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The Relationship Between Dyadic Coping and Dyadic Adjustment Among HIV-Serodiscordant Couples

Abstract

Living within an HIV-serodiscordant relationship has been recognized as a stressful experience for both HIV-infected and HIV-uninfected partners. However, no study has examined the association between dyadic coping (DC) and dyadic adjustment of such couples. In this study, we analysed the association between DC (positive, negative, and common DC) and dyadic adjustment (consensus, satisfaction, cohesion) among HIV-serodiscordant couples, considering individual and cross-partner effects. This cross-sectional study included a sample of 44 HIV-serodiscordant different-sex couples, in a relationship for an average of 16.46 years. The self-reported measures included the Dyadic Coping Inventory and the Revised Dyadic Adjustment Scale. For HIV-infected partners, their own common DC was significantly associated with cohesion, and a cross-partner effect of common DC on satisfaction was found. For HIV-uninfected partners, individual effects of common DC on all dyadic adjustment subscales and a cross-partner effect of common DC on cohesion were found. Additionally, their own and their HIV-infected partners' negative DC were significantly associated with cohesion and satisfaction, respectively. These findings suggest that the perception of common DC has a particularly important role in explaining the different components of dyadic adjustment of both partners facing HIV-serodiscordancy, whereas negative DC is linked to the adjustment of HIV-uninfected partners.

Keywords: HIV-serodiscordant couples; dyadic coping; dyadic adjustment; cross-partner effect.

Introduction

Living with a chronic disease remains a life-changing experience that implies profound adjustments not only for patients but also for their romantic partners (Badr & Acitelli, 2017). This may be especially important for HIV-serodiscordant couples, in which one member of the couple is HIV-infected and the other is HIV-uninfected. Beyond the numerous aspects of disease management and its implications (e.g., treatment-related decisions), HIV-serodiscordant couples must also face unique interpersonal challenges (Pasipanodya & Heatherington, 2015). For instance, the disclosure of HIV-serodiscordancy to others (associated with the fear of stigma and discrimination) and the negotiation of sexual relationships (related to the fear of sexual transmission of the virus to the uninfected partner) have been identified as particularly difficult challenges (Bunnell et al., 2005; Rispel et al., 2011; Saraswat et al., 2019). Coping with HIV-serodiscordancy may also compromise couples' dyadic/marital adjustment. For instance, studies with HIV-serodiscordant couples have shown that such couples have low levels of satisfaction and affectional expression and that there are tensions within the couple surrounding communication about HIV (Largu et al., 2012; Persson, 2008). Accordingly, living within an HIV-serodiscordant relationship can be perceived as stressful for each partner individually and for the couple as a unit; hence, it can be conceptualised as a context of dyadic stress with important consequences for the dyadic adjustment of both partners.

A construct that has been well established in the literature as having a significant impact on different adjustment outcomes, including couples' dyadic adjustment, is dyadic coping (DC; Falconier et al., 2015; Falconier & Kuhn, 2019; Regan et al., 2015; Traa et al., 2015). DC is a process of interpersonal coping engaging both partners in a couple and involving an interdependency between one partner's stress signals and the other partner's coping responses (Iafrate & Donato, 2012; Revenson et al., 2005). The systemic transactional

model (STM; Bodenmann, 2005), based on the stress and coping paradigm (Lazarus & Folkman, 1984), posits that the DC process is triggered when one partner communicates stress to the other either verbally and/or nonverbally. Then, the other partner perceives, interprets, and decodes the stress signals and responds with some form of DC. The STM, initially developed in the context of everyday stress, has been expanded and considered a sound theoretical framework for understanding couples' coping with stressors such as chronic diseases (Berg & Upchurch, 2007; Bodenmann et al., 2016), with the "we-disease" approach also emerging in this context (Kayser et al., 2007).

According to the STM, DC is not strictly functional per se; that is, partners can engage in both positive and negative forms of stress management (Donato et al., 2009). Bodenmann (2005) differentiates between positive and negative DC behaviours. Positive DC is thought to restore some degree of homeostasis for the individual and for the dyad in the face of the stressor (Bodenmann et al., 2016), and it includes supportive, delegated, and common DC. Supportive (one partner attempts to assist the other in his/her coping efforts by, e.g., providing advice) and delegated DC (one partner is explicitly asked by the other to give support and to take over responsibilities/tasks to alleviate the other's stress) are considered partner-oriented behaviours. Common DC (the effort that both partners make together and more or less symmetrically, e.g., by engaging in joint problem-solving to overcome a stressor relevant to the couple) is acknowledged as couple-oriented. In contrast, the negative forms of DC (all partner-oriented behaviours) are attempts to regulate stress by expressing negativity (Bodenmann et al., 2016) and include hostile, ambivalent, and superficial efforts to assist the stressed partner, for example, by showing disinterest or minimizing the seriousness of the partner's stress when providing support (hostile DC), offering support unwillingly or with the attitude that his/her contribution should be unnecessary (ambivalent DC), or providing support that is insincere (superficial DC).

