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The importance of quality over in quantity in the social sharing of emotions (SSE) in people living with HIV/AIDS

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Research shows that chronic illness patients encounter difficulties in the social sharing of emotions (SSE). Since most SSE studies focus on quantitative aspects, the present study, aimed, among others, to study the associations between the quality of SSE in people living with HIV/AIDS and patients' psychological and physical well-being. A total of 101 HIV/AIDS patients answered a questionnaire (Likert scale items) which assessed: shame, guilt, perceived stigma, reasons for non-disclosure of serostatus, physical health, mental health, SSE and quality of SSE. While no associations were found between quantitative aspects of SSE, physical health and mental health, the quality of SSE was negatively correlated to shame and guilt, and positively correlated to physical and mental health. Furthermore, mediation analyses showed the mediating role of the quality of SSE in the relationship between, on the one hand, shame and guilt; and on the other hand, physical and mental health. Findings suggest the importance of qualitative aspects of SSE in the emergence of positive outcomes linked to emotional expression in people living with HIV/AIDS.

Keywords: social sharing of emotions (SSE); HIV/AIDS; psychological adjustment; physical well-being; emotional inhibition

Introduction

Research sustains that, following major negative life events, as well as daily life events, individuals turn towards significant others to share and talk about the emotion-eliciting event (for review see Rime, 2009). This propensity to speak about emotional experiences, denoted as the social sharing of emotions (SSE), is manifested during the hours, days, weeks or sometimes months following the emotional episode. With the exception of shame and guilt (Finkenauer & Rimé, 1998), evidence shows that 80–95% of emotional experiences, negative or positive, are socially shared (Rimé, Mesquita, Boca, & Philippot, 1991; Rimé, Philippot, Boca, & Mesquita, 1992).

AQ3 Rime et al. (1998) have addressed several benefits and functions served by the SSE: (1) Constructing and consolidating memory of important events, (2) processing and completing the emotional memory, (3) enhancing interpersonal relationships and social integration, and (4) constructing and disseminating social knowledge on emotion. Thus, at the interpersonal level, social sharing may bring forth emotional contagion, empathy, AQ4 attachment and strengthened social ties between sharing persons and their listeners AQ2 (Christophe & Rimé, 1997; Rime, 2009); at the intrapersonal level, SSE may result in

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cognitive benefits such as making meaning of the situation when the sharing mode takes place in a cognitive reappraisal fashion (Nils & Rimé, 2012). Furthermore, previous research has extensively demonstrated the negative consequences of emotional inhibition at the social, physical and psychological levels (Frattarolli, 2006; Kelly, 2002; Larson & Chastain, 1990). Indeed, talking about stressful experiences in a suitable social environment allows individuals to construct an organized narrative which becomes part of individuals' cognitive representation of the stressor (Lepore, Ragan, & Jones, 2000). Therefore, succeeding the emotional impact linked to HIV/AIDS, it is plausible to consider that SSE can provide positive outcomes both at interpersonal and intrapersonal levels.

Regarding emotions elicited by physical illnesses, patients undergoing acute stressors (e.g. cardiac surgery) are quite eager to share their illness-related emotions (Panagopoulou, Rime, Maes, & Montgomery, 2006). Yet, findings demonstrate that chronic illness patients encounter difficulties in the social sharing of illness-related emotions linked to the perception of social constraints (e.g. Herbette & Rimé, 2004). In the specific case of HIV/AIDS, studies show that secrecy surrounding serostatus characterises this socially marked chronic condition (e.g. Ingram, Jones, Fass, Neidig, & Song, 1999; Landau & York, 2004; Varas-Díaz & Marzan-Rodriquez, 2007). Accordingly, a previous study evidenced that when compared to cancer and diabetes patients, HIV/AIDS patients experience the same desire to share their illness-related emotions yet they show a greater inhibition of the SSE (Cantisano, Rimé, & Muñoz-Sastre, 2012). The same study failed to demonstrate the negative outcomes of inhibiting the SSE concerning HIV/AIDS patients' social integration, mental rumination or intrusive thoughts. A plausible explanation to the absence of negative outcomes would rely upon the fact that, even if small, patients' social network seems to provide quality interactions sufficient to induce the positive effects of SSE.

