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Slow to Share: Social capital and its role in public HIV disclosure among public sector ART patients in the Free State province of South Africa.

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**Slow to Share: Social capital and its role in public HIV disclosure among public sector
ART patients in the Free State province of South Africa.**

Abstract

HIV serostatus disclosure to community members has been shown to have potential public and personal health benefits. This study examined the impact of bonding and bridging social capital (i.e. close and distant ties) on public disclosure and described the complex relationship between bonding and bridging social capital in the context of serostatus disclosure among AIDS patients enrolled in South Africa's public sector ART programme. Data were collected from a cohort of patients enrolled in the public sector ART programme in the Free State province of South Africa. Semi-structured, face-to-face interviews were conducted with a random sample of 268 patients at three points in time (< 6 months of ART, 6-12 months of ART, and 18-24 of months ART). The relationship between bonding and bridging social capital and the impact of different forms of social capital on public disclosure were determined using a fully cross-lagged regression model. The positive impact of bonding social capital (treatment and emotional buddy) on public disclosure was positive and invariant across time. The results from the cross-lagged regression indicated that bridging social capital (community health worker and support group) only encouraged public disclosure in the second year of treatment. At the start of treatment, bivariate analysis showed a strong negative association between bonding and bridging social capital, which diminished at follow-up and eventually disappeared in the second year of treatment. This study identified bonding social capital as a leverage to maximize potential benefits and minimize potential risks in order to shift the balance towards consistent public disclosure. Furthermore, the importance of bridging social capital initiatives is demonstrated, especially for the most vulnerable patients, those who cannot capitalize their bonding social capital by disclosing their HIV serostatus to family and friends at the start of treatment.

Keywords: Antiretroviral treatment, HIV/AIDS, Disclosure, Social capital, South Africa

Abbreviations: ART – antiretroviral treatment; CHW – community health worker; PLWHA – people living with HIV/AIDS; RMSEA – root mean square error of approximation; UFS – University of the Free State

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Introduction

HIV serostatus disclosure to community members has been shown to have potential public and personal health benefits (Akani & Erhabor, 2006; Bouillon et al., 2007; Matthews et al., 1999; Medley et al., 2004; Miller & Rubin, 2007; O'Brien et al., 2003; Paxton, 2002; Skogmar et al., 2006; Stirrat et al., 2006). Knowing a partner's serostatus can be a motivational force in safer sex behavior (Center for Disease Control, 2001; Hyde et al., 2005; Marks & Crepaz, 2001; Pinkerton & Galletly, 2006), providing public benefit. On a personal level, disclosure to significant others may increase access to social and material support, generating both physical and mental health gains (Antelman et al., 2001; Bikaako-Kajura et al., 2006; Kalichman et al., 2003; Mason et al., 1997; Waddell & Messeri, 2006; Zea et al., 2005). The health benefits of public disclosure have been incorporated into South Africa's *Operational Plan for Comprehensive HIV and AIDS Care, Management and Treatment*. Before starting antiretroviral treatment (ART), medically eligible patients have to complete drug-readiness training (DRT), which strongly encourages disclosure (South African National Department of Health, 2003).

For many people living with HIV/AIDS (PLWHA), however, these potential positive consequences are outweighed by enormous negative consequences. HIV disclosure is not a guarantee for increased social support, because many patients might face rejection, stigmatization and even violence as a result of revealing their serostatus (Antelman et al., 2001; Bouillon et al., 2007; Chandra et al., 2003; Holt et al., 1998; Maman et al., 2001; Skogmar et al., 2006; Stirrat et al., 2006; Varga et al., 2005; Ware et al., 2006; Wolitski et al., 2005). Anticipating these adverse conditions is often a reason for non-disclosure.

Consequently, public disclosure is a planned and conscious act that results from the patient balancing the potential risks and benefits of secrecy versus disclosure (Bouillon et al., 2007;

Derlega et al., 1998). Identifying tools or resources to minimize possible risks and maximize potential benefits is fundamental to affect disclosure patterns.