The relationship between DC and dyadic adjustment has been demonstrated not only among couples from community-based samples (e.g., Bodenmann et al., 2006; Donato et al., 2015; Parise et al., 2019) but also among dyads facing chronic conditions. Although no studies were found in couples affected by HIV, in the cancer context, the findings from several studies have shown that more positive and less negative forms of DC were associated with higher levels of dyadic adjustment or other positive relationship outcomes for both patients and their partners (Badr et al., 2010; Pankrath et al., 2018; Regan et al., 2014; Rottmann et al., 2015). Many of these studies have adopted a dyadic perspective and, therefore, have considered that each individual DC behaviour may be associated not only with one partner's own dyadic adjustment (individual effect) score but also with his/her partner's adjustment (cross-partner effect). For instance, Pankrath et al. (2018) reported significant individual and cross-partner effects of positive DC on relationship satisfaction for both patients and partners. In contrast, Rottmann et al. (2015) did not find significant associations between any positive DC behaviours by oneself and relationship quality. However, in the same study, the more the patients rated the couple as engaging in common DC, the higher the relationship quality reported by both the patients and their partners. Indeed, and considering the "we-disease" approach (Kayser et al., 2007), common DC is likely to occur in situations that primarily concern one partner (disease) but have a serious impact on the other. This means that both partners consider the disease of one as a problem of both, both are affected by the stressor, and both need to share their resources to effectively cope with the situation (Bodenmann et al., 2016).

Although research in the context of HIV-serodiscordancy has explored different factors (e.g., psychological distress, individual coping strategies) that impact dyadic adjustment (Nichols, 2006; Pasipanodya & Heatherington, 2015; Remien et al., 2003), DC and its association with couples' dyadic adjustment has not yet been examined. Previous

investigations on couples' coping have been based on an interdependence and communal coping approach (Lewis et al., 2006) to understand the impact of couple interdependence on health-enhancing behaviours (e.g., viral suppression; Gamarel, Neilands, et al., 2014; Rogers et al., 2016). Therefore, in this study we examined the association between DC behaviours and the dyadic adjustment of HIV-infected and HIV-uninfected partners in HIV-serodiscordant couples, considering that the dyadic adjustment of one partner may be associated both with his/her own and his/her partner's DC behaviours (i.e., individual and cross-partner effects). Based on the existing literature, we hypothesised that higher levels of common DC would be associated with higher levels of dyadic adjustment (hypothesis 1); higher levels of partner-oriented positive DC behaviours would be associated with higher levels of dyadic adjustment (hypothesis 2); and lower levels of negative DC behaviours would be associated with higher levels of dyadic adjustment (hypothesis 3). Since these associations were never explored among HIV-serodiscordant couples, no hypothesis was formulated regarding specific individual and cross-partner effects.

Methods

Participants

The sample comprised 44 HIV-serodiscordant different-sex couples. Couples were eligible if one partner was HIV-infected and the other was HIV-uninfected; the HIV-infected partner had disclosed his/her status to the HIV-uninfected partner; both partners in the couple were aged above 18 years; they self-defined themselves as heterosexual individuals or as bisexual individuals as long as the primary relationship was with a person of the opposite sex; and they had the cognitive and linguistic ability to complete the assessment protocol.

The participants were in a romantic relationship for an average of 16.46 years (*SD* = 12.97; range: 5 months-47 years), and the man was the HIV-infected partner in 35 couples (79.5%). Most participants (78.4%; 69/88) reported to have children, and most of the couples

reported to have at least a child from the current partner (65.8%; 25/38). Tables 1 and 2 summarize the sociodemographic and HIV-related characteristics of the sample.

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Procedures

This cross-sectional study was part of a larger research project about HIV-serodiscordancy, which was approved by the Research Ethics Committees of the host institution, the National Commission of Data Protection, and three urban public hospitals located in different cities in Portugal (Centro Hospitalar e Universitário de Coimbra, EPE [CHUC]; Hospital de Santa Maria – Centro Hospitalar de Lisboa Norte, EPE [HSM-CHLN]; Hospital Garcia de Orta, EPE [HGO]).

The participants were recruited through convenience sampling in the department of infectious diseases of three public hospitals between September 2017 and March 2019. Participation was voluntary, and no financial compensation was provided. In the outpatient services of two hospitals (CHUC and HSM-CHLN), the infectious disease specialist briefly presented the study and asked the dyad/patient whether they were willing to be contacted by the researchers after their medical consultation. If they agreed, in an office provided for this purpose, the researchers presented a detailed explanation of the study, ensured the confidentiality of personal data, and obtained written informed consent from couples who agreed to participate. The participants received an envelope containing two versions of the self-report measures (one for each member of the couple) to be completed independently at home, letters informing the participants about the research, and a stamped self-addressed envelope to return the questionnaires by mail. When direct contact with one of the partners was not possible, the researchers presented the study to the partner who was present, asking him/her to present the received information to his/her partner by using the letter and the

informed consent form (which could be signed and returned later, along with the completed questionnaires). At the HGO, these couples were identified by infectious disease specialists, who provided contact information (with the individuals' consent) to the researchers, who then contacted the dyads/partners and agreed upon a day to meet at the hospital to present the research and obtain the written consent forms.

A total of 264 couples were initially contacted, of which 21 couples did not meet the inclusion criteria and 28 couples refused to participate. Thus, 215 were eligible and agreed to participate. Fifty-eight complete HIV-serodiscordant couples and 19 partners in an HIV-serodiscordant relationship (15 HIV-infected and four HIV-uninfected) returned the set of questionnaires (response rate: 31.4%). Considering this study's aim, these individual partners were excluded from the analyses. Of the complete couples, 14 were further excluded because more than 20% of the responses were missing in at least one of the relevant scales/subscales used in this study (Peng et al., 2006). The final sample comprised 44 HIV-serodiscordant different-sex couples (N = 88 individuals).

