Empowering processes in online support groups among people living with HIV/AIDS: A comparative analysis of 'lurkers' and 'posters'

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ABSTRACT

The proliferation of online support groups provides an opportunity for individuals living with HIV/AIDS to obtain support online. The present study aimed to explore how different levels of participation in online support groups are associated with empowering processes and outcomes for individuals living with HIV/AIDS. A total of 340 individuals living with HIV/AIDS were recruited. They completed an online questionnaire consisting of measures on satisfaction with online support groups, empowering processes, self-care self efficacy, loneliness, optimism, coping, depression, and health-related quality of life. Results revealed that compared to posters, members who only read the messages (lurkers) scored lower in receiving social support and receiving useful information in empowering processes, and lower in satisfaction with their relationship with group members. They also scored higher in distraction and lower in planning in the brief COPE. In addition, they scored lower in social function and higher in energy. There were no significant differences in self-care self efficacy, loneliness, depression, or optimism between posters and lurkers. Our results suggest that lurking in the online support groups may be as empowering as reading and posting messages to the groups. More research is needed to identify the long term effects of online support group use.

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1. Introduction

Human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS) is a chronic, life-threatening illness that is replete with physical and psychosocial challenges. People living with HIV/AIDS not only are affected physically by the illness, they also experience psychological distress in the management of their illness, and stigmatization and social isolation due to concealment of their serostatus and rejection from important others. The complexity of the HIV infection, together with the many psychosocial challenges in coping with their disease, has increased the need for information and social support for individuals living with HIV/AIDS (Bogart et al., 2000; Vance, 2006; Ware, Wyatt, & Tugenberg, 2006).

In the context of HIV/AIDS, research shows that the provision of social support is associated with various positive outcomes including higher immune function (Burgoyne, 2005), more use of active coping strategies (Simoni, Frick, & Huang, 2006), more effective disease management (Luszczynska, Sarkar, & Knoll, 2007), better quality of life (Bastardo & Kimberlin, 2000; Gielen, McDonnell, Wu, O'Campo, & Faden, 2001; Hall, 1999) and improved psychological health (Gielen, McDonnell, Wu, O'Campo, & Faden, 2001). While the beneficial effects of face-to-face social support are well documented, a number of barriers have been identified which may limit the extent to which individuals living with HIV/AIDS can access or receive support. For example, unavailability of family members, the death of friends to AIDS, lack of acceptance, feeling stigmatized and isolated, not wanting to be a burden on family, mobility limitations, or non-disclosure of HIV status are all widely documented barriers to social support (Schrimshaw, Siegel, Schrimshaw, & Siegel, 2003; Serovich, Brucker, & Kimberly, 2000; Smith & Rapkin, 1996). It has also been reported that many individuals with HIV/AIDS have unmet needs and insufficient social support available to them (Kadushin, 1999; Serovich et al., 2000).

1.1. Benefits of online support group participation

The recent proliferation of computer technology and Internet provide an opportunity to address the needs of individuals living with HIV/AIDS. Indeed, it has been argued that online support groups "open a door for people who would not ordinarily reach out for help", (Wellman & Gulia, 1999, p. 173). It has been suggested that due to the removal of geographical and temporal barriers, individuals with mobility-related difficulties find participating in online support group especially helpful (Eastin &

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LaRose, 2005; Fullmer & Walls, 1994; White & Dorman, 2001). Furthermore, individuals living with conditions which are considered embarrassing or stigmatising may regard online support groups as a safer environment in which to discuss sensitive issues (Buchanan & Coulson, 2007; Coulson & Knibb, 2007; Davison, Pennebaker, & Dickerson, 2000; Pereira, Bruera, Macmillan, & Kavanagh, 2000). Therefore, online support groups might be a useful and convenient venue where individuals living with HIV/AIDS can obtain support and express their emotions.

To date, studies in the context of online support groups have mainly focused on the functions and processes that take place in online support groups, and the effectiveness of online support group participation in helping promote positive psychosocial outcomes for patients. It has been suggested that the special mechanisms that operate and the processes that take place in the dynamics of online support groups may generate a sense of personal empowerment (Barak, Boniel-Nissim, & Suler, 2008; Tanis, 2007). For example, provision of access to a wealth of up-to-date information (Idriss, Kvedar, & Watson, 2009; Turner et al., 2001; Walther & Boyd, 2002), sharing of emotions and personal experiences, and provision of social support (Barak et al., 2008; Buchanan & Coulson, 2007; Coursaris & Liu, 2009; Mo & Coulson, 2008; Reeves, 2001) have been the most widely documented processes enacted in online support groups. In addition, engagement with online support groups has a range of empowering effects including improved social and emotional well-being, improved quality of life, and more active coping (Broom, 2005; Lieberman et al., 2003; Mo & Coulson, 2009; van Uden-Kraan, Drossaert, Taal, Seydel, & van de Laar, 2009; Zabinski, Wilfley, Calfas, Winzelberg, & Taylor, 2004) Recently, Van Uden-Kraan and colleagues (van Uden-Kraan, Drossaert, Taal, Seydel, & van de Laar, 2008) studied the empowering processes and outcomes of online support group participation for individuals with somatic disease and found that participation promoted empowerment in various ways. In particular, the empowering processes of online support groups documented included exchanging information, encountering emotional support, finding recognition and understanding, sharing experiences and helping others. The empowering outcomes indentified included feeling better informed, feeling more confident in the relationship with their physician, improved acceptance of the illness, feeling more confident about the treatment, increased optimism and control over the future, enhanced self-esteem, and enhanced social well-being (van Uden-Kraan et al., 2009). Nevertheless, it is unclear whether these empowering processes and effects could be generalised to participation in HIV/AIDS online support groups.