Research indicates that social capital can be usefully applied to explain differences in health behaviour (Baum & Ziersch, 2003; Campbell, 2001; Campbell et al., 2002; Carpiano, 2007; Hawe & Shiell, 2000; Kawachi et al., 1999; Macinko & Starfield, 2001; Moore et al., 2005). The concept of social capital is one of the most popular exports of contemporary sociology, yet its definition is often fluid and varies across studies (Portes, 1998; Viswanath et al., 2006). Social capital is defined by Pierre Bourdieu (1980) as “the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance or recognition” (Bourdieu, 1980, 1985). Through social capital, actors can gain access to economic, cultural and human capital (Bourdieu, 1979, 1980; Portes, 1998). Accordingly, PLWHA could use their network-based resources to generate much needed economic, physical and emotional support to minimize risks and maximize benefits of HIV disclosure.

Robert Putnam’s article, “Bowling Alone: America’s Declining Social Capital” (1995), encourages a wider embrace of the notion of social capital. Putnam’s contribution to our theoretical model is the distinction between bonding and bridging social capital (Putnam, 1995, 2000). Bonding social capital encompasses strong ties between immediate family, close friends and neighbours. Bridging social capital denotes more distant ties between members of a support group, loose friendships and workmates (Narayan, 1999; Putnam, 2000; Woolcock & Narayan, 2000). Few empirical studies have distinguished between the effects of bonding and bridging social capital on health (Kim et al., 2007). One should note that bridging and bonding are not ‘either-or’ categories into which a patient’s social ties can neatly be divided, but ‘more-or-less’ dimensions along which we can compare different social networks (Putnam, 2000). Time and resource constraints create a trade-off between both forms of social

capital. In our research, PLWHA who are not able to disclose to kinsmen could compensate this lack of bonding social capital by using more bridging social capital. They could capitalize their bridging social ties by using the services of community health workers (CHWs) or participating in an HIV support group.

We tested two hypotheses generated by our theoretical framework. Based upon the literature, we hypothesized independent positive effects of different forms of social capital on disclosure to the community among AIDS patients enrolled in South Africa's public sector ART programme (H1). Furthermore, additional research was done to test the existence of a trade-off between bonding and bridging social networks in the context of serostatus disclosure: we expected that patients, who cannot disclose to close ties, will use bridging social capital services more to compensate for this lack of bonding social capital (H2).

Materials and methods

Subjects and design

This study is part of an ongoing cohort study of patients enrolled in the public sector ART programme in the Free State province of South Africa. The study was approved by the Ethics Committee of the Faculty of Humanities of the University of the Free State.

The sampling frame consisted of a list of names obtained from the Provincial Department of Health of adult patients certified as medically ready for ART (CD4 < 200 and/or WHO stage 4) within the first 2 months after the first patient had received his/her treatment. For each of the five districts of the province¹, 80 patients were sampled randomly from this list proportional to the numbers of patients per clinic and per treatment group² (treatment and non-treatment cases).

This study uses three waves of panel data to examine the role of social capital in public disclosure. At baseline (Time 1), trained enumerators conducted face-to-face interviews with 371 study participants (268 treatment and 103 non-treatment cases), using a standard questionnaire after obtaining the written consent of all the patients. Approximately 6 months later (Time 2), 307 of the original cohort patients were re-interviewed using an updated version of the questionnaire. One year after the second assessment, 243 of the original study participants were re-interviewed (Time 3)³. Only patients who were on treatment at baseline (n = 268) were included in this study because non-treatment cases do not have access to the same support mechanisms (treatment buddy, CHW) as treatment cases.

Measures

¹ i.e. Lejweleputswa, Motheo, Thabo Mofutsanyana, Fezile Dabi and Xhariep. As there were less than 80 eligible patients in Xhariep, a census of all treatment and non-treatment patients was conducted.

² The list distinguished between those patients who were receiving treatment at baseline ('treatment' cases) and those who were certified as ready to commence treatment but not yet receiving it ('non-treatment' cases).

³ The main reasons for attrition at T2 and T3 included death, refusal to be interviewed and failure to determine the current whereabouts of patients.

Information on all measures was collected at baseline and at the two follow-up interviews. Two variables measuring patients' bonding social capital were defined and treated separately in all analyses: having a treatment buddy and having someone providing emotional support, excluding a treatment buddy⁴. Data on bridging social capital were collected using two questions: 'Do you currently have a CHW assigned to support you?' and 'Do you participate in a support group for PLWHA?'. Public disclosure was measured by two questions: 'Have you publicly disclosed your HIV status?' and in a negative manner: 'Do you hide your HIV status from your community?'. In accordance with previous studies, we calculated a summation score that categorizes patients as non-disclosers (those who hide their status and have not publicly disclosed), inconsistent disclosers (those who sometimes hide their status or have not publicly disclosed) and consistent disclosers (those who publicly disclose and never hide their serostatus)(Hart et al., 2005; Parsons et al., 2004; Parsons et al., 2005). In this study, public serostatus disclosure is not defined as a single act or an all-or-nothing event but rather as a continuous process of balancing between secrecy and openness during every encounter with a member of the community (Parsons et al., 2004; Parsons et al., 2005). The measure is supported by recent studies showing that disclosure patterns may be adjusted over time as the result of a continuous decision-making and negotiating process (Hart et al., 2005; Kalichman et al., 2001; Parsons et al., 2004; Strachan et al., 2007).