Measures

Dyadic coping. The Dyadic Coping Inventory (DCI; Bodenmann, 2008) is a 37-item self-report inventory measuring different components of the DC process on a five-point scale (1 = *very rarely* to 5 = *very often*). DCI comprises subscales for stress communication, DC (supportive, delegated, negative, and common), and two single items that evaluate the quality of self-perceived DC. Except for these two single items and common DC, each subscale is assessed in two item-parallel versions: the participants' own stress communication and DC behaviours (DC enacted by oneself) and the participants' perception of their partner's stress communication and DC behaviours (DC enacted by the partner). In this study, we used three subscales measuring the participants' positive DC by oneself (aggregated subscales of supportive and delegated DC by oneself; seven items; e.g., "I show empathy and

understanding to my partner"), negative DC by oneself (four items; e.g., "I do not take my partner's stress seriously"), and couples' common DC (five items; e.g., "We help one another to put the problem in perspective and see it in a new light"). Because this study explores cross-partner effects, measuring perceptions of the participants' own and as well as their partners' DC behaviours would cause theoretical overlap. Therefore, only the subscales of DC enacted by oneself and common DC were included. Cronbach's alpha ranged from .69 (negative DC by oneself – HIV-uninfected partner) to .91 (common DC – HIV-uninfected partner).

Dyadic adjustment. The Revised Dyadic Adjustment Scale (RDAS; Busby et al., 1995) is a 14-item self-report measure used to assess dyadic adjustment, which comprises three subscales: consensus (the degree to which participant agrees with his/her partner on matters important to the relationship; six items; e.g., "Career decisions"); satisfaction (the degree to which participant feels satisfied with his/her partner; four items; e.g., "How often do you and your partner quarrel?"); and cohesion (the degree to which participant and his/her partner share common interests and participate in activities together; four items; e.g., "Do you and your mate engage in outside interests together?"). Participants are asked to rate their answers on a six-point scale (e.g., 0 = *always disagree* to 5 = *always agree*) or five-point scale (0 = *never* to 4 = *every day*). In this sample, Cronbach's alpha ranged from .66 (cohesion – HIV-uninfected partner) to .86 (consensus – HIV-infected partner).

Statistical analyses

Data analyses were performed using the Statistical Package for Social Sciences (IBM SPSS, version 22.0). To account for the interdependency of a couple's observations, repeated-measures multivariate analysis of variance was conducted. HIV status (infected vs. uninfected) was the within-subjects factor. Pearson correlations were computed to examine the associations between study variables. Two-step hierarchical linear regression (HLR; enter

method) analyses were performed to analyse the individual and cross-partner effects of DC on dyadic adjustment. In one set of analyses, the HIV-infected dyadic adjustment subscales were regressed on the DC of the HIV-infected partner (individual effect) and the HIV-uninfected partner (cross-partner effect), and in the other set, the HIV-uninfected dyadic adjustment subscales were regressed on the DC of the HIV-uninfected partner (individual effect) and the HIV-infected partner (cross-partner effect). A relevant assumption of HLR (i.e., no multicollinearity) was verified through the variance inflation factor (VIF) and the tolerance values. The VIF statistics were all below 10, and the tolerance values were above 0.2, suggesting no multicollinearity concerns (Field, 2009).

Results

Preliminary analyses

The HIV-infected and HIV-uninfected partners did not differ in any DC, $V = 0.08$, $F(3, 41) = 1.11$, $p = .358$, or dyadic adjustment subscale, $V = 0.05$, $F(3, 41) = 0.77$, $p = .516$ (see Table 3).

[Insert_table_3_about_here]

Regarding the correlation between the HIV-infected partners' DC and their own dyadic adjustment and their HIV-uninfected partners' dyadic adjustment, positive DC and common DC were significantly and positively associated with all of their own and their partners' dyadic adjustment subscales. Negative DC was significantly and negatively correlated with all of their own dyadic adjustment subscales and their partners' satisfaction and cohesion (see Table 4).

Concerning the association between the HIV-uninfected partners' DC and their own dyadic adjustment and their HIV-infected partners' dyadic adjustment, positive DC in the HIV-uninfected partner was significantly and positively correlated with his/her own and his/her HIV-uninfected partner's cohesion. Common DC was significantly and positively

associated with all of their own and their partner's dyadic adjustment subscales. No significant associations for negative DC were found (see Table 4).

[Insert_table_4_about_here]

Individual and cross-partner effects of DC on dyadic adjustment

Table 5 shows the individual and cross-partner effects of DC on the dyadic adjustment of the HIV-infected partners. The regression models regarding satisfaction and cohesion were statistically significant. Higher satisfaction reported by the HIV-infected partner was associated with higher common DC in his/her HIV-uninfected partner (cross-partner effect). Cohesion in the HIV-infected partner was higher when his/her own common DC was higher (individual effect).

[Insert_table_5_about_here]

Concerning the HIV-uninfected partners (see Table 6), all regression models were significant and showed that consensus in the HIV-uninfected partner was higher when his/her own common DC was higher (individual effect). Higher satisfaction reported by the HIV-uninfected partner was associated with his/her own higher common DC (individual effect) and with his/her HIV-infected partner's lower negative DC (cross-partner effect). Cohesion in the HIV-uninfected partner was higher when his/her own and his/her HIV-infected partner's common DC (individual and cross-partner effects) were higher and when his/her own negative DC was higher (individual effect).

[Insert_table_6_about_here]

Discussion

This study is the first to examine whether positive and negative DC provided by partners in HIV-serodiscordant couples and their common DC as a couple are associated with their dyadic/marital adjustment, considering both individual and cross-partner effects. Our main findings indicate that different dimensions of dyadic adjustment of both HIV-infected

and HIV-uninfected partners are associated with each other's DC but principally their own perception of engagement in common DC and their partners' common DC.