1.2. Levels of engagement within online support groups

Two types of user engagement within online support groups have been identified within the literature. Thus far, the majority of work which has considered the potential benefits of participation within online support groups has done so with a focus on those who actively post messages ('posters'). However, within most online support groups, these messages are posted by a relatively small number of group members (Nonnecke & Preece, 2000a). In contrast, many other group members may read messages but do not themselves post messages to the group ('lurkers') and may represent a significant proportion of the online support group membership (Katz, 1998; Nonnecke & Preece, 2000b). While the proportion of lurkers tends to vary considerably depending on the nature of the specific group, Nonnecke and Preece estimated that on average 45.5% of the membership of health-related online support groups may be 'lurkers' (Nonnecke & Preece, 2000a). Little is known, however, about the experiences of those who are considered lurkers within health-related online support groups as compared with those who actively post messages.

1.3. Lurking within online support groups

How 'lurking' should be defined is a controversial issue. For example, whereas some studies have defined lurkers as people who have not posted to an online group in the past 3 months (Nonnecke, 2000; Nonnecke & Preece, 2000a) others have defined lurkers as those who have *never* posted to an online group (Nonnecke, Andrews, & Preece, 2006). Moreover, descriptions of lurkers and their online behaviour appear to vary within the literature. For example, some studies have described lurkers as "free-riders" and consider lurking as a negative behaviour (Kollock & Smith, 1996), whilst others view lurking in a much less negative way. Indeed, online support groups may welcome lurking behaviour because they recognise the need for a new member to understand the dynamics of the group (Nonnecke & Preece, 2000b). Lurking can also be a very desirable behaviour in large groups as it would minimise repetitive questions and message overloading (Nonnecke & Preece, 1999).

Empirical evidence suggests that lurking is a highly active, methodical, and goal-driven process and may be a means of satisfying a set of user-defined goals related to joining an online group (Nonnecke, Preece, Andrews, & Voutour, 2004). Moreover, it has been suggested that lurkers' and posters' motives for joining online support groups may be different. Whilst both lurkers and posters may be attracted to online support groups as a means of obtaining information, posters' attractions to the online support group appear to be more focused on community interactions, such as to enjoy oneself, to build professional relationships, to participate in conversations, to make friends, and to obtain empathic support (Nonnecke et al., 2006). Consequently, the extent to which lurkers and posters may be satisfied with their online support group experience may vary. Lurkers tend to benefit less than they expected, are less satisfied with their online support group experiences, and are less likely to consider themselves as members of the groups (Nonnecke, Preece, & Andrews, 2004). For example, in a study by Van Uden-Kraan et al. (van Uden-Kraan et al., 2008) lurkers felt significantly less satisfied with their online support group experience compared to posters, and felt less empowered in the process of exchanging information and finding recognition. However, not all studies report a significant difference between lurkers and posters, suggesting that both lurkers and posters might benefit from online support group participation to a similar extent. For instance, the study by van Uden-Kraan et al. (van Uden-Kraan, Drossaert, Taal, Seydel et al., 2008) failed to find a significant difference between lurkers and posters for most of the empowering outcomes assessed. This is consistent with the evidence that lurkers may indeed develop a sense of community by simply following the conversational threads (Maloney-Krichmar & Preece, 2005; Nonnecke, 2000; Nonnecke & Preece, 2001). Clearly, further research is required to examine whether, and how, the experiences of lurkers and posters differ.

1.4. Rationale for the study

There is a growing body of literature which suggests that participating in online support groups might be beneficial to individuals living with chronic conditions. To date, however, there has been little investigation of the effects of lurking within an online support group. Whether posters and lurkers might feel empowered to the same extent and in the same ways through online support group participation has been inconsistent and therefore warrants further investigations. In addition, it is not clear if the emerging literature on the levels of user engagement and impact on empowering pro-

cesses and outcomes can be generalised to the HIV/AIDS context. More research is needed to explore the empowering effects of online support group participation, and the difference between lurkers and posters in their level of empowerment for individuals living with HIV/AIDS. Given that lurkers make a significant proportion in many online support groups, understanding how lurking might be beneficial to lurkers would be invaluable for health care professionals and would help them decide whether or not they should encourage those who lurk within HIV/AIDS online support groups to take a more active role through posting messages.

1.5. Statement of the purpose

The present study aims to explore whether differences exist between lurkers and posters in their use of HIV/AIDS-related online support groups, their experience of empowering processes, their satisfaction with online support groups, and a range of empowering outcomes as measured by self-care self-efficacy, loneliness, optimism, coping, depression, and health-related quality of life. These outcomes were selected for analysis as they have been the most widely documented psychological outcomes related to online support group use thus far in the literature.

2. Methods

2.1. Sample characteristics

A total of 340 online support group members completed our online survey. The socio-demographic and medical characteristics of participants are presented in Table 1. Most of the participants were male (83.7%) and their mean age was 47.81 years. Over 95% of respondents had more than high school education. In terms of relationship status, slightly less than half (41%) of the sample were not currently in a relationship. Most of the participants were from America (74.1%), followed by Europe (16.5%) and Africa (4.4%). More than half of the sample (53.4%) reported being in the asymptomatic stage, while another one-third (30.1%) reported being in the advanced AIDS stage. On average, respondents had been diagnosed for 11.7 years (range 24–70) and their self-reported mean CD4 count was 505.60 uL.