Method

We used a fully cross-lagged regression analysis⁵ to study the hypothesized positive impact of bonding and bridging social capital mechanisms on public disclosure patterns over time. We analyzed information for each variable assessed at three time points. Figure 1 presents the

⁴ These variables are used as measures of bonding social capital because descriptive analysis demonstrates that 97.4% of treatment buddies and 98.8% of emotional support buddies are either immediate family or close friends of the respondent.

⁵ Cross-lagged regression analysis is a statistical method which enables us to examine the interrelationships between multiple variables over time. This method requires, at minimum, two variables measured synchronously at two points in time.

regression model to be tested. Dashed arrows connecting like variables over time represent within-variable regression paths. By including regression paths between the same variable measured in different survey waves, we can estimate its cross-time, relative stability. Solid lines show the regression paths from both bonding social capital measures (treatment buddy and emotional support) to public disclosure at three time points. The model also separately analyzes the influence of the two bridging social capital measures (CHW and support group) on public disclosure at each wave. Finally, we added cross-lagged effects (for example, between Time 1 and 2) for all four social capital measures on public disclosure to test the impact of bonding and bridging social capital on disclosure over time. The analysis was performed with the statistical software package LISREL Version 8.72. The hypothesized trade-off between bonding and bridging social capital was assessed using the correlation matrix produced by LISREL.

FIGURE 1

Results

Sample description

Table I displays the demographic characteristics of our sample of 268 ART patients. It also describes the use of social capital initiatives over time⁶. Finally the numbers of non-disclosers and inconsistent and consistent disclosers are shown across time. Table II displays the correlation coefficients used as input for the construction of covariance matrices for the LISREL analyses.

TABLE I

TABLE II

Statistical analysis

The results concerning model fit and model comparisons are depicted in Table III. To test the time-invariance of the different associations, Model 1 equated paths between variables at Time 1 with corresponding paths at Time 2 and Time 3. Corresponding relative stability and cross-lagged effects were also set as equal. The model showed a X^2 -value of 349.283 ($df = 82$) with $RMSEA = 0.149$ and $CFI = 0.350$, indicating a poor fit. Next, we modified the cross-lagged model, following recommended model modification procedures (Bentler & Mooijaert, 1989; Hays et al., 1994; MacCallum, 1986; Veenstra et al., 2005). We evaluated the effects of relaxing the equality constraints imposed in the aforementioned model. We did this by releasing constraints one at a time. Relaxing the constraint that stability effects be equal (Model 2) improved model fit significantly. Furthermore, a model where the corresponding cross-lagged paths were estimated freely across waves (Model 3) displayed better goodness of

⁶ If we examine the interaction between PLWHA and their bonding and bridging associates, patients' responses to a series of open-ended questions allow us to discern three broad categories of support provided by these social capital initiatives: treatment support (stimulating health-enhancing behaviour and ART adherence), domestic support (household work and self-care) and emotional and social support (encouragement and empathy). These results confirm previous qualitative studies on the role of lay health workers in the Free State health care (Schneider et al., 2008; Van Rooyen, 2002).

fit statistics than the model with equality constraints. Finally, we released the corresponding short-term effects of the different social capital measures on public disclosure. Relaxing the constraints imposed on the effects of both bridging social capital measures (Model 4) on public disclosure improved the model fit. However, relaxing the constraint of equal paths between bonding social capital measures and public disclosure (Model 5) did not statistically improve the fit of the model (difference in $X^2 = 1.244$ ($df = 4$) and $p = 0.870$). The effect of both bonding social capital measures on public disclosure is the same at each time point. The resulting model (Model 4) was accepted as the final cross-lagged model. The RMSEA (0.0434) of this model indicates a close fit of the overall model with reasonable errors of approximation in the population. Other goodness-of-fit statistics, displayed in Table IV, suggest that the model not only fits adequately, but also withstands tests of parsimony.