For both HIV-infected and HIV-uninfected partners, several positive individual and cross-partner effects of common DC on the indicators of dyadic adjustment were found. These results support our first hypothesis and corroborate the consistent findings showing that common DC has beneficial effects in couples facing medical conditions (Falconier & Kuhn, 2019). Regarding individual effects, the higher common DC in HIV-infected partners was associated with their higher cohesion, and the common DC of HIV-uninfected partners was positively related to all dimensions of dyadic adjustment. These results are congruent with evidence in the cancer context showing a positive association between one's engagement in common DC and his/her own dyadic adjustment (e.g., Badr et al., 2010; Rottmann et al., 2015). Two cross-partner effects were also observed. The more the HIV-infected partners rated the couple as using common DC, the higher the cohesion reported by their HIV-uninfected partners. Moreover, the more the HIV-uninfected partners rated the couple as engaging in common DC, the higher the relationship satisfaction reported by their HIV-infected partners. These results suggest that both HIV-infected and HIV-uninfected individuals seem to benefit when not only they but also their partners perceive the couple as engaging in joint coping activities (e.g., expressing mutual understanding). Past evidence demonstrating that each individual's common DC may be associated with his/her partner's score on a positive relationship outcome (e.g., relationship quality) also supports these findings (e.g., Regan et al., 2014; Rottmann et al., 2015).

Contrary to our second hypothesis, the aggregated measure of positive DC by oneself was not significantly associated with the dyadic adjustment of any partner. Although some studies have found a positive link between positive DC behaviours, namely, supportive DC, and the dyadic adjustment of couples in which one member was dealing with a chronic

condition (Mittinty et al., 2020; Regan et al., 2014), our findings are similar to those reported in a study with couples facing breast cancer that did not find any significant associations between supportive or delegated DC and relationship quality (Rottmann et al., 2015). As also verified by Rottmann et al. (2015), this lack of significance seems to reinforce the importance and centrality of common DC for the adjustment of HIV-serodiscordant couples over the positive DC behaviours provided by one partner. If partners have and value the resources to jointly cope with the disease and if they perceive the disease as an inherently shared responsibility (the "we-disease"), then this may stimulate synchronized efforts and emotional sharing (Sallay et al., 2019), which can be translated into an increased well-being for and dyadic adjustment of both partners. This approach can be particularly important in the context of HIV-serodiscordancy since a joint appraisal of HIV by both partners may also be beneficial for their decision-making process regarding, for example, sexual behaviours/safer sex practices, as has been previously suggested by Gamarel, Starks, et al. (2014).

In the multivariate models, negative DC behaviours were associated with the dyadic adjustment of HIV-uninfected partners. Supporting our third hypothesis, HIV-infected partners' lower engagement in negative DC was associated with higher relationship satisfaction in their HIV-uninfected partners. In fact, engaging in less hostile, superficial, or ambivalent behaviours is expected to have positive implications for the dyadic adjustment of the partner. However, and contrary to this hypothesis and to research demonstrating a negative association between negative DC and dyadic adjustment (Mittinty et al., 2020; Regan et al., 2014; Traa et al., 2015), we also found that for HIV-uninfected partners, higher negative DC was associated with higher cohesion. In the literature, some studies have shown that negative interactions between partners can improve romantic relationships in the long run because such interactions may help lead the partners to better understand the relationship challenges and each other's needs (Gottman & Krokoff, 1989; Li & Fung, 2013).

Nevertheless, this is an unexpected finding that warrants further investigation.

This study is not without limitations. First, the participants were recruited through convenience sampling, the number of couples who participated was small, and there is an imbalance between HIV-infected men and women, with more men being the index partner. Therefore, these results are not generalizable to all types of partners living with HIV-serodiscordancy. Although this discrepancy is consistent with Portuguese epidemiological data, in which over 70% of HIV-infected individuals are men (Directorate-General of Health, 2019), future studies with more sex-balanced samples would be important to understand not only the social role (i.e., being the HIV-infected or HIV-uninfected partner) but also the gender differences (and their interaction) in these associations. Despite the significant recruitment efforts, the response rate was low (31.4%), which is not unusual in similar dyadic studies (e.g., Regan et al., 2014). The reasons for this low response rate may be associated with the fact that this study required the participation of both partners; the participants were not offered any reward/compensation; the set of questionnaires was lengthy; and some sociodemographic characteristics of the participants (e.g., older age, low educational level; Sheldon, 2007) may have made completing the entire protocol more difficult. HIV-serodiscordant partners may be considered a hard-to-reach population because of the nondisclosure of HIV status, the high rates of relationship dissolution (Mack et al., 2014), and the fear of feeling that their anonymity is compromised, particularly when conducting research on stigmatized/risk behaviours (Shaghaghi et al., 2011). Additionally, the cross-sectional design precludes inferences about the causal relationships between the study variables. Studies with longitudinal designs would be valuable. Finally, further research with a larger sample of HIV-serodiscordant couples would benefit from adopting more sophisticated methods of analysis of dyads, such as the actor-partner interdependence model (APIM; Cook & Kenny, 2005).