2.2. Procedure

An Internet search was performed to identify online support groups for individuals living with HIV/AIDS. The three most popular Internet search engines, Yahoo, Google and MSN, were searched using the search terms "online support group and HIV/AIDS". To maximize our potential to recruit participants, online support groups were selected based on two criteria: (1) the online support group was active with at least 25 message threads posted to the group within the past 30 days, and (2) the group contained at least 50 members.

Twelve HIV/AIDS-related online support groups fulfilled the criteria. Moderators from the selected groups were contacted by email explaining the study and requesting permission to recruit participants from their group. Out of the twelve online support groups contacted, six replied and gave us permission to recruit participants from their group (the remaining groups did not respond to our emails).

Following permission from the moderators, a message was posted to the group explaining the objectives of our study. A link to the survey was provided in the message, and interested participants were directed to the survey website. The aims of the study were explained, confidentiality of data and rights of participants were explained and informed consent was sought before they were able to complete the survey. The same message was also sent to a group of members who had previously participated in a survey and expressed interest to participate in future studies. Inclusion criteria

Table 1
Socio-demographic and medical characteristics of participants.

Variables	Total ($N = 340$)[a]	Lurker ($N = 84$)[a]	Poster ($N = 256$)[a]	Difference between groups	Post hoc
Gender				$\chi^2(1) = 2.53$	–
Male	283 (83.7%)	75 (89.3%)	208 (81.9%)		
Female	55 (16.3%)	9 (10.7%)	46 (18.1%)		
Age	M = 47.81	M = 50.98	M = 46.51	$t(337) = 3.38^{***}$	–
	SD = 10.57	SD = 8.78	SD = 11.02		
Education				$\chi^2(3) = 6.18$	–
High School or less	12 (3.6%)	3 (3.7%)	9 (3.5%)		
College	142 (42.3%)	31 (38.3%)	111 (43.5%)		
University	92 (27.4)	17 (21.0%)	75 (29.4%)		
Graduate School or higher	90 (26.8%)	30 (37.0%)	60 (23.5%)		
Relationship status				$\chi^2(5) = 5.89$	–
Married / civil partnership	57 (17.0%)	15 (17.5%)	42 (16.7%)		
In a relationship and live as married	51 (15.2%)	9 (10.7%)	42 (16.7%)		
In a relationship	67 (20.0%)	18 (21.4%)	49 (19.5%)		
Not in a relationship	139 (41.5%)	36 (42.9%)	103 (41.0%)		
Separated/divorced/widowed	21 (6.3%)	6 (7.1%)	15 (6.0%)		
Disease stage				$\chi^2(2) = 8.61^{*}$	
Asymptomatic	181 (53.4%)	55 (65.5%)	126 (49.4%)		L > P
Symptomatic	56 (16.5%)	14 (16.7%)	42 (16.5%)		
AIDS	102 (30.1%)	15 (17.9%)	87 (34.1%)		P > L
Length of diagnosis (in years)	M = 11.77	M = 12.02	M = 11.99	$t(337) = .04$	–
	SD = 7.44	SD = 7.56	SD = 7.63		
CD4 count (in uL)	M = 505.60	M = 508.21	M = 504.16	$t(332) = .11$	–
	SD = 279.53	SD = 358.59	SD = 264.30		

L = lurker, P = poster.
[a] Sample size varied slightly for each variable due to missing data.
[*] $p < 0.05$.
[***] $p < 0.001$.

were individuals who have been HIV+ for at least one month, were at least 18 years old, and had participated in any HIV/AIDS online support groups. Ethical approval has been granted from the institutional review board of the department of the University.

2.3. Measures

Online support group use. A series of questions were asked to capture the frequency and pattern of online support group use (Houston, Copper, & Ford, 2002; Nonnecke et al., 2006; Turner et al., 2001). Specifically, participants were asked how long they had been accessing HIV/AIDS-related online support groups (in months), how many days have they accessed HIV/AIDS-related online support groups in the average week, how many hours have they spent accessing HIV/AIDS-related online support groups in the average week, they were also asked their reason(s) for accessing HIV/AIDS-related online support groups (van Uden-Kraan, Drossaert, Taal, Seydel et al., 2008), and to estimate the total number of messages they had posted to the group.

Satisfaction with online support groups: Respondents were also asked to rate their overall experience whilst accessing online support groups by means of a single item "Which of the following statements best describes your experience with online support group participation?" Responses were rated on a 3-point Likert Scale ranging from 1 = mostly negative to 3 = mostly positive. In addition, they were asked to rate their satisfaction with their online support group experience using a 4-item scale. Items were adapted from the study by van Uden-Kraan and colleagues (van Uden-Kraan, Drossaert, Taal, Seydel et al., 2008) and modified to cover the various aspects of their online support group experience (i.e. relationship with members, content of information, responses from members, and amount of information). Responses were rated on a 5-point Likert Scale ranging from 1 = very dissatisfied to 5 = very satisfied, with higher scores indicating greater levels of satisfaction.

Empowering processes: Empowering processes from online support group participation were measured by a 43-item scale. Items were adapted from the empowering processes scale developed by van Uden-Kraan and colleagues based on their studies of online support group use for patients with breast cancer, fibromyalgia, and arthritis (van Uden-Kraan, Drossaert, Taal, Seydel et al., 2008). In all items, participants were asked the frequency in which the events took place in the online support group. The original scale had 29 items which measured 5 dimensions of empowering processes (exchanging information, encountering emotional support, finding recognition, helping others, and sharing experiences). Based on the results of our own previous qualitative studies, 15 items were added to the scale to reflect the broader aspects of empowering process (e.g. finding positive meaning towards the diseases). Items were rated on a 5-point Likert scale ranging from 1 = never to 5 = often, with higher scores indicating higher levels of empowering processes. The reliability of the original empowering processes scale was satisfactory (Cronbach's alpha ranged from .70 to .95).

