term goals in this relationship	5 (25)
Diagnosis of HIV	
Before establishing relationship	11 (55)
After establishing relationship	9 (45)
Disclosure of HIV	
Before establishing relationship	9 (45)
After establishing relationship	2 (10)
During relationship	9 (45)
Awareness of TasP	

Relationship Characteristics	Couples n (%)
Both partners are aware	12 (60)
Neither partner is aware	4 (20)
Only one partner is aware	4 (20)

^a One partner in one of these couples remains married to his wife.

^b Indexes had sex with casual partners, while partners indicated their monogamous relationship with them.

Figure Legends

Figure 1 The coping processes of dyadic HIV care engagement

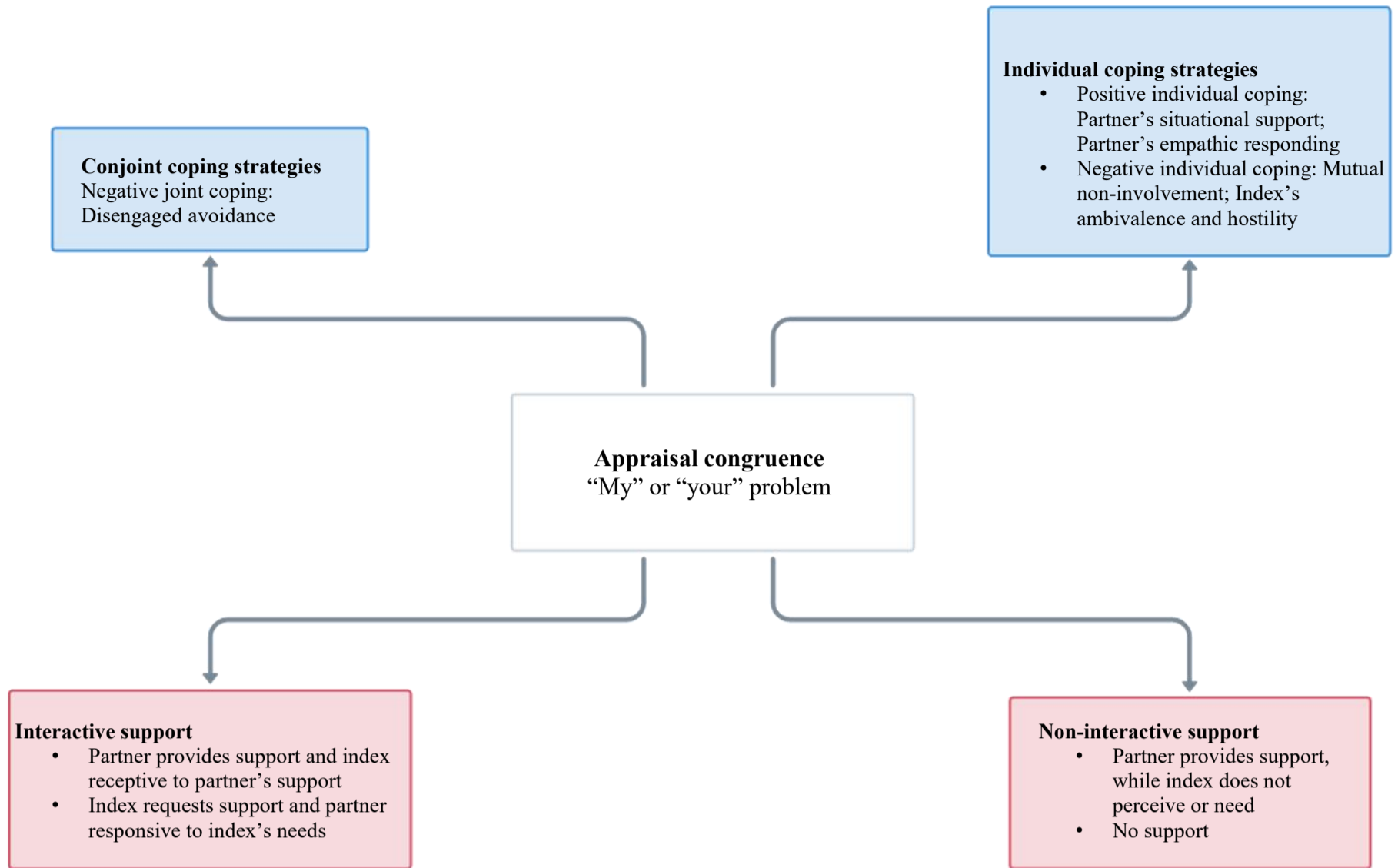
Panel A: The autonomous coping process

Panel B: The dissonant coping process I

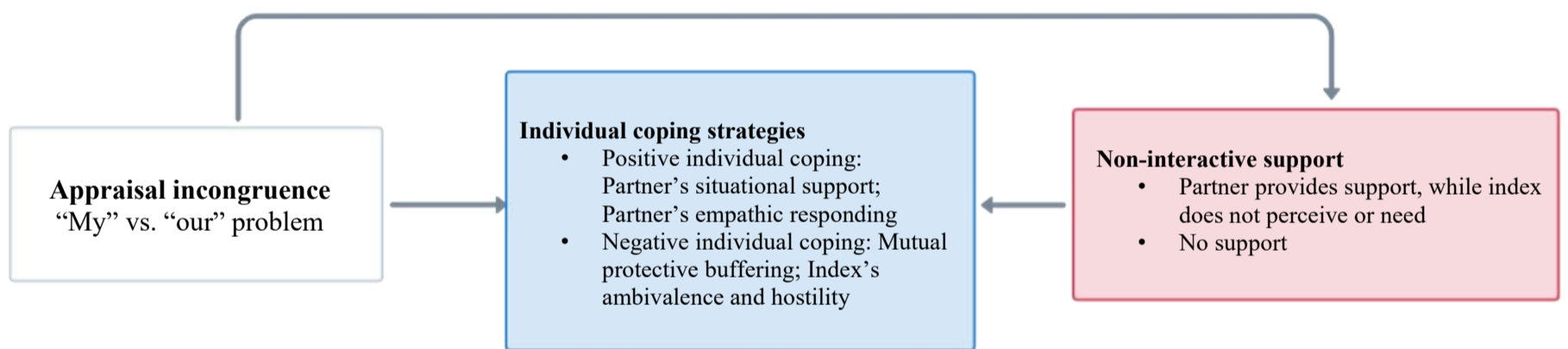
Panel C: The dissonant coping process II

Panel D: The contextualized communal coping process

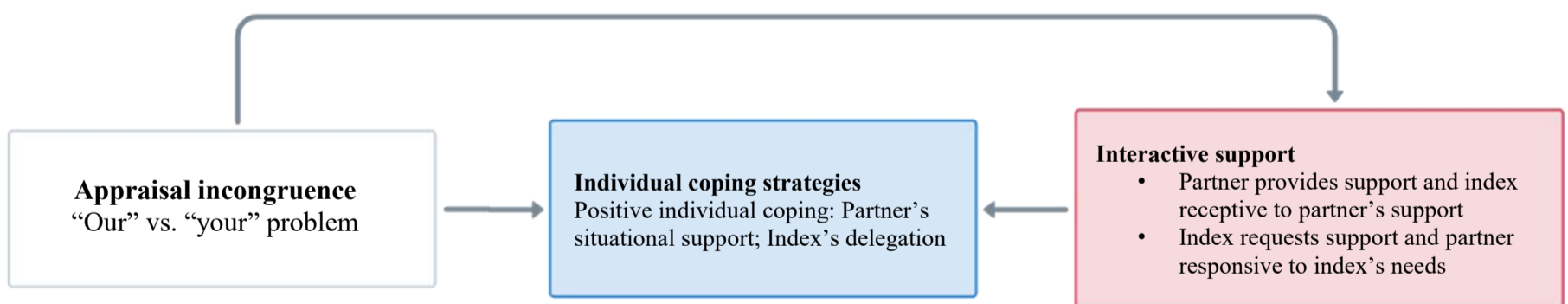
Panel A



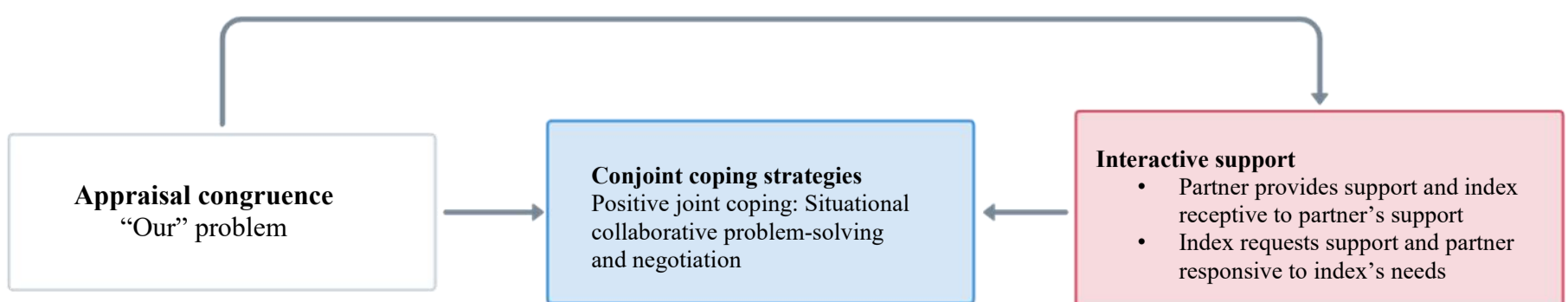
Panel B



Panel C



Panel D



Supplement

eMethods Interview Guide (The HIV-positive partner version as an exemplar)