Despite these limitations, this study extends the prior literature on DC and dyadic/marital adjustment among a population that has been relatively neglected in studies about relationship dynamics, and it collects data from both partners and analyses these data considering the interdependency of partners' DC, thus identifying individual and cross-partner effects. This study also identifies and discriminates specific DC behaviours (common DC, aggregated measure of positive DC, and negative DC), which may refine interventions in the HIV context, therefore providing more precise intervention targets in the relationship. Our results, highlighting the central role of common DC (both within-person and across partners), support that interventions that include both partners may be more effective than those directed to the patients alone (Fife et al., 2008). Indeed, Bodenmann et al. (2016) have recently endorsed that interventions should involve both partners allowing them to engage in common DC, as both are suffering from the same stressor. Accordingly, our findings also suggest that these couples may benefit from DC-enhancing interventions (e.g., couples coping enhancement training; Bodenmann & Shantinath, 2004) to assist them in coping with the stress of living with HIV, which in turn may have a positive effect on their relationship adjustment. Couple-based interventions should be attentive to the different effects of DC on the dyadic adjustment of partners (e.g., whether a particular DC behaviour is typically associated with both or only one of the partners' adjustment; whether that effect is usually positive or negative) and strongly focus on strengthening the "we" approach of common DC. Ultimately, promoting a better dyadic adjustment within relationships affected by HIV-serodiscordancy is crucial, since relationship quality has been consistently associated with individual health and well-being (Proulx et al., 2007).

References

Badr, H., & Acitelli, L. K. (2017). Re-thinking dyadic coping in the context of chronic illness. *Current Opinion in Psychology, 13,* 44-48. https://doi.org/10.1016/j.copsyc.2016.03.001

Badr, H., Carmack, C. L., Kashy, D. A., Cristofanilli, M., & Revenson, T. A. (2010). Dyadic coping in metastatic breast cancer. *Health Psychology*, *29*(2), 169-180. https://doi.org/10.1037/a0018165

Berg, C. A., & Upchurch, R. (2007). A developmental-contextual model of couples coping with chronic illness across the adult life span. *Psychological Bulletin, 133*(6), 920-954. https://doi.org/10.1037/0033-2909.133.6.920

Bodenmann, G. (2005). Dyadic coping and its significance for marital functioning. In T. A. Revenson, K. Kayser, & G. Bodenmann (Eds.), *Couples coping with stress: Emerging perspectives on dyadic coping* (pp. 33-49). American Psychological Association. https://doi.org/10.1037/11031-002

Bodenmann, G. (2008). *Dyadisches Coping Inventar (DCI). Testmanual*. Huber.

Bodenmann, G., Pihet, S., & Kayser, K. (2006). The relationship between dyadic coping and marital quality: A 2-year longitudinal study. *Journal of Family Psychology, 20*(3), 485-493. https://doi.org/10.1037/0893-3200.20.3.485

Bodenmann, G., Randall, A. K., & Falconier, M. K. (2016). Systemic-transactional model of dyadic coping. In M. K. Falconier, A. K. Randall, & G. Bodenmann (Eds.), *Couples coping with stress: A cross-cultural perspective* (pp. 5-22). Routedge.

Bodenmann, G., & Shantinath, S. D. (2004). The couples coping enhancement training (CCET): A new approach to prevention of marital distress based upon stress and

coping. *Family Relations, 53*(5), 477-484. https://doi.org/10.1111/j.0197-6664.2004.00056.x

Bunnell, R. E., Nassozi, J., Marum, E., Mubangizi, J., Malamba, S., Dillon, B., Kalule, J., Bahizi, J., Musoke, N., & Mermin, J. H. (2005). Living with discordance: Knowledge, challenges, and prevention strategies of HIV-discordant couples in Uganda. *AIDS Care, 17*(8), 999-1012. https://doi.org/10.1080/09540120500100718

Busby, D. M., Christensen, C., Crane, D. R., & Larson, J. H. (1995). A revision of the Dyadic Adjustment Scale for use with distressed and nondistressed couples: Construct hierarchy and multidimensional scales. *Journal of Marital and Family Therapy*, *21*(3), 289-308. https://doi.org/10.1111/j.1752-0606.1995.tb00163.x

Cook, W. L., & Kenny, D. A. (2005). The actor–partner interdependence model: A model of bidirectional effects in developmental studies. *International Journal of Behavioral Development, 29*(2), 101-109. https://doi.org/10.1080/01650250444000405

Directorate-General of Health. (2019). *HIV infection and AIDS in Portugal - 2019.* Directorate-General of Health/National Health Institute Doctor Ricardo Jorge. https://www.dgs.pt/documentos-e-publicacoes/infecao-vih-e-sida-em-por-tugal-2019.aspx

Donato, S., Iafrate, R., Barni, D., Bertoni, A., Bodenmann, G., & Gagliardi, S. (2009). Measuring dyadic coping: The factorial structure of Bodenmann's "Dyadic Coping Questionnaire" in an italian sample. *Tpm-Testing, Psychometrics, Methodology in Applied Psychology, 16*(1), 25-47. https://doi.org/10.4473/Tpm.16.1.2

Donato, S., Parise, M., Iafrate, R., Bertoni, A., Finkenauer, C., & Bodenmann, G. (2015). Dyadic coping responses and partners' perceptions for couple satisfaction: An actor–

partner interdependence analysis. *Journal of Social and Personal Relationships, 32*(5), 580-600. https://doi.org/10.1177/0265407514541071

Falconier, M. K., Jackson, J. B., Hilpert, P., & Bodenmann, G. (2015). Dyadic coping and relationship satisfaction: A meta-analysis. *Clinical Psychology Review, 42,* 28-46. https://doi.org/10.1016/j.cpr.2015.07.002

Falconier, M. K., & Kuhn, R. (2019). Dyadic coping in couples: A conceptual integration and a review of the empirical literature. *Frontiers in Psychology, 10,* Article 571. https://doi.org/10.3389/fpsyg.2019.00571

Field, A. P. (2009). *Discovering statistics using SPSS* (3rd ed.). SAGE Publications.