Results from factor analysis indicated the possibility of a four-factor solution. On closer inspection of the factor loadings, four items were eliminated because they cross-loaded on two factors. The factor analysis was repeated this time stipulating a four-factor solution, using a Varimax rotation. The integrity of the four-factor solution was preserved.

Table 2 presents the factor loadings and percentage of variance for each factor for this analysis. The four rotated factors accounted for 68.57% of the total variance. The first factor accounted for 44.86% of the total variance and the 14 items that loaded on this factor appeared to tap the "receiving social support" dimension. The second factor accounted for 11.61% of the total variance and the 14 items that loaded on this factor appeared to tap the "finding positive meaning" dimension. The third factor accounted for 7.83%

of the total variance and the 9 items that loaded on this factor appeared to tap the "receiving useful information" dimension. The fourth factor accounted for 4.28% of the total variance and the 2 items that loaded on this factor appeared to tap the "helping others" dimensions. The Cronbach's alpha of the four subscales ranged from .87 (helping others) to .95 (finding positive meaning).

Self-care self-efficacy: Self-care self-efficacy was measured by the Strategies Used by Patients to Promote Health (SUPPH) Scale (Lev & Owen, 1996). It is a 29-item scale measuring four aspects of self-care self-efficacy: coping, stress reduction, decision making, and enjoying life. Participants were asked to rate the degree of confidence he or she had in carrying out specific self-care behaviours in face of their illness (i.e., HIV/AIDS). Each item was rated on a 5-point Likert scale, from 1 = very little confidence to 5 = quite a lot of confidence, with higher scores indicating a greater level of self-care self-efficacy. The reliability of the scale in the present study was satisfactory (Cronbach's alpha ranged from .82 to .93).

Loneliness: Loneliness was measured by the UCLA Loneliness Scale (3rd version) (Russell, 1996). It is a 10-item scale measuring global feelings of isolation and alienation. Participants were asked to describe their own feelings on a 4-point Likert scale ranging from 1 = I never feel in this way to 4 = I often feel in this way, with higher scores indicating greater levels of loneliness. The Cronbach's alpha for the scale was .88 in the present study.

Optimism: Optimism was measured by the Life Orientation Test-revised (LOT-R) scale (Scheier, Carver, & Bridges, 1994). It is a 10-item scale measuring individual differences in generalised optimism and pessimism. Responses were rated on a 5-point Likert scale ranging from 1 = I agree a lot to 5 = I disagree a lot, with higher scores indicating greater levels of optimism. The Cronbach's alpha for the scale was .87 in the present study.

Coping: Coping was measured by the Brief Cope, the abbreviated version of the COPE Inventory (Carver, 1997). It is a 28-item scale that measures 14 types of cognitive or behavioural coping processes (positive reframing, religion, substance abuse, venting, humor, instrumental support, acceptance, active coping, behavioral disengagement, self-blame, denial, self-distraction, emotional support, and planning). Participants were asked how often they used those coping strategies to deal with the stress associated with HIV/AIDS on a 4-point Likert Scale ranging from 1 = I haven't been doing this at all to 4 = I've been doing this a lot, with higher scores indicating greater use of the coping process. The reliability of the subscales was satisfactory in the present study (Cronbach's alpha ranged from .79 to .91).

Depression: Depression was measured by the Center for Epidemiologic Studies Depression Scale-revised (CESD-R) (Eaton, Smith, Ybarra, Carles, & Tien, 2004). It is a 20-item scale measuring depressive symptomatology. It has been suggested that the CESD-R was as reliable and valid as the original scale (Radloff, 1977) but more relevant to current definitions of major depression (Eaton et al., 2004). Participants rated how often they experienced the symptomatology in a 5-point Likert Scale ranging from 1 = not at all in the past week to 5 = nearly everyday in the past two weeks, with higher scores indicating a higher level of depressive mood. The Cronbach's alpha of the scale was .92 in the present study.

Health-related quality of life: Health-related quality of life was measured by the Medical Outcome Study HIV Health Survey (MOS-HIV) (Wu, Revicki, Jacobson, & Malitz, 1997). It is a brief, comprehensive measure of health-related quality of life used extensively in the field of HIV/AIDS (Robinson, 2004). Items of the MOS-HIV were adapted from the 36-item Medical Outcome Study Short-Form Health Survey (SF-36) (Ware & Sherbourne, 1992). The MOS-HIV is a 35-item scale assessing 10 dimensions of functioning and well-being (general health perceptions, physical functioning, role functioning, social functioning, cognitive functioning, mental health, energy, distress about health, pain, and

Table 2
Exploratory factor analysis of the empowering process scale.