TABLE III

H1: Social capital and public disclosure

We used fully cross-lagged regression analysis to determine independent predictors of public serostatus disclosure. Table IV presents the significant paths and standardized regression coefficients of the proposed model (minus the relative stability paths).

At baseline, public disclosure was only significantly associated with the support from a close tie. Patients with a treatment buddy ($\beta = 0.14$) hid their serostatus significantly less than patients without such treatment support. The results also imply that a person's chances of being a consistent discloser increase by 0.21 standard deviations when they have access to emotional support. The amount of explained variance in public disclosure at baseline was only 7%.

Public disclosure at 6-month follow-up was significantly associated with three bonding social capital measures. Patients with a treatment buddy ($\beta = 0.14$) hid their serostatus significantly

less than patients without a treatment buddy. Furthermore, emotional support at Time 1 ($\beta = 0.11$) and 2 ($\beta = 0.21$) significantly increased a patient's chance of consistent public disclosure at Time 2. The squared multiple correlation coefficient R^2 for the regression model predicting public disclosure was 0.15, indicating that 15% of the variation in public disclosure was explained by social capital measures. Again, bridging social capital did not significantly increase a patient's chances of consistent public disclosure.

TABLE IV

Approximately 1 year later, disclosure to the community was positively associated with six social capital measures. Participating in an HIV/AIDS support group at Time 2 ($\beta = 0.22$) and at Time 3 ($\beta = 0.22$) both stimulated public disclosure significantly. Patients with a CHW at Time 2 ($\beta = 0.19$) and Time 3 ($\beta = 0.24$) hid their status significantly less than patients without such support. This implies that bridging social capital has a long-term positive impact on public disclosure. Finally, we supposed the impact of bonding social capital on public disclosure to be invariant across time. Patients with a treatment buddy ($\beta = 0.14$) or an emotional buddy ($\beta = 0.21$) were significantly less likely to be non-disclosers than patients without such support. The amount of explained variance in public disclosure at Time 3 was 32%.

H2: The trade-off between bonding and bridging social capital

To further disentangle the complex interaction between the different forms of social capital and public disclosure, additional research was conducted to test the existence of a trade-off between bridging and bonding social capital. The correlation matrix of Table II shows a rather strong and significant negative correlation between bonding and bridging social capital measures at baseline. Patients with a treatment or emotional buddy participate less in a support group ($r = -0.35$ and $r = -0.33$) and use the services of a CHW less ($r = -0.36$ and $r = -0.40$, respectively) than patients who lack such support. At six-month follow-up, bivariate

correlations were much weaker and varied from -0.27 (between treatment buddy and CHW) to -0.13 (between emotional buddy and CHW). Furthermore, there was no significant association between having an emotional buddy and participating in a support group at Time 2. One year later, the results of the correlation matrix identified no significant negative association between bonding and bridging social capital measures. The matrix even reveals a weak positive relationship between having an emotional buddy and participating in a support group ($r = 0.14$).

Discussion

To fully realize the potential personal and public health benefits of public disclosure, it is crucial to understand the factors that influence the balance between disclosure and secrecy among patients on ART (Antelman et al., 2001; Bouillon et al., 2007; Grinstead et al., 2001; Medley et al., 2004; Paxton, 2002). Our findings indicate that social capital can play an important role in encouraging and facilitating patients' public disclosure of their HIV status. The positive impact of bonding social capital on public disclosure is positive and invariant across time. The results from the cross-lagged regression indicate that bridging social capital only encourages public disclosure in the second year of treatment. At the start of treatment, bivariate analysis shows a strong negative association between bonding and bridging social capital, which diminishes at follow-up and eventually disappears in the second year of treatment.

When the results of the two analyses are linked, we observe that the significant positive impact of bridging social capital on public disclosure emerged when the negative association between bonding and bridging social capital disappeared. At the start of treatment, patients with high levels of bonding social capital generated support from treatment and emotional buddies, which increased consistent public disclosure. Patients with low levels of bonding social capital hid their status and sought support from CHWs and support groups. The *Comprehensive Plan* states that these bridging social capital services should encourage disclosure (South African National Department of Health, 2003). The impact of this recommendation is visible in the evolution of the association between bonding and bridging social capital measures over time. In the second year of treatment, patients with low initial levels of bonding social capital disclosed and generated the support of family and friends, causing the negative correlation between bonding and bridging social capital to diminish and eventually disappear. Finally and most importantly, by encouraging disclosure to family and

friends, these bridging services not only increased the use of treatment and emotional buddies, but also stimulated consistent disclosure to the community. Hence, bridging social capital is very important for the most vulnerable patients, those who lack the support of immediate family and friends at the start of treatment.