I. Background

- a) Let's start by discussing some of the proper nouns that will be used in the interview to make it clear that our understanding is the same.

In describing the concept of men who have sex with men, there are several words such as gay, bisexual, and transgender women, what words would you use to describe your own sexual orientation?

- b) Does anyone know that you are HIV-positive? Why did you choose to tell them? What support and help have they provided?

II. HIV disease appraisal

As we discussed earlier, we want to understand your thoughts on HIV management, so next we will start by talking about your experience after diagnosis.

- a) How do you feel you have been doing since you found out you were infected?
- b) When and where did you get diagnosed?
- c) What are the most noticeable or trouble symptoms you have experienced since your diagnosis?

Follow-up question: When did you start taking your medication? Do you have a regular daily medication schedule? How often do you go for follow-up appointments?

- d) To what extent has your HIV status impacted your life after diagnosis? Please give a specific example.
- e) To what extent has the infection affected your mood? Please give a specific example.
- f) How do you think others perceive people living with HIV?
Follow-up question: Do you think they will discriminate against you because of this?

III. Impact on the relationship

The next topics relate to your relationship with your current male partner, including the difficulties and challenges you have experienced because of your infection and your coping strategies.

- a) Did you and your partner start a relationship before or after you got diagnosed?
- (If before your diagnosis) Did you observe any changes in your relationship after he learned of your diagnosis? Can you tell me why you think so?
 - (If relationship was established after diagnosis) In what context did you

let him know about your infection status? Did you observe any changes in your relationship after telling him? Can you tell me why you think so?

- b) Making plans, both short and long term, is a way of coping. How do you plan for the year ahead (including income, where you work/live, trips, relationship progress, etc.)?
- Does this plan include your partner? Why?
 - (Hypothetically) If some bad emotions arise for you while making the plans (e.g. thinking about HIV status, income, relationship progress, etc.), how would you deal with them?
- Follow-up questions: Have you ever planned in the past? Did you encounter any difficulties at that time? You can give a specific example to illustrate.

IV. HIV Management

We will next ask you and your current male partner about your thoughts on HIV management.

- a) Do you think you manage HIV alone, or with your partner?
- Can you tell me the reasons why you think this way? You can give a specific example of this.
 - (If together) What actions did you take?
 - (If alone) What actions did you take?
- b) Do you feel that your partner's involvement in HIV management would make you more confident in coping with your HIV status? Why?
- c) (If together) How do you communicate with your partner about your needs and thoughts about HIV care?
- What is the context in which you talk about it?
 - What do you usually talk about?

V. Conclusion

Thank you so much for taking the time to discuss these questions with me! Is there anything we haven't mentioned that you think is relevant to this topic? Have you changed your mind about any of the answers you just gave me? Do you have any more questions for me?

eTable A Codebook

Domains (Bold)/ Themes / Subthemes (Indented)
Family and Society
Marital status
Sham marriage
Other marital statuses
Stigma
Social structural stigma and discrimination
Stigma of people living with HIV
Stigma associated with people living with HIV
Stigma of homosexuality
Gender role stereotypes
Social support related to HIV
Partner support
Other support
AIDS phobia
Relationship Dynamics
Relationship power
Dependence
Independence
HIV-related inequality
Inequality based on other conditions
Instability
Protectiveness
Vulnerability
Couple identity
Internal couple identity
External couple identity
Future plans
Information and Communication
HIV disease information
Information acquisition channels
Inaccessibility of information
Reactions to information