	1	2	3	4	Factor in original scale
Factor 1 – Receiving social support (α = .94)					
Someone in the group pays you a compliment?	0.87				ES
Someone in the group confides in you?	0.84				ES
Someone in the group asks you for your help or advice?	0.83				ES
Someone in the group points out your strengths?	0.82				ES
Someone in the group is interested in you?	0.80				ES
Someone in the group consoles you?	0.78				ES
Someone in the group offers you sound advice?	0.77				ES
Someone in the group reassures you?	0.76				ES
Someone in the group invites you to have (personal) contact outside this online support group?	0.76				ES
Someone in the group starts a private conversation with you?	0.74				ES
Someone in the group pays particular attention to you in special cases, such as during illness or moving house?	0.72				ES
Someone in the group gives you encouragement?	0.72				–
You share your worries and fears with other members?*	0.69				–
Someone in the group is empathic?	0.66				ES
Factor 2 – Finding positive meaning (α=.95)					
Someone/message in the group shows you the positive side of living with the disease*		0.82			–
Someone/message in the group helps you take a more positive attitude towards life*		0.80			–
Someone/message in the group shows you how to value life*		0.79			–
Someone/message in the group helps you understand more the meaning of life*		0.79			–
Someone/message in the group helps you find new and worthwhile goals*		0.78			–
Someone/message in the group helps you find the direction in which life is headed*		0.78			–
Someone/message in the group offers you hope towards the disease*		0.77			–
Someone/message in the group helps you know more about yourself*		0.76			–
Someone/message in the group helps you reinterpret the meaning of a situation in a more positive manner*		0.75			–
Someone/message in the group shows optimism about the situation you have gone through*		0.67			–
Someone/message in the group shows you that there are people worse off than you		0.67			–
Someone/messages in the group helps you realize you are not so bad off after all		0.66			RE
Others are an example to you?		0.65			RE
You recognize yourself in the stories of other online support group members?		0.59			RE
Factor 3 – Receiving useful information (α=.91)					
Information exchanged is valuable			0.84		EI
Information exchanged is in line with the information I receive from my care providers			0.80		EI
Information exchanged is correct			0.79		EI
Information exchanged is reliable			0.79		EI
Information exchanged is understandable			0.77		EI
Information exchanged is usable			0.77		EI
Information exchanged is new			0.76		EI
Information exchanged is of added value to the information I receive from my care providers			0.75		EI
Information exchanged is applicable to my present situation			0.74		EI
Factor 4 – Helping others (α = .87)					
You can share your everyday experiences with others				0.63	SE
You can offer advice and support to others?				0.53	HO

EI: exchanging information, ES: encountering emotional support, RE: finding recognition, HO: helping others, SE: sharing experiences. Items with asterisk (*) are newly developed.

quality of life). In addition, one item assesses health transition. Responses were rated on a 6-point Likert Scale, summed and standardized on a 0–100 scale, with higher scores indicating better quality of life. The reliability of the scale was satisfactory in the present study (Cronbach's alpha ranged from .75 to .93).

2.4. Data analysis

First, descriptive statistics regarding the demographic, medical characteristics, and nature of support group use of participants were undertaken. A series of exploratory factor analyses were conducted to explore the factor structure of the empowering process scale and to determine what items of the scale should be retained (Comrey, 1978; Cox & Ferguson, 1993). First, an inter-item correlation coefficient matrix was examined and factors were extracted using the Principal Components Analysis with a varimax rotation. To determine the factor structure the Scree plot was inspected, and factors with Eigenvalues greater than 1 were selected. Items were included if the following criteria were fulfilled: First, items had to load significantly (greater than .40) on a given factor but lower than .30 on the other factors. In addition, following the rational approach to scale construction, an item was eliminated if it lacked conceptual coherence with its loaded factor.

Next, independent sample *t*-tests or chi square tests were conducted to examine whether socio-demographic variables, medical characteristics or the nature of online support group use differed by participants who posted messages (posters) and participants who did not post messages (lurkers). To evaluate the difference in empowering processes and satisfaction with online support group between lurkers and posters, multivariate analyses of variance (MANOVAs) tests were conducted with all the dimensions in empowering process scale, and four indicators of satisfaction with online support group as dependent variables, respectively. Wilks' test was chosen to compare the group differences. To control for the effect of potentially confounding variables, multivariate analyses of covariance (MANCOVAs) were also performed and those socio-demographic, medical, and nature of online support group use variables that showed a significant group difference were controlled for.

3. Results

3.1. Nature of online support group use

Details of the nature of online support group use of participants are presented in Table 3. Participants reported accessing online

Table 3
Nature of online support group use of participants.

	Total ($N = 340$)[a]	Lurker ($N = 84$)[a]	Poster ($N = 256$)[a]	Difference between groups
Length of online support group use (in months)	M = 55.66 SD = 43.88	M = 55.71 SD = 41.24	M = 55.65 SD = 42.41	$t(338) = .01$
Days spent on online support group per week	M = 3.83 SD = 2.29	M = 2.58 SD = 2.03	M = 4.28 SD = 2.21	$t(311) = -6.07^{***}$
Hours spent on online support group per week	M = 4.08 SD = 6.15	M = 2.31 SD = 2.94	M = 4.68 SD = 6.80	$t(329) = -3.04^{**}$
Overall experience of online support group use				
Mostly negative	9 (2.7%)	3 (3.7%)	6 (2.4%)	$\chi^2(2) = 1.09$
Both negative and positive	166 (49.7%)	43 (53.1%)	123 (48.6%)	
Mostly positive	159 (47.6%)	35 (43.2%)	124 (49.0%)	

[a] Sample size varied slightly for each demographic variable due to missing data.
** $p < 0.01$.
*** $p < 0.001$.

support groups for an average of 55.7 months. They spent on average 3.83 days and 4.08 h accessing online support groups in the average week.

Almost half of the sample reported that their overall online support group experience as being positive (48.6%), whilst the other half (49.0%) reported their overall experience as being both negative and positive. The remaining 2.7% of the sample rated their experience as being mostly negative.

In the present study, lurkers were defined as participants who had never posted a message to an HIV/AIDS-related online support group. Using this definition, a total of eighty-four participants (24.7%) were classified as lurkers in the study.