Although knowledge about the complex relationship between the multidimensional concept of social capital and public serostatus disclosure in a resource-poor setting is still in its infancy (Baum & Ziersch, 2003; Campbell et al., 2002; Kim et al., 2007; Viswanath et al., 2006), these analyses have both theoretical and practical implications. From a theoretical point of view, the immediate and temporal impact of bonding social capital on public disclosure draws greater attention to the role of immediate family and close friends in disclosure patterns. The evolution in the association between bonding and bridging social capital invites and warrants subsequent research to further disentangle this complex interaction, especially in the context of serostatus disclosure. The results also demonstrate the theoretical value of the distinction between bonding and bridging social capital in the study of disclosure patterns in a resource-poor setting.

From a practical and policy perspective, cross-lagged findings supply a leverage to affect the delicate balance between disclosure and secrecy. Home-based programmes working to educate and support patients' families and friends (bonding social capital) should be encouraged and scaled-up in order to maximize the benefits and minimize the risks of public disclosure. Findings from the bivariate analysis warrant a strengthening of initiatives such as support groups run by PLWHA (bridging social capital), especially for patients who cannot disclose to immediate family and close friends. The findings could be usefully applied to create what Tawil et al. (1995) call a health-enabling community, which enables and supports health-enhancing behaviour (Funck-Brentano et al., 2005; Tawil et al., 1995). Such a community is characterized by positive bonding and bridging networks that serve as a buffer

to health-damaging reactions (Campbell, 2001; Campbell et al., 2002; Kawachi et al., 1997; Parker & Aggleton, 2003; Tawil et al., 1995; Viswanath et al., 2006).

There were, however, some limitations to our study. First, the relatively small sample size ($n = 268$) constrained the power of the analysis. Second, although the analysis focused on the impact of different forms of social capital on disclosure, the regression model offers an incomplete explanation of public disclosure (Dodds et al., 2004). Patient characteristics (age, gender) and socio-economic traits (educational level and income) were tested as predictors of public disclosure but did not improve the model significantly. Other potentially relevant psychosocial and socio-behavioral factors were not available in the dataset. Furthermore, the model did not look at the impact of social capital or disclosure on health and well-being outcomes, limiting the scope of this study. Finally, the relationship between different forms of social capital and disclosure patterns may not be generalizable to alternative settings. We can only ascribe the findings to patients enrolled in a public sector ART programme and, more specifically, to patients enrolled in South Africa's public ART programme as implemented in the Free State province.

The anticipation of negative consequences acts as a barrier to consistent public disclosure, while potential access to social and material support and resulting mental and physical health benefits are potential rewards of disclosure. This paper identified bonding social capital as a leverage to maximize potential benefits and minimize potential risks in order to shift the balance towards public disclosure. Furthermore, the importance of bridging social capital initiatives such as HIV support groups and CHWs was demonstrated, especially for the most vulnerable patients: those who cannot capitalize their bonding social capital by disclosing to family and friends at the start of treatment.

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Figure 1. The fully cross-lagged regression model with the hypothesized relationships between bonding (treatment buddy and emotional support buddy) and bridging (community health worker and support group) social capital measures and public disclosure over three time points.