Fife, B. L., Scott, L. L., Fineberg, N. S., & Zwickl, B. E. (2008). Promoting adaptive coping by persons with HIV disease: Evaluation of a patient/partner intervention model. *Journal of the Association of Nurses in AIDS Care, 19*(1), 75-84. https://doi.org/10.1016/j.jana.2007.11.002

Gamarel, K. E., Neilands, T. B., Golub, S. A., & Johnson, M. O. (2014). An omitted level: An examination of relational orientations and viral suppression among HIV serodiscordant male couples. *Journal of Acquired Immune Deficiency Syndromes, 66*(2), 193-196. https://doi.org/10.1097/QAI.0000000000000148

Gamarel, K. E., Starks, T. J., Dilworth, S. E., Neilands, T. B., Taylor, J. M., & Johnson, M. O. (2014). Personal or relational? Examining sexual health in the context of HIV serodiscordant same-sex male couples. *AIDS and Behavior, 18*(1), 171-179. https://doi.org/10.1007/s10461-013-0490-4

Gottman, J. M., & Krokoff, L. J. (1989). Marital interaction and satisfaction: A longitudinal view. *Journal of Consulting and Clinical Psychology, 57*(1), 47-52. https://doi.org/10.1037/0022-006X.57.1.47

Iafrate, R., & Donato, S. (2012). Coping in a relational context: The case of dyadic coping. In B. Molinelli & V. Grimaldo (Eds.), *Handbook of the Psychology of Coping: New research* (pp. 111-132). Nova Science Publisher.

Kayser, K., Watson, L. E., & Andrade, J. T. (2007). Cancer as a "we-disease": Examining the process of coping from a relational perspective. *Families, Systems, & Health, 25*(4), 404-418. https://doi.org/10.1037/1091-7527.25.4.404

Largu, A., Manciuc, C., Vata, A., Nicolau, C., Prisacaru, L., Ciubotaru, F. F., Luca, C., & Dorobat, C. M. (2012). Dyadic adjustment in HIV sero-concordant and sero-discordant couples. *Revista Medico-Chirurgicala a Societatii de Medici si Naturalisti din Iasi, 116*(3), 718-721. https://www.semanticscholar.org/paper/Dyadic-adjustment-in-HIV-sero-concordant-and-Largu-Manciuc/fd5d1c474e317918c7783c63e8222be5018741a3

Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal and coping*. Springer.

Lewis, M. A., McBride, C. M., Pollak, K. I., Puleo, E., Butterfield, R. M., & Emmons, K. M. (2006). Understanding health behavior change among couples: An interdependence and communal coping approach. *Social Science & Medicine, 62*(6), 1369-1380. https://doi.org/10.1016/j.socscimed.2005.08.006

Li, T., & Fung, H. H. (2013). How negative interactions affect relationship satisfaction: The paradoxical short-term and long-term effects of commitment. *Social Psychological and Personality Science, 4*(3), 274-281. https://doi.org/10.1177/1948550612453748

Mack, N., Odhiambo, J., Wong, C. M., & Agot, K. (2014). Barriers and facilitators to pre-exposure prophylaxis (PrEP) eligibility screening and ongoing HIV testing among target populations in Bondo and Rarieda, Kenya: Results of a consultation with community stakeholders. *BMC Health Services Research, 14*, Article 231. https://doi.org/10.1186/1472-6963-14-231

Mittinty, M. M., Kindt, S., Mittinty, M. N., Bernardes, S., Cano, A., Verhofstadt, L., & Goubert, L. (2020). A dyadic perspective on coping and its effects on relationship quality and psychological distress in couples living with chronic pain: A longitudinal study. *Pain Medicine*, *21*(2), e102-e113. https://doi.org/10.1093/pm/pnz267

Nichols, C. M. (2006). *Coping responses, relationship satisfaction, and psychological distress in male couples with serodiscordant HIV status* [Doctoral dissertation, Fordham University]. ETD Collection for Fordham University. https://fordham.bepress.com/dissertations/AAI3210275

Pankrath, A. L., Weissflog, G., Mehnert, A., Niederwieser, D., Dohner, H., Honig, K., Gundel, H., Vogelhuber, M., Friedrich, M., & Ernst, J. (2018). The relation between dyadic coping and relationship satisfaction in couples dealing with haematological cancer. *European Journal of Cancer Care*, *27*(1), 1-11. https://doi.org/10.1111/ecc.12595

Parise, M., Pagani, A. F., Donato, S., & Sedikides, C. (2019). Self-concept clarity and relationship satisfaction at the dyadic level. *Personal Relationships*, *26*(1), 54-72. https://doi.org/10.1111/pere.12265

Pasipanodya, E. C., & Heatherington, L. (2015). Relationship satisfaction of HIV-positive Ugandan individuals with HIV-negative partners. *AIDS Care, 27*(5), 675-678. https://doi.org/10.1080/09540121.2014.985181

Peng, C.-Y. J., Harwell, M., Liou, S.-M., & Ehman, L. H. (2006). Advances in missing data methods and implications for educational research. In S. Sawilowsky (Ed.), *Real data analysis* (pp. 31-78). Information Age.