3.2. Comparison between lurkers and posters

Results from the independent sample *t*-tests revealed that lurkers were significantly older than posters, $t(337) = 3.38$, $p < .001$. Results from chi square tests also revealed that lurkers were more likely to be in the asymptomatic stage, while posters were more likely to report being in the AIDS stage. There were no significant differences in other demographic and medical variables between the two groups. The differences in demographic and medical characteristics between lurkers and posters are presented in Table 1.

The main reasons cited by those who accessed online support groups are presented in Table 4. The most popular reason for accessing online support groups was a question about their health condition (51.3%) followed by their interest in how other members were doing (50.4%). More than one third of participants reported accessing online support groups when they heard new information

about their health condition (44.2%), to help other members with their health conditions (43.11%), or as part of their daily routine (38.11%). Results from chi square test revealed that posters were more likely to access online support groups as part of their daily routine, when they had a question about their health condition, to enjoy themselves, and to help other members with their health condition.

The results from the independent sample *t*-tests also revealed that lurkers spent significantly less time accessing online support groups compared to posters. More specifically, lurkers reported spending significantly fewer days accessing online support groups, $t(311) = -6.07$, $p < .001$ and significantly fewer hours accessing online support groups, $t(329) = -3.04$, $p < .01$ in an average week. However, there were no significant differences in the length of time they have been accessing online support groups (in months) or their overall experience of online support groups. On the basis of these analyses, age, disease stage, and days and hours spent accessing online support groups were selected as covariates in the subsequent multivariate analyses.

The differences between lurkers and posters in the four dimensions of empowering processes are presented in Table 5. Overall, the results of the MANOVA revealed a statistically significant difference between lurkers and posters across the empowering processes scale, $F(4334) = 17.65$, Wilks' $\lambda = .724$, $p < 0.001$. ANOVAs were conducted as follow-up tests. Using the Bonferroni method and setting the *p*-values at .01 (0.05/4) level, significant differences were shown for receiving social support, $F(1, 337) = 50.46$, $p < .001$, receiving useful information, $F(1, 337) = 17.37$, $p < .001$, and helping others, $F(1, 337) = 6.59$, $p < .01$. The results revealed that lurk-

Table 4
Reasons for accessing online support group.

Reasons	Total	Lurkers	Posters	Difference between groups
Because I was curious how other members were doing	171 (50.4%)	38 (45.8%)	133 (52.0%)	$\chi^2(1) = .96$
It was part of my daily routine	129 (38.1%)	24 (28.9%)	105 (41.0%)	$\chi^2(1) = 3.90^{*}$
When I had a question about my health condition	174 (51.3%)	35 (42.2%)	139 (54.3)	$\chi^2(1) = 3.69^{*}$
To enjoy myself	70 (20.6%)	9 (10.8%)	51 (23.8%)	$\chi^2(1) = 6.45^{**}$
When I heard new information about my health condition	151 (44.2%)	30 (36.1%)	120 (46.9%)	$\chi^2(1) = 2.93$
When I had a lot of symptom	40 (11.8%)	14 (16.9%)	26 (10.2%)	$\chi^2(1) = 2.71$
Before visiting a doctor	42 (12.4%)	8 (9.6%)	34 (13.3%)	$\chi^2(1) = .77$
After visiting a doctor	64 (18.9%)	18 (21.7%)	46 (18.0%)	$\chi^2(1) = .57$
When I had new symptoms	55 (16.2%)	17 (20.5%)	38 (14.8%)	$\chi^2(1) = 1.47$
Because I felt lonely	83 (24.5%)	15 (18.1%)	68 (26.6%)	$\chi^2(1) = 2.44$
Because other members expected me to he here	38 (10.9%)	8 (9.6%)	29 (11.3%)	$\chi^2(1) = .184$
To stay in touch with other members	105 (31.0%)	21 (25.3%)	84 (32.8%)	$\chi^2(1) = 1.65$
To help other members in their health condition	146 (43.1%)	16 (19.3%)	130 (50.8%)	$\chi^2(1) = 25.37^{***}$

* $p < 0.05$.
** $p < 0.01$.
*** $p < 0.001$.

Table 5
Difference in empowering process between posters and lurkers.

Variables	Total (N = 340)	Lurker (N = 84)	Poster (N = 256)	Difference between groups (MANOVA)	Difference between groups controlling for covariates (MANCOVA)[a]
	M (SD)	M (SD)	M (SD)	$F(1337)$	$F(1, 332)$
Finding positive meaning	2.99 (.91)	2.79 (.92)	3.05 (.91)	4.56[*]	.78
Receiving social support	2.73 (.96)	2.11 (.86)	2.93 (.90)	50.47[***,b]	17.39[***,b]
Receiving useful information	3.68 (.78)	3.38 (.89)	3.77 (.71)	17.31[***,b]	7.23[**,b]
Helping others	3.27 (1.12)	2.98 (1.31)	3.36 (1.04)	6.59[**,b]	.02

[a] Controlling for age, disease stage, days and hours spent on online support groups.
[b] Results indicated statistically significant difference at the Bonferroni-corrected level of significance ($p < 0.01$).
[*] $p < 0.05$.
[**] $p < 0.01$.
[***] $p < 0.001$.

ers scored significantly lower in receiving social support, receiving useful information, and helping others compared to posters. After adjusting for covariates, a statistically significant difference be-

tween the groups was maintained, $F(4, 329) = 8.63$, Wilks' $\lambda = .86$, $p < 0.001$. Using the Bonferroni method and setting the p-values at .01 (0.05/4) level, significant differences were shown for receiving social support, $F(1, 332) = 17.39$, $p < .001$ and receiving useful information, $F(1, 332) = 7.23$, $p < .01$. The results revealed that lurkers scored significantly lower in receiving social support and receiving useful information compared to posters.