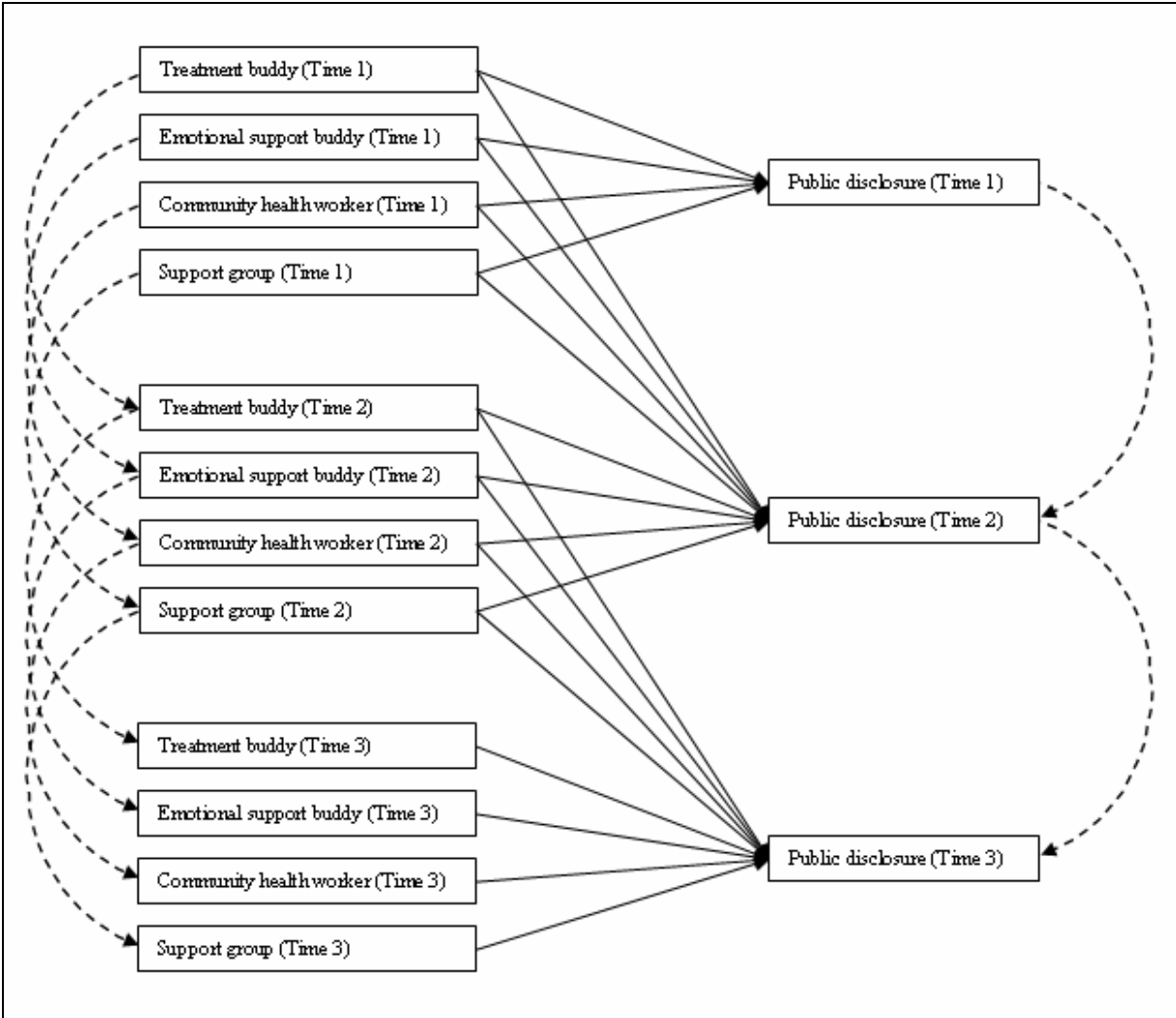


Table I. Demographic characteristics, social capital and disclosure (n = 268)

Age, mean (SD)	37.9 (8.6)		
Gender			
males (%)	43.2		
females (%)	66.8		
	<i>Time 1</i>	<i>Time 2</i>	<i>Time 3</i>
Social capital			
Treatment buddy (%)	51.5	50.7	31.7
Emotional buddy (%)	45.9	37.6	30.6
CHW (%)	7.5	6.9	7.0
Support group (%)	14.8	17.5	18.0
Disclosure			
Non-disclosers (%)	43.1	39.4	26.2
Inconsistent disclosers (%)	50.4	54.2	65.0
Consistent disclosers (%)	6.5	6.4	8.8

Table II. Bivariate correlations of all variables at Time 1, Time 2 and Time 3 (N = 268). Correlation coefficients marked in grey were used to test the trade-off between bonding and bridging social capital (H2).