To our knowledge, the numerous SSE studies focus on quantitative aspects of emotional expression such as the number of sharing partners or the number of conversations. Therefore, as raised by Kennedy-Moore and Watson (1999) as well as Rimé (1995), most empirical findings concerning emotional expression lay upon how much individuals shared their feelings but not on the way that emotional expression took place. Thus far, Pennebaker and Beall (1986) demonstrated the difference between writing about emotional aspects versus factual ones following an emotional event. More recently, in an a study focused on anticipatory distress induced by cardiac surgery, Panagopoulou et al. (2006) found that only the quality of interactions in the SSE was linked to reduced distress on the day before surgery. In the same study, no relation was found between quantitative aspects of SSE and pre-operative distress.

The present study had three main objectives. The first was to understand the reasons behind the inhibition of the SSE linked to the illness in HIV/AIDS patients. Thus, it was hypothesized that the non-SSE linked to the illness would be associated with perceived stigma, to the alleged reasons for not-disclosing serostatus (Derlega, Winstead, Greene, Serovich, & Elwood, 2002) and to shame and guilt (Finkenauer & Rimé, 1998). The second objective was to study the consequences of the non-SSE in HIV/AIDS patients concerning physical and mental health. Following previous findings (Frattaroli, 2006), it was predicted that the quantitative aspects of the non-SSE would be linked to poorer physical and mental health. The third objective was to explore the role of HIV/AIDS patients' perception of the interpersonal quality of SSE concerning their physical and mental health. Thus, along with findings brought forth by Panagopoulou et al. (2006), it was expected that the quality of SSE would be associated with positive

outcomes resulting from emotional expression. An additional objective of the present study, was to explore the role of shame and guilt, previously linked to the inhibition of the SSE (Finkenauer & Rimé, 1998) and to reduced physical and psychological health (Tangney & Dearing, 2002).

Methods

Participants

The present study was conducted in two HIV/AIDS care units in the Dominican Republic's second largest city. A total of 101 HIV/AIDS outpatients under anti-retro-viral (ARV) therapy (inclusion criteria) participated in the study. Participants' mean age was 39.37 (SD = 11.40) years, ranging from 19 to 65 years; 49.50% ($n = 50$) were female and 50.50% ($n = 51$) were male. Table 1 displays participants' age, educational level and professional activity by gender.

Patients' mean time since HIV status detection was 75.16 (SD = 60.05) months, ranging from 2 to 264 months (22 years). As to CD4 count, the sample's mean was 387.73 (cells/mm^3; SD = 242.83) assessed on average 4.88 (SD = 5.82) months before the study. The mean time since the beginning of ARV therapy was 46.02 (SD = 41.46) months, ranging from 1 month to 16 years. Table 1 displays (by gender) time since diagnosis, CD4 count, time since ARV, infection mode and other variables.

Materials

A questionnaire (in Spanish) was administered. Most measures consisted of items to be rated upon Likert scales. Some consisted of existing measures previously validated in Spanish. Others were translated from English to Spanish or from French to Spanish due to the absence of previous translations. The final version of the entire questionnaire was reviewed by three Dominican lay-individuals to ensure the conceptual meaning of each question.

General Information and Illness History was obtained through questions concerning age, sex, level of education, professional occupation and marital status. Some open questions assessed information about patients' illness history: time since diagnosis, time since the beginning of ARV therapy and infection mode. The last CD4 count was obtained from medical records with patients' consent.

Shame and Guilt were assessed through five shame items and five guilt items from the *State Shame and Guilt Scale* (Tangney & Dearing, 2002). These items aim to estimate state feelings of shame, guilt and pride upon a five-point Likert scale (1 = *not at all*; 5 = *extremely*). For the purpose of this study, pride items were excluded. Thus, the five shame items ($\alpha = .72$) and the five guilt items, ($\alpha = .74$) were translated from English to Spanish.