The differences between lurkers and posters in the four dimensions of satisfaction with online support groups are presented in Table 6. Overall, the results of the MANOVA revealed a statistically significant difference between lurkers and posters in satisfaction with the online support group, $F(4344) = 6.38$, Wilks' $\lambda = .83$, $p < 0.001$. ANOVAs were conducted as follow-up tests. Using the Bonferroni method and setting the p-values at .01 (0.05/4) level, a significant difference was shown for satisfaction with relationship with other online members, $F(1, 337) = 17.72$, $p < .001$. After adjusting for covariates, a statistically significant difference between the groups was also maintained, $F(4, 293) = 6.54$, Wilks' $\lambda = .85$, $p < 0.001$. Using the Bonferroni method and setting the p-values at .01 (0.05/4) level, a significant difference was shown for satisfaction with relationship with other members, $F(1, 294) = 7.84$, $p < .01$. The results revealed that lurkers scored significantly lower in satisfaction with their relationship with other members compared to posters.

The differences between lurkers and posters in coping are presented in Table 7. Overall, the results of the MANOVA revealed a statistically significant difference between lurkers and posters in

Table 6
Difference in satisfaction with online support group between posters and lurkers.

Variables	Total (N = 329)	Lurker (N = 84)	Poster (N = 255)	Difference between groups (MANOVA)	Difference between groups controlling for covariates (MANCOVA)[a]
	M (SD)	M (SD)	M (SD)	$F(1337)$	$F(1, 294)$
Relationship with members	3.69 (.78)	3.39 (.85)	3.80 (.73)	17.72[***,b]	7.84[**,b]
Content of information	3.84 (.77)	3.77 (.87)	3.87 (.73)	1.01	1.63
Responses from members	3.77 (.78)	3.63 (.77)	3.83 (.78)	4.41[*]	1.18
Amount of information	3.75 (.81)	3.70 (.82)	3.76 (.81)	.37	.13

[a] Controlling for age, disease stage, days and hours spent on online support groups.
[b] Results indicated statistically significant difference at the Bonferroni-corrected level of significance ($p < 0.01$).
[*] $p < 0.05$.
[**] $p < 0.01$.
[***] $p < 0.001$.

Table 7
Difference in coping between posters and lurkers.

Variables	Total (N = 329)	Lurker (N = 84)	Poster (N = 255)	Difference between groups (MANOVA)	Difference between groups controlling for covariates (MANCOVA)[a]
	M (SD)	M (SD)	M (SD)	$F(1337)$	$F(1, 332)$
Active coping	2.67 (.95)	2.73 (.91)	2.65 (.96)	.43	3.32
Planning	2.58 (1.05)	2.50 (.97)	2.64 (1.07)	1.13	7.59[**,b]
Instrumental support	2.37 (.94)	2.37 (.87)	2.38 (.97)	.01	4.41[*]
Emotional support	2.48 (.99)	2.45 (.98)	2.49 (.99)	.13	2.41
Reframing	2.58 (.98)	2.58 (.94)	2.58 (.99)	.01	1.71
Acceptance	2.91 (.85)	2.92 (.88)	2.91 (.85)	.02	.43
Religion	2.15 (.94)	2.25 (1.03)	2.13 (.91)	1.06	.82
Venting	1.99 (.78)	1.77 (.73)	2.21 (.78)	8.77[**,b]	.18
Denial	1.48 (.71)	1.65 (.82)	1.43 (.66)	6.19[*]	1.40
Disengagement	1.52 (.70)	1.58 (.84)	1.50 (.65)	1.01	.39
Distraction	2.27 (.72)	2.33 (.63)	2.25 (.75)	.84	8.88[**,b]
Self-blame	1.86 (.71)	1.84 (.73)	1.87 (.71)	.10	.81
Substance abuse	1.61 (.80)	1.73 (.94)	1.56 (.75)	2.67	.43
Humor	2.04 (.92)	2.10 (.98)	2.03 (.90)	.44	.02

[a] Controlling for age, disease stage, days and hours spent on online support groups.
[b] Results indicated statistically significant difference at the Bonferroni-corrected level of significance ($p < 0.004$).
[*] $p < 0.05$.
[**] $p < 0.01$.

terms of coping, $F(14, 324) = 3.85$, Wilks' $\lambda = .85$, $p < 0.001$. ANOVAs were conducted as follow-up tests. Using the Bonferroni method and setting the p-values at .004 (0.05/14) level, a significant difference was shown for venting, $F(1, 337) = 8.77$, $p < .01$. After adjusting for covariates, a statistically significant difference between the groups was also maintained, $F(14, 319) = 2.58$, Wilks' $\lambda = .89$, $p < 0.001$. Using the Bonferroni method and setting the p-values at .004 (0.05/14) level, significant differences were shown for planning, $F(1, 332) = 7.59$, $p < .01$, and distraction, $F(1, 332) = 8.88$, $p < .01$. Results revealed that lurkers scored significantly lower in planning and higher distraction compared to posters.