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Disclosure (T1)	1														
2. Disclosure (T2)	.570**	1													
3. Disclosure (T3)	.028 ^a	.382*	1												
4. Treatment buddy (T1)	.281**	.065 ^a	.011 ^a	1											
5. Emotional buddy (T1)	.506*	.276*	.034 ^a	-.001	1										
6. Support group (T1)	-.101 ^a	.219 ^a	.030 ^a	-.349**	-.329*	1									
7. Comm. health worker (T1)	.064 ^a	-.158 ^a	-.241 ^a	-.363*	-.403**	-.874***	1								
8. Treatment buddy (T2)	.210 ^a	.296**	.207*	.160 ^a	-.023 ^a	.032 ^a	-.121 ^a	1							
9. Emotional buddy (T2)	.246 ^a	.498*	.036 ^a	.187 ^a	.189 ^a	.235 ^a	-.049 ^a	-.103	1						
10. Support group (T2)	-.207 ^a	.166 ^a	.687 ^a	-.066 ^a	.070 ^a	.435***	-.163 ^a	-.125*	-.273	1					
11. Comm. health worker (T2)	-.131 ^a	-.063*	.394*	.033 ^a	.129 ^a	-.874***	.599***	-.270*	-.250**	-.022 ^a	1				
12. Treatment buddy (T3)	.121*	.072 ^a	.408*	.111 ^a	.036 ^a	0.123 ^a	-.292 ^a	.287*	-.055 ^a	-.048 ^a	.062 ^a	1			
13. Emotional buddy (T3)	.146 ^a	.330 ^a	.509**	.054 ^a	.324**	.209 ^a	-.447*	-.043 ^a	.426***	.262**	.071 ^a	.462***	1		
14. Support group (T3)	-.054 ^a	.488 ^a	.659*	-.158 ^a	.166 ^a	.371**	-.309 ^a	.087 ^a	.451***	.754***	-.125 ^a	.126	.136**	1	
15. Comm. health worker (T3)	-.178 ^a	-.189 ^a	.447 ^a	-.271 ^a	-.260 ^a	0.093 ^a	.138 ^a	-.403**	-.241 ^a	.213 ^a	.138*	-.238	-.123	-.057 ^a	1

^a Not statistically significant. * p < 0.05. ** p < 0.01. *** p < 0.001

Table III. Goodness-of-fit for Models (n = 268).

	Model	X ² value	df	RSMEA	CFI
1.	Model 1	349.283	82	.149	.350
2.	Model 2	180.938	76	.0712	.732
3.	Model 3	138.119	72	.0627	.833
4.	Model 4	125.600	68	.0434	.922
5.	Model 5	124.356	64	.0454	.919

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Table IV. Impact of bonding and bridging social capital on public disclosure: Standardized regression coefficients (minus relative stability paths) and model summary of the fully cross-lagged model (n = 268).