Quality of Life and Physical Symptoms specific to the HIV/AIDS experience was assessed through the 35-item ($\alpha = .91$) Spanish validation (Peña de León, Aguilar Gaytán, Suárez Mendoza, & Reyes Terán, 2007) of the MOS-HIV (Wu, Revicki, Jacobson, & Malitz, 1997). Following recommendations from Revicki, Sorensen, and Wu (1998), standardized mental health and physical health summary scores were calculated. A higher score indicates better health.

(Non)Disclosure of Diagnosis was considered and in order to assess patients' reasons for the non-disclosure of their serostatus, items from five scales of *Reasons for*

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Table 1. Patients' socio-economic variables and illness history by gender ($N = 101$).

	Male ($n = 51$)	Female ($n = 50$)
Age		
Mean (standard deviation)	39.96 (11.43)	38,76 (8.77)
*Educational level**		
Never attended school	3.92% ($n = 2$)	4.00% ($n = 2$)
Elementary school unachieved	49.02% ($n = 25$)	38.00% ($n = 19$)
Elementary school	35.29% ($n = 18$)	36.00% ($n = 18$)
High school	1.96% ($n = 1$)	8.00% ($n = 4$)
Technical degree	5.88% ($n = 3$)	6.00% ($n = 3$)
University degree	3.92% ($n = 2$)	8.00% ($n = 4$)
Professional activity		
Unemployed	35.29% ($n = 18$)	24.00% ($n = 12$)
Full-time job	45.10% ($n = 23$)	20.00% ($n = 10$)
Part-time job	15.69% ($n = 8$)	16.00% ($n = 8$)
Full-time housewife	0	40.00% ($n = 20$)
Student	1.96% ($n = 1$)	0
Sick leave	0	0
Marital status		
Single	46.00% ($n = 23$)	46.00% ($n = 23$)
In a relationship	54.00% ($n = 27$)	54.00% ($n = 27$)
Time since diagnosis (months)**		
Mean (standard deviation)	59.88 (52.83)	90.76 (63.40)
CD4		
Mean (standard deviation)	343.80/mm^3 (213.87)	432.54/mm^3 (263.86)
Time ARV (months)		
Mean (standard deviation)	43.92 (40.42)	48.20 (42.81)
*Infection mode****		
Heterosexual partner	17.65% ($n = 9$)	74.00% ($n = 37$)
Occasional heterosexual intercourse	52.94% ($n = 27$)	8.00% ($n = 4$)
Homosexual intercourse	1.96% ($n = 1$)	0
Unknown	27.45% ($n = 14$)	12.00% ($n = 6$)
Another infection mode	0	6.00% (n =3)

*Last level reached.
**Significant differences between men and women (F (1, 99) = 7.08; $p < .01$).
***Significant differences between men and women (χ^2 (101, 4) = 41.30; $p < .001$).

and against HIV disclosure published by Derlega et al. (2002) were translated from English to Spanish. Sub-scales concern the alleged reasons for concealing the HIV sero-status: (1) Privacy ($\alpha = .77$), (2) self-blame and self-concept difficulties ($\alpha = .77$), (3) communication difficulties ($\alpha = .90$), (4) fear of rejection or fear of being misunderstood ($\alpha = .89$) and (5) protecting the other ($\alpha = .88$). Items were rated upon a five-point Likert scale (1 = not at all; 5 = extremely). In the present study, patients were asked to evaluate the different items in a general fashion, and not concerning the non-disclosure of HIV status to specific targets (e.g. parent, friend or partner).

SSE linked to the illness was assessed through four items ($\alpha = .81$), translated from French (Rimé et al., 1991) to Spanish, concerning aspects of SSE specific to the illness:

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(1) Desire to share illness-related emotions, (2) frequency of SSE during the previous week, (3) number of sharing partners during the previous week and (4) number of sharing partners during the previous month. Participants rated their answers upon five-point scales (1 = not at all; 5 = extremely).