Persson, A. (2008). Sero-silence and sero-sharing: Managing HIV in serodiscordant heterosexual relationships. *AIDS Care, 20*(4), 503-506. https://doi.org/10.1080/09540120701787487

Proulx, C. M., Helms, H. M., & Buehler, C. (2007). Marital quality and personal well-being: A meta-analysis. *Journal of Marriage and Family, 69*(3), 576-593. https://doi.org/10.1111/j.1741-3737.2007.00393.x

Regan, T. W., Lambert, S. D., Kelly, B., Falconier, M., Kissane, D., & Levesque, J. V. (2015). Couples coping with cancer: Exploration of theoretical frameworks from dyadic studies. *Psycho-Oncology, 24*(12), 1605-1617. https://doi.org/10.1002/pon.3854

Regan, T. W., Lambert, S. D., Kelly, B., McElduff, P., Girgis, A., Kayser, K., & Turner, J. (2014). Cross-sectional relationships between dyadic coping and anxiety, depression, and relationship satisfaction for patients with prostate cancer and their spouses. *Patient Education and Counseling, 96*(1), 120-127. https://doi.org/10.1016/j.pec.2014.04.010

Remien, R. H., Wagner, G., Dolezal, C., & Carballo-Dieguez, A. (2003). Levels and correlates of psychological distress in male couples of mixed HIV status. *AIDS Care, 15*(4), 525-538. https://doi.org/10.1080/0954012031000134764

Revenson, T. A., Kayser, K., & Bodenmann, G. (2005). *Couples coping with stress: Emerging perspectives on dyadic coping*. American Psychological Association. https://doi.org/10.1037/11031-000

Rispel, L. C., Metcalf, C. A., Moody, K., Cloete, A., & Caswell, G. (2011). Sexual relations and childbearing decisions of HIV-discordant couples: An exploratory study in South Africa and Tanzania. *Reproductive Health Matters, 19*(37), 184-193. https://doi.org/10.1016/s0968-8080(11)37552-0

Rogers, A. J., Achiro, L., Bukusi, E. A., Hatcher, A. M., Kwena, Z., Musoke, P. L., Turan, J. M., Weke, E., & Darbes, L. A. (2016). Couple interdependence impacts HIV-related health behaviours among pregnant couples in southwestern Kenya: A qualitative analysis. *Journal of the International AIDS Society, 19*(1), Article 21224. https://doi.org/10.7448/ias.19.1.21224

Rottmann, N., Hansen, D. G., Larsen, P. V., Nicolaisen, A., Flyger, H., Johansen, C., & Hagedoorn, M. (2015). Dyadic coping within couples dealing with breast cancer: A longitudinal, population-based study. *Health Psychology, 34*(5), 486-495. https://doi.org/10.1037/hea0000218

Sallay, V., Martos, T., Chatfield, S. L., & Dull, A. (2019). Strategies of dyadic coping and self-regulation in the family homes of chronically ill persons: A qualitative research study using the emotional map of the home interview method. *Frontiers in Psychology, 10*, Article 403. https://doi.org/10.3389/fpsyg.2019.00403

Saraswat, N., Chopra, A., Kumar, S., Agarwal, R., Mitra, D., & Kamboj, P. (2019). A cross-sectional study to analyze the social, sexual, and reproductive challenges among serodiscordant couples. *Indian Journal of Dermatology, 64*(5), 377-382. https://doi.org/10.4103/ijd.IJD_367_18

Shaghaghi, A., Bhopal, R. S., & Sheikh, A. (2011). Approaches to recruiting 'hard-to-reach' populations into re-search: A review of the literature. *Health Promotion Perspectives, 1*(2), 86-94. https://doi.org/10.5681/hpp.2011.009

Sheldon, H. (2007). *Increasing response rates amongst black and minority ethnic and seldom heard groups: Report of a consultation with stakeholders on increasing responde rates to the national inpatients survey*. Picker Institute Europe. http://www.nhssurveys.org/Filestore/documents/Increasing_response_rates_stakeholder_consultation_v6.pdf

Traa, M. J., De Vries, J., Bodenmann, G., & Den Oudsten, B. L. (2015). Dyadic coping and relationship functioning in couples coping with cancer: A systematic review. *British Journal of Health Psychology, 20*(1), 85-114. https://doi.org/10.1111/bjhp.12094

Table 1. Sociodemographic information of the sample considering the partner's HIV status.

	HIV-infected partners (n = 44)	**HIV-uninfected partners** (n = 44)
Age (years), *M* (*SD*); range	49.61 (11.03); 24-73	48.30 (11.11); 24-67
Education, *n* (%)		
Up to the 9th grade	26 (60.5)	19 (44.2)
High school (10th to 12th grade)	14 (32.6)	13 (30.2)
University studies	3 (7.0)	11 (25.6)
Work situation, *n* (%)		
Employed	20 (50.0)	24 (60.0)
Unemployed	5 (12.5)	10 (25.0)
Student	0 (0.0)	0 (0.0)
Retired	15 (37.5)	6 (15.0)
Residence, *n* (%)		
Rural area	15 (35.7)	14 (35.0)
Urban area	27 (64.3)	26 (65.0)

Note. The *n*s of variables do not add up to 44 due to missing values. The number of missing responses in sociodemographic information ranged from 0 to 4.

Table 2. Clinical information related to HIV.

	HIV-infected partners (N = 44)
Time since diagnosis (years), *M* (*SD*); range	14.36 (8.64); 1-29
Transmission mode, *n* (%)	
Sex with a woman or a man	24 (57.1)
Shared needles or other injection equipment	7 (16.7)
Blood transfusion or other medical procedure	3 (7.1)
Needle stick or other exposure while at work	2 (4.8)
Born with HIV infection	1 (2.4)
Unknown	5 (11.9)
On ART, *n* (%)	
Yes	41 (97.6)
No	1 (2.4)
Most recent viral load, *n* (%)	
Undetectable	26 (66.7)
Detectable	4 (10.3)
Don't know	9 (23.1)
Most recent CD4 cells count, *n* (%)	
< 350 cells/ml	5 (13.9)
> 350 cells/ml	11 (30.6)
Don't know	20 (55.6)
Chronic hepatitis B, *n* (%)	
Yes	4 (11.4)
No	31 (88.6)
Chronic hepatitis C, *n* (%)	
Yes	4 (11.1)
No	32 (88.9)

Note. ART = Antiretroviral therapy. The *n*s of variables do not add up to 44 due to missing values. The number of missing responses in clinical data ranged from 2 to 9.