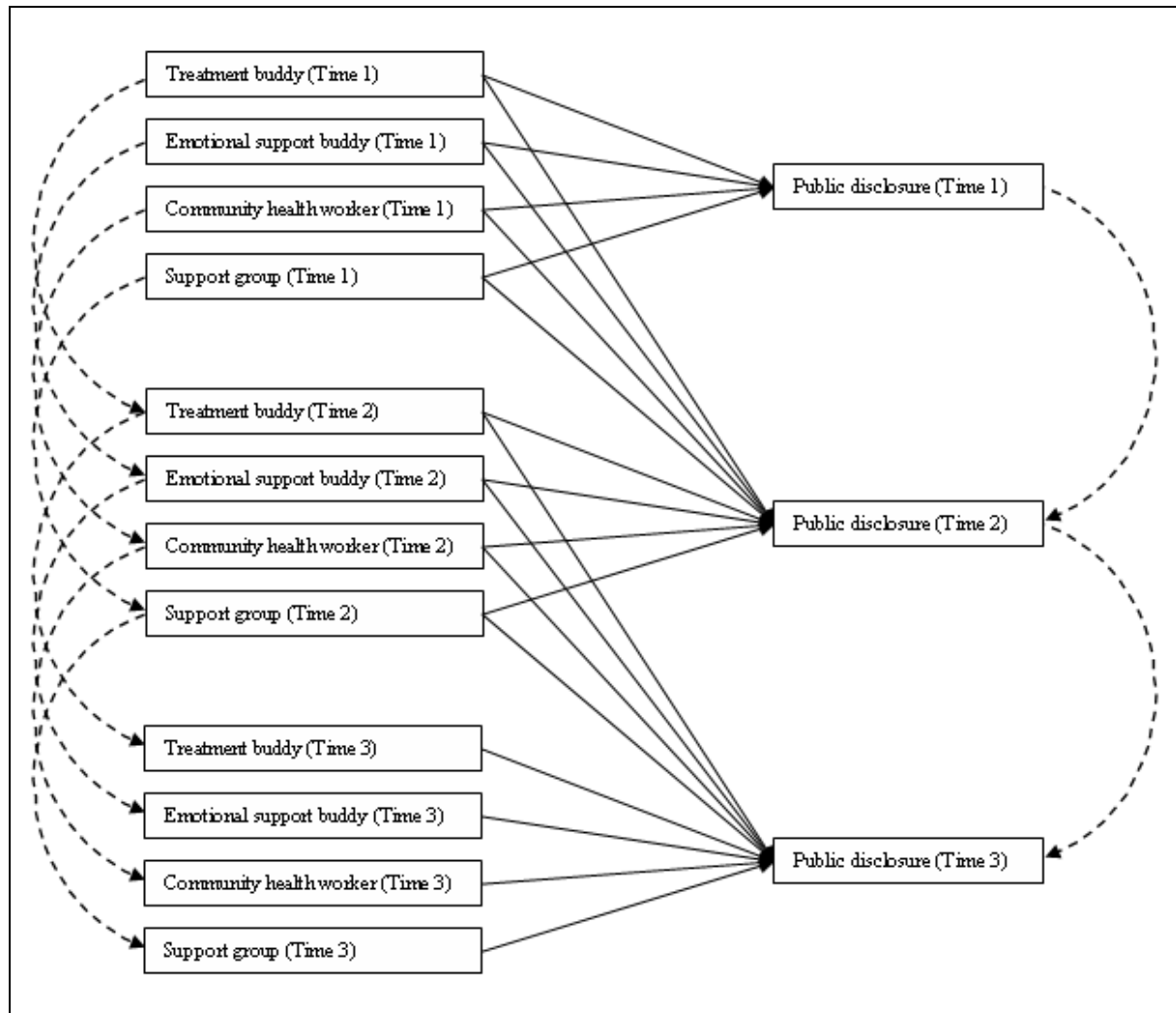
Path		Path coefficient	t-value
Treatment buddy (T1)	-> Public disclosure (T1)	0.139***	4.060
Emotional support buddy (T1)	-> Public disclosure (T1)	0.208***	6.941
Community health worker (T1)	-> Public disclosure (T1)	0.017 ^a	0.164
Support group (T1)	-> Public disclosure (T1)	0.060 ^a	0.690
Treatment buddy (T1)	-> Public disclosure (T2)	-0.025 ^a	0.470
Emotional support buddy (T1)	-> Public disclosure (T2)	0.111*	2.037
Community health worker (T1)	-> Public disclosure (T2)	-0.046 ^a	0.474
Support group (T1)	-> Public disclosure (T2)	0.066 ^a	0.814
Treatment buddy (T2)	-> Public disclosure (T2)	0.139***	4.060
Emotional support buddy (T2)	-> Public disclosure (T2)	0.208***	6.941
Community health worker (T2)	-> Public disclosure (T2)	0.015 ^a	0.986
Support group (T2)	-> Public disclosure (T2)	0.052 ^a	1.405
Treatment buddy (T2)	-> Public disclosure (T3)	0.082 ^a	1.484
Emotional support buddy (T2)	-> Public disclosure (T3)	-0.104 ^a	0.528
Community health worker (T2)	-> Public disclosure (T3)	0.189*	2.067
Support group (T2)	-> Public disclosure (T3)	0.217**	2.792
Treatment buddy (T3)	-> Public disclosure (T3)	0.139***	4.060
Emotional support buddy (T3)	-> Public disclosure (T3)	0.208***	6.941
Community health worker (T3)	-> Public disclosure (T3)	0.240*	2.533
Support group (T3)	-> Public disclosure (T3)	0.215*	2.528
Test for fit		Model	Criteria for good fit
RMSEA		0.0434	< 0.05
Normed Fit Index (NFI)		0.925	> 0.90
Non-Normed Fit Index (NNFI)		0.905	> 0.90
Comparative Fit Index		0.922	> 0.90
Parsimony Normed Fit Index (PNFI)		0.519	

^a Not statistically significant. * p < 0.05. ** p < 0.01. *** p < 0.001

**Slow to Share: Social capital and its role in public HIV disclosure among public sector
ART patients in the Free State province of South Africa.**

FIGURE

Figure 1. The fully cross-lagged regression model with the hypothesized relationships between bonding (treatment buddy and emotional support buddy) and bridging (community health worker and support group) social capital measures and public disclosure over three time points.



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