(Non) SSE linked to the illness was assessed through three items ($\alpha = .88$) developed in Spanish for a previous study (Cantisano et al., 2012) to evaluate the non-sharing of illness-related emotions and emotional aspects kept secret: (1) Participants rated their answers upon five-point scales (1 = not at all; 5 = extremely).

Perception of the quality of SSE linked to the illness was examined by the means of the interpersonal dimension of the Quality of Sharing Inventory (Panagopoulou et al., 2006). The nine items in this scale ($\alpha = .81$), to be rated upon a five-point Likert scale (1 = not at all; 5 = extremely), were translated from English to Spanish.

Perceived Stigma specific to HIV/AIDS was assessed through the Spanish-validated abbreviated version (Franke et al., 2010) of the *HIV Stigma Scale* (Berger, Estwig Ferrans, & Lashley, 2001). This shortened version includes 21 items to be rated upon a five-point Likert scale (1 = not at all; 5 = extremely) which discriminate into four dimensions: (1) *Enacted Stigma* ($\alpha = .85$), (2) *Disclosure concerns* ($\alpha = .86$), (3) *Negative Self-image* ($\alpha = .88$) and (4) *Concerns with public attitudes* ($\alpha = .81$).

Procedure

Ethical approval was obtained from the Dominican Republic's Nations HIV/AIDS health care programme. Patients were sampled in two different health care institutions where a doctor, nurse or other medical staff informed patients about the study and proposed volunteer participation. Patients were told that the study was part of a broader international university research programme about emotional expression in chronic diseases. The length of the interviews (approximately 1 h) and their confidentiality were announced. If patients volunteered, one single researcher met with the patient. Questionnaires were administered in an interview modality to ensure comprehension. Respondents did not receive any kind of compensation for their participation. Informed consent was obtained from all participants.

Results

The present study implied an exercise in data mining. At first, the different variables studied were subjected to correlational analysis. Secondly, multiple regression and mediation analyses were undertaken using variables found to be significant in the correlational analyses.

Correlational analyses

As displayed in Table 2, the non-SSE showed significant positive correlations with three sub-scales of the HIV Stigma Scale: (1) Enacted Stigma ($r = .45$; $p < .01$), (2) disclosure concerns ($r = .44$; $p < .01$) and (3) concerns with public attitudes ($r = .40$; $p < .001$). The non-SSE showed significant positive correlations with four sub-scales of the alleged reasons for non-disclosure of HIV status: (1) Self-blame ($r = .27$; $p < .001$), (2) privacy ($r = .42$; $p < .001$), (3) fear of rejection ($r = .37$; $p < .001$) and (4) communication difficulties ($r = .33$; $p < .001$). Shame and guilt did not show any significant correlations with non-SSE.

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Table 2. Correlation matrix non-SSE, SSE, quality of SSE, shame, guilt, HIV-related stigma and reasons for non-disclosure.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Non-SSE	1.00	−.47***	−.14	.15	.10	.28*	.47***	.42***	.20*	.29*	.46***	.41***	.19	.33***
2. SSE		1.00	−.12	.07	.11	−.004	−.12	−.07	−.04	−.15	−.35***	−.07	−.03	−.11
3. Quality of SSE			1.00	−.58	−.54	−.46	−.41	−.30	−.50	−.34	−.04	−.46***	−.20*	−.43***
4. Shame				1.00	.60***	.31**	.16	.20*	.44***	.33***	−.0008	.26**	.13	.32***
5. Guilt					1.00	.31**	.25**	.20*	.54***	.33***	−.06	.28*	.19	.38***
6. Stigma: enacted stigma						1.00	.53***	.45***	.53***	.42***	.17	.48***	.24**	.34***
7. Stigma: disclosure concerns							1.00	.60***	.37***	.32**	.50***	.70***	.45***	.41***
8. Stigma: concerns public attitudes								1.00	.40***	.16	.53***	.40***	.28**	.27**
9. Stigma: negative self-image									1.00	.65***	.12	.46	.23**	.52***
10. RND: self-blame										1.00	.13	.47***	.32***	.59***
11. RND: privacy											1.00	.35***	.37***	.199
12. RND: fear of rejection												1.0*0	.64***	.56***
13. RND: protecting others													1.00	.39***
14. RND: communication difficulties														1.00