Table 3. Differences within the couple in study variables.

	HIV-infected partners (n = 44)	**HIV-uninfected partners** (n = 44)		
	***M* (*SD*)**	***M* (*SD*)**	***F* (*df*)**	***p***
DC subscales				
Positive DC (O)	3.87 (0.82)	3.82 (0.57)	0.16 (43)	.689
Negative DC (O)	1.91 (0.84)	1.80 (0.72)	0.56 (43)	.457
Common DC	3.94 (0.78)	3.73 (0.94)	2.50 (43)	.121
Dyadic adjustment subscales				
Consensus	3.90 (0.83)	3.87 (0.78)	0.12 (43)	.728
Satisfaction	4.03 (0.64)	3.91 (0.79)	2.42 (43)	.142
Cohesion	3.21 (1.08)	3.15 (1.01)	0.23 (43)	.633

Note. DC = Dyadic coping; O = by oneself.

Table 4. Correlations between DC and dyadic adjustment of HIV-infected and HIV-uninfected partners.

	HIV-infected partner			HIV-uninfected partner		
	Consensus	Satisfaction	Cohesion	Consensus	Satisfaction	Cohesion
HIV-infected partner						
Positive DC (O)	**.38***	**.42****	**.53*****	**.33***	**.44****	**.35***
Negative DC (O)	**-.31***	**-.49****	**-.35***	-.16	**-.55*****	**-.30***
Common DC	**.38***	**.55*****	**.65*****	**.36***	**.47****	**.54*****
HIV-uninfected partner						
Positive DC (O)	.14	.17	**.31***	.03	.17	**.35***
Negative DC (O)	-.18	-.13	-.17	-.19	-.29	.04
Common DC	**.39***	**.53*****	**.45****	**.60*****	**.62*****	**.54*****

Note. DC = Dyadic coping; O = by oneself. Correlations in shaded represent cross-partner effects (i.e., the correlations between DC of one partner and his/her partner's dyadic adjustment).

*$p < .05$; **$p < .01$; ***$p < .001$.

Table 5. Individual and cross-partner effects of DC on dyadic adjustment of HIV-infected partners.

	Consensus			Satisfaction			Cohesion		
	β	t	ΔR^2	β	t	ΔR^2	β	t	ΔR^2
Step 1			.17			.34			.44
[HIV+] Positive DC (O)	.19	0.86		-.03	-0.14		.10	0.55	
[HIV+] Negative DC (O)	-.11	-0.58		-.24	-1.49		.09	0.60	
[HIV+] Common DC	.17	0.72		.42	1.98		.64	3.28**	
Step 2			.06			.09			.03
[HIV+] Positive DC (O)	.26	1.13		.02	0.12		.10	0.52	
[HIV+] Negative DC (O)	-.09	-0.48		-.24	-1.51		.10	0.63	
[HIV+] Common DC	-.02	-0.07		.25	1.10		.56	2.57*	
[HIV-] Positive DC (O)	-.06	-0.39		-.06	-0.46		.10	0.79	
[HIV-] Negative DC (O)	-.06	-0.38		.09	0.70		.07	0.52	
[HIV-] Common DC	.29	1.66		.36	2.38*		.15	1.02	
Adjusted R^2		.11			.34			.38	
F (Final model)		1.85			4.62**			5.45***	

Note. HIV+ = HIV-infected partners; HIV- = HIV-uninfected partners; DC = Dyadic coping; O = by oneself. The standardized regression weights concern the analyses in which all main effects were entered (second step).

*$p < .05$; **$p < .01$; *** $p < .001$.

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Table 6. Individual and cross-partner effects of DC on dyadic adjustment of HIV-uninfected partners.

	Consensus			Satisfaction			Cohesion		
	β	t	ΔR^2	β	t	ΔR^2	β	t	ΔR^2
Step 1			.40			.40			.37
[HIV-] Positive DC (O)	-.21	-1.62		-.08	-0.57		.21	1.58	
[HIV-] Negative DC (O)	-.08	-0.61		-.16	-1.23		.21	1.64	
[HIV-] Common DC	.66	4.92***		.60	4.55***		.52	3.81***	
Step 2			.06			.15			.12
[HIV-] Positive DC (O)	-.25	-1.88		-.13	-1.12		.19	1.49	
[HIV-] Negative DC (O)	-.09	-0.70		-.12	-1.00		.31	2.43*	
[HIV-] Common DC	.65	4.43***		.55	4.13***		.33	2.33*	
[HIV+] Positive DC (O)	.32	1.68		.26	1.53		-.14	-0.78	
[HIV+] Negative DC (O)	.16	1.01		-.37	-2.63*		.02	0.11	
[HIV+] Common DC	-.08	-0.34		-.24	-1.20		.53	2.50*	
Adjusted R^2		.37			.49			.41	
F (Final model)		5.16**			7.78***			5.96***	

Note. HIV- = HIV-uninfected partners; HIV+ = HIV-infected partners; DC = Dyadic coping; O = by oneself. The standardized regression weights concern the analyses in which all main effects were entered (second step).

*p < .05; **p < .01; ***p < .001.