HIV-related communication
Topic avoidance
Topic openness
HIV Disease Appraisal
Disclosure of HIV status
Symptoms and side effects
Impact on emotions, cognitions, and behaviors
Impact for people living with HIV
Impact for HIV-negative partners
Expectations of cure
Impact on the shared life of both parties
Attribution of HIV infection
HIV Communal Coping
Social control strategies
HIV management appraisal
My / his problem
Our problem
HIV management collaborative action
My / his responsibility
Our responsibility
Communal HIV management efficacy

eTable B Framework matrix of 20 dyads

Dyad No.	Age, y	Sexual orientation	Length since diagnosis, y	Length of relationship, y	A priori analytic components					
					Appraisal congruence	Appraisal incongruence	Collaborative coping strategies	Individual coping strategies	Interactive support	Non-interactive support
1	Index: 26 Partner: 45	Both are gay	2	2	Our problem	—	Situational collaborative problem-solving and negotiation	—	<ul style="list-style-type: none"> Partner provides support and index is receptive to partner's support remove the space in the middle Index requests support and partner is responsive to index's needs 	—
2	Index: 35 Partner: 29	Both are gay	3	3.5	My/your problem	—	Disengaged avoidance	—	Index requests support and partner is responsive to index's needs	—
3	Index: 32 Partner: 53	Both are gay	3	5	My/your problem	—	Disengaged avoidance	—	<ul style="list-style-type: none"> Partner provides support and index is receptive to partner's support Index requests support and Partner responsive to index's needs 	—
4	Index: 32 Partner: 34	Both are gay	3.2	1.7	My/your problem	—	Disengaged avoidance	—	Partner provides support and index is receptive to partner's support	—
5	Index: 26 Partner: 47	Index: gay Partner: bisexual	11	7.1	My/your problem	—	Disengaged avoidance	—	Partner provides support and index is receptive to partner's support	—
6	Index: 37 Partner: 32	Both are gay	10	9	My/your problem	—	Disengaged avoidance	—	Partner provides support and index is receptive to partner's support	—
7	Index: 51 Partner: 45	Both are gay	6	14	My/your problem	—	Disengaged avoidance	—	Partner provides support and index is receptive to partner's support	—
8	Index: 37 Partner: 53	Both are gay	2	9.1	My/your problem	—	—	Mutual non-involvement	—	No support at all
9	Index: 32 Partner: 30	Both are gay	0.6	8	My/your problem	—	—	Mutual non-involvement	—	No support at all
10	Index: 27 Partner: 49	Both are gay	5	3	My/your problem	—	—	Mutual non-involvement	—	No support at all
11	Index: 54 Partner: 46	Both are gay	1	10	My/your problem	—	—	Mutual non-involvement	—	No support at all
12	Index: 58 Partner: 46	Both are gay	1.3	0.3	My/your problem	—	—	<ul style="list-style-type: none"> Partner's situational support Index's ambivalence and hostility 	—	Partner provides support, while index does not perceive or need
13	Index: 44 Partner: 35	Index: gay Partner: bisexual	2	5	My/your problem	—	—	<ul style="list-style-type: none"> Partner's situational support Index's ambivalence and hostility 	—	Partner provides support, while index does not perceive or need
14	Index: 25 Partner: 31	Both are gay	9.25	0.75	My/your problem	—	—	<ul style="list-style-type: none"> Partner's situational support Index's ambivalence and hostility 	—	Partner provides support, while index does not perceive or need
15	Index: 33 Partner: 43	Both are gay	6.8	Just got diagnosed	—	My problem vs. our problem	—	Mutual protective buffering	—	Partner provides support, while index does not perceive or need
16	Index: 34 Partner: 33	Both are gay	7	Just got diagnosed	—	My problem vs. our problem	—	Mutual protective buffering	—	No support at all

Dyad No.	Age, y	Sexual orientation	Length since diagnosis, y	Length of relationship, y	A priori analytic components					
					Appraisal congruence	Appraisal incongruence	Collaborative coping strategies	Individual coping strategies	Interactive support	Non-interactive support
17	Index: 48 Partner: 39	Both are bisexual	1.5	6	—	My problem vs. our problem	—	<ul style="list-style-type: none"> Partner's situational support Index's ambivalence and hostility 	—	Partner provides support, while index does not perceive or need
18	Index: 26 Partner: 26	Both are gay	0.5	0.7	—	My problem vs. our problem	—	<ul style="list-style-type: none"> Partner's situational support Index's ambivalence and hostility 	—	Partner provides support, while index does not perceive or need
19	Index: 49 Partner: 30	Both are gay	10.25	4.25	—	My problem vs. our problem	—	<ul style="list-style-type: none"> Partner's situational support Index's ambivalence and hostility 	—	Partner provides support, while index does not perceive or need
20	Index: 24 Partner: 25	Both are gay	0.6	2	—	Our problem vs. your problem	—	<ul style="list-style-type: none"> Partner's situational support Index's delegation 	<ul style="list-style-type: none"> Partner provides support and index receptive to partner's support Index requests support and partner responsive to index's needs 	—