Notes: $N = 101$; RND = Reasons for non-disclosure.
***$p < .001$.
**$p < .01$.
*$p < .05$.

Table 3. Correlation matrix Non-SSE, SSE, quality of SSE, shame, guilt, physical and mental health.

	1	2	3	4	5	6	7
1. Non-SSE	1.00	−.47***	−.14	.15	.10	.0025	−.05
2. SSE		1.00	−.12	.07	.12	−.16	−.15
3. Quality of SSE			1.00	−.58***	−.54***	.32***	.56***
4. Shame				1.00	.60***	−.26**	−.46***
5. Guilt					1.00	−.22***	−.43***
6. MOS-HIV: PHS						1.00	.56***
7. MOS-HIV: MHS							1.00

Notes: $N = 101$; PHS = Physical health score; MHS = Mental health score.
***$p < .001$.
**$p < .01$.
*$p < .05$.

Correlation coefficients relating to non-SSE, and the MOS-HIV physical and mental health summary scores are displayed in Table 3. No significant correlations were found between non-SSE and these variables.

As displayed in Table 3, the perception of the interpersonal quality of SSE presented significant correlations with shame ($r = -.58$; $p < .001$), guilt ($r = -.53$; $p < .001$), the MOS-HIV physical health summary score ($r = .32$, $p < .001$) and the MOS-HIV mental health summary score ($r = .56$, $p < .001$).

Multiple regression analysis

A multiple regression analysis was conducted to study the predictive value of the variables presenting significant correlations with non-SSE (Table 4). Results showed one single significant predictor of non-SSE: the privacy sub-scale of the alleged reasons for non-disclosure ($\beta = .27$; $p < .05$). This variable predicted, positively, 35% of the variance ($p < .001$).

Table 4. Multiple regression results for the prediction of non-SSE.

Non-SSE				
$F(11, 89) = 4.38$; $p < .001$; $R^2 = .35$				
	β	B	$t(90)$	p
Age	−.05	−.02	−.49	NS
Sex	−.05	−.42	−.54	NS
Time since diagnosis	.08	.005	.80	NS
RND: self-blame	.198	.19	1.53	NS
RND: privacy	.27	.31	2.42	<.05
RND: fear of rejection	.11	.07	.94	NS
RND: communication difficulties	.07	.05	.51	NS
Stigma: negative self-image	−.17	−.09	−1.32	NS
Stigma: concerns with public attitudes	.18	.13	1.40	NS
Stigma: enacted stigma	.02	.01	.21	NS
Stigma: disclosure concerns	.13	.09	.86	NS

Notes: $N = 101$; RND = reasons for non-disclosure.

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Mediation analyses

Given the significant associations between, on the one hand, shame and guilt and the quality of SSE; and on the other hand, shame and guilt and physical and mental health, mediation analyses were conducted to study the mediating role of the quality of SSE in the relationship between: Shame and physical health (MOS-HIV), guilt and physical health (MOS-HIV), shame and mental health (MOS-HIV) and guilt and mental health. As recommended for small samples, non-parametric bootstrapping analyses were conducted (Preacher & Hayes, 2004) using AMOS 20. All results were based on 2000 bootstrapped samples.

First, results revealed a significant mean indirect effect of shame on physical health through the quality of SSE ($\beta = -.15$; SE = .07; 95% CI [−.29, −.04]; $p < .01$) while the direct effect was no longer significant ($\beta = -.12$; SE = .10; $p = .26$). Thus, the quality of SSE strongly mediated the relationship between shame and physical health (Figure 1).

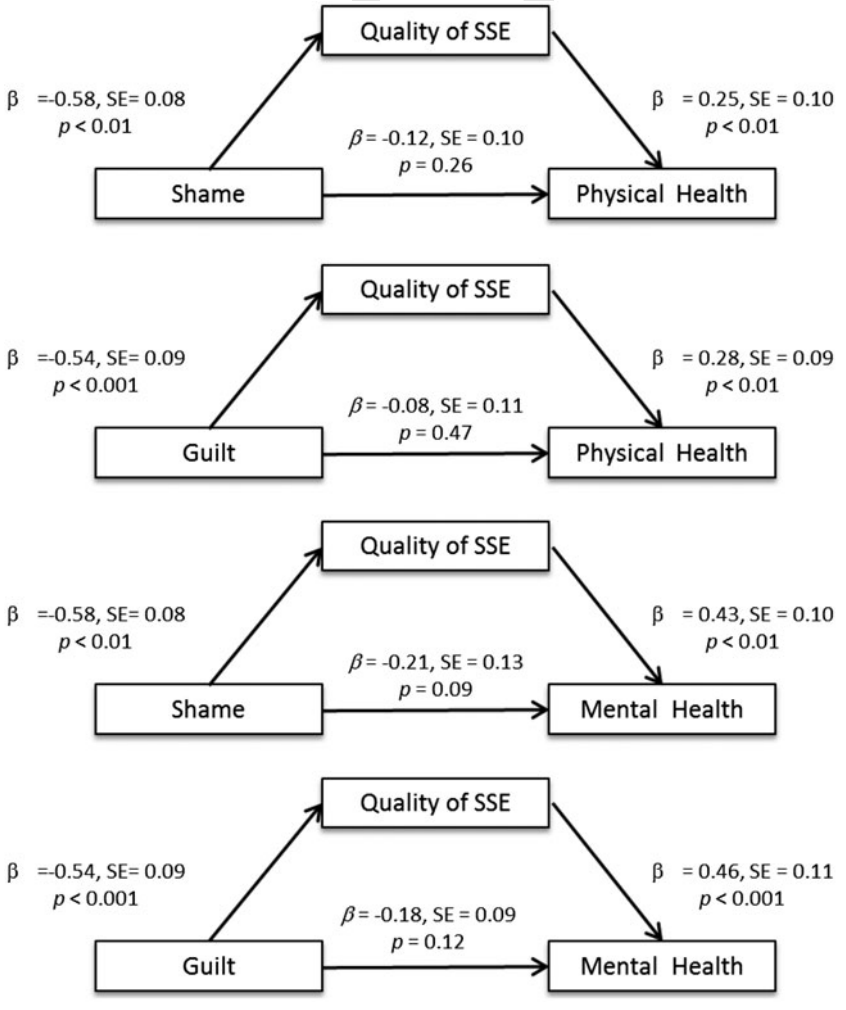


Figure 1. Path diagrams, β (SE) and significance levels for the mediation models.

Secondly, results evidenced a significant mean indirect effect of guilt on physical health through the quality of SSE ($\beta = -.15$; $SE = .06$; 95% CI [−.29, −.06]; $p < .001$) while the direct effect was no longer significant ($\beta = -.75$; SE = .11; $p = .47$). Accordingly, the quality of SSE strongly mediated the relationship between guilt and physical health (Figure 1). Third, results revealed a significant mean indirect effect of shame on mental health through the quality of SSE ($\beta = -.25$; SE = .8; 95% CI [−.42, −.13]; $p < .01$) while the direct effect was no longer significant ($\beta = -.21$; SE = .13; $p = .09$). Hence, the quality of SSE strongly mediated the relationship between shame and mental health (Figure 1). Finally, results evidenced a significant mean indirect effect of guilt on mental health through the quality of SSE ($\beta = -.25$; SE = .07; 95% CI [−.42, −.13]; $p < .001$) while the direct effect was no longer significant ($\beta = -.18$; SE = .11; $p = .12$). The quality of SSE strongly mediated the relationship between guilt and mental health (Figure 1).

Discussion

Three objectives were aimed. As to the first, our hypothesis was partially confirmed. Non-SSE linked to the illness was associated with perceived HIV-related stigma and to the alleged reasons of non-disclosure of serostatus. Yet, contrary to our hypotheses, no link was found between non-SSE and shame and guilt. This last finding opposes previous research which has demonstrated that shame and guilt episodes are inhibiting when it comes to social sharing (Finkenauer & Rimé, 1998).

Furthermore, results evidenced the predictive value of privacy (alleged reason for not disclosing serostatus) when it comes to the inhibition of SSE in HIV/AIDS patients. However, no other variables were found to be significantly predictive of SSE which could be partially explained by potential multicollinearity between independent variables.

Secondly, as brought forth by previous research (for review see Frattaroli, 2006), we expected that the inhibition of SSE in HIV/AIDS patients would lead to negative consequences regarding their physical and psychological well-being. However, our results undermine this hypothesis. No association was found between non-SSE and the psychological and physical outcomes assessed in our study.

Third, we examined the role played by the perception of the quality of interactions in the SSE in HIV/AIDS patients. An association between the quality of SSE and psychological and physical well-being was expected. Our findings highly support this hypothesis. Indeed, results showed that the quality of SSE was positively associated with mental and physical health. Moreover, mediation analyses evidenced the mediating role of the quality of SSE in the relationship between, on the one hand, shame and guilt; and on the other hand, physical and psychological well-being. These later findings pertain to our additional objective concerning the associations between shame and guilt and physical and mental health. Yet, alternative causal pathways must be taken into consideration, thus, these results must be interpreted with caution. For instance, would personality variables (e.g. agreeableness) be predictive of an enhanced perception of the quality of SSE in these HIV/AIDS patients?

In this study, HIV/AIDS patients' desire to protect their privacy partially explained the inhibition of emotional experiences linked to their illness. These findings support the idea that secrets play a social function: the protection of individuals' social integration (Kelly, 2002). Yet, contrary to previous empirically based theories concerning disclosure and well-being (Pennebaker, 1997), the non-SSE in these patients does not result in negative consequences concerning their physical and psychological

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well-being. One plausible explanation to this result may rely upon previous findings (Panagopoulou et al., 2004) which have suggested that it is the way that emotional expression takes place (quality), and not the amount of expression, which is accountable for health outcomes succeeding SSE. The present study's results regarding quality of SSE corroborate this elucidation.

Like Panagopoulou et al. (2004), quantitative SSE was not linked to the perceived interpersonal quality of SSE. Furthermore, even if non-SSE was not associated with shame nor guilt, quality of SSE was. These self-conscious emotions, negatively linked to well-being (Dearing & Tangney, 2011; Tangney & Dearing, 2002) were mediated by the perception of the quality of SSE. Thus, results concerning the emotional expression of experiences linked to shame and guilt corroborate former evidence regarding the importance of the quality of interpersonal interactions in the context of chronic disease (Smith & Ingram, 2004).

Our results should be considered prudently due to some limitations of our research such as: the absence of personality variables, the translation of measures and the cross-sectional nature. Furthermore, since quality of SSE was not assessed while targeting different members of patients' social networks, results should be considered with precautions. Future research should address this issue, for instance, studying the perception of SSE concerning spouses or close family members.

This study was one of the few attempts in exploring the relationship between quality of SSE and psychological and physical well-being in the context of chronic disease. Thus, our findings highlight the importance of considering the quality of interactions when studying emotional expression and well-being. Furthermore, findings suggest that shame and guilt seem to play a key role in HIV/AIDS patients' physical and mental well-being. Therefore, at the practical level, our findings suggest that HIV/AIDS patients could benefit from interventions focusing on shame and guilt, for instance, as suggested by Dearing and Tangney (2011).

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