The differences between lurkers and posters in health-related quality of life are presented in Table 8. Overall, the results of the MANOVA revealed a statistically significant difference between lurkers and posters in overall health-related quality of life, $F(11, 327) = 7.80$, Wilks' $\lambda = .78$, $p < 0.001$. ANOVAs were conducted as follow-up tests. Using the Bonferroni method and setting the p-values at .005 (0.05/11) level, significant differences were shown for role functioning, $F(1, 337) = 6.84$, $p < .01$, social functioning, $F(1, 337) = 10.43$, $p < .001$, and health transition, $F(1, 337) = 12.34$, $p < .001$. After adjusting for covariates, a statistically significant difference between the groups was maintained, $F(11, 322) = 7.83$, Wilks' $\lambda = .79$, $p < 0.001$. Using the Bonferroni method and setting the p-values at .005 (0.05/11) level, significant differences were shown for social functioning, $F(1, 332) = 6.85$, $p < .01$, and energy, $F(1, 332) = 8.95$, $p < .01$. The results revealed that lurkers scored significantly lower in social functioning, and higher in energy compared to posters.

The differences between lurkers and posters in self-care self-efficacy are presented in Table 9. Overall, results of MANOVA revealed a statistically significant difference between lurkers and posters in self-care self-efficacy, $F(4, 334) = 2.33$, Wilks' $\lambda = .82$, $p < 0.05$. ANOVAs were conducted as follow-up tests. Using the Bonferroni method and setting the p-values at .01 (0.05/4) level, a significant difference was shown for decision, $F(1, 337) = 3.66$, $p < .01$. However, the overall effect became non-significant after adjusting for covariates, $F(4, 239) = 2.09$, ns.

Results from t-tests did not report a significant effect between lurkers and posters in loneliness, $t(337) = 1.12$, ns, optimism, $t(337) = .52$, ns, or CESD, $t(337) = -.47$, ns.

4. Discussion

Despite the growing body of literature which has examined the nature and experience of those who access HIV/AIDS-related online support groups, very little has been done to explore whether any differences exist between lurkers and posters. The present study, therefore, aimed to explore whether any differences existed between lurkers and posters in their experience and satisfaction with online support groups as well as their experience of empowering processes and scores on a range of psychosocial outcomes.

Consistent with the literature (van Uden-Kraan, Drossaert, Taal, Shaw et al., 2008), the results from the present study revealed that lurkers were significantly older than posters. One possible explanation may be that older participants are less experienced in using the Internet and online support groups and therefore, might have less sophisticated computing skills in communicating with other members in the group, or feel less confident in using and being a member of the group.

The present study also indicated that lurkers were more likely to be in the asymptomatic stage, while posters were more likely to be in the advanced AIDS stage. Compared to individuals in the

Table 8
Difference in health-related quality of life between lurkers and posters.

Variables	Total ($N = 329$)	Lurker ($N = 84$)	Poster ($N = 255$)	Difference between groups (MANOVA)	Difference between groups controlling for covariates (MANCOVA)[a]
	M (SD)	M (SD)	M (SD)	$F(1337)$	$F(1, 294)$
General health	55.78 (27.41)	59.46 (30.01)	54.59 (26.47)	1.98	3.75[*]
Physical functioning	74.48 (24.33)	74.10 (23.89)	74.61 (24.52)	.03	.83
Role functioning	61.89 (45.27)	50.60 (46.52)	65.43 (44.35)	6.84[**,b]	5.96[*]
Social functioning	70.80 (29.20)	61.93 (33.00)	73.67 (27.31)	10.43[***,b]	6.85[**,b]
Cognitive functioning	70.28 (27.88)	67.17 (35.10)	71.29 (25.09)	1.37	.06
Pain	66.96 (25.66)	71.35 (26.09)	65.53 (25.41)	3.24	3.30
Mental health	66.31 (23.06)	64.92 (23.71)	66.75 (22.88)	.40	.08
Energy	52.57 (20.39)	56.63 (19.13)	51.25 (20.65)	4.40[*]	8.95[**,b]
Health distress	70.00 (27.46)	67.65 (30.10)	70.76 (26.56)	.81	.36
QOL	63.27 (23.09)	67.47 (25.82)	61.91 (22.02)	3.66	.13
Health transition	53.98 (21.73)	61.15 (23.51)	51.66 (20.64)	12.34[***,b]	2.11

[a] Controlling for age, disease stage, days and hours spent on online support groups.
[b] Results indicated statistically significant difference at the Bonferroni-corrected level of significance ($p < 0.004$).
[*] $p < 0.05$.
[**] $p < 0.01$.
[***] $p < 0.001$.

Table 9
Difference in self-care self-efficacy between lurkers and posters.

Variables	Total ($N = 329$)	Lurker ($N = 84$)	Poster ($N = 255$)	Difference between groups (MANOVA)	Difference between groups controlling for covariates (MANCOVA)[a]
	M (SD)	M (SD)	M (SD)	$F(1337)$	$F(1, 294)$
Coping	3.50 (.90)	3.46 (1.03)	3.51 (.85)	.15	1.33
Stress reduction	3.35 (.96)	3.27 (1.06)	3.38 (.92)	.93	.14
Decision	3.60 (1.06)	3.41 (1.19)	3.67 (1.01)	3.66[**]	.35
Enjoying life	3.56 (.94)	3.42 (1.16)	3.61 (.86)	2.53	.02

[a] Controlling for age, disease stage, days and hours spent on online support groups.
[**] $p < 0.01$.

advanced AIDS stage, those in the asymptomatic stage might face less physical and psychosocial challenges in coping with their disease (Hays et al., 2000; Kelly, Otto-Salaj, Sikkema, Pinkerton, & Bloom, 1998; Liu et al., 2006; Lubeck & Fries, 1997; Pakenham & Rinaldis, 2001). For this group of individuals, they might use the online support groups to obtain general information about the disease, or to learn from other members' experiences so they know what to expect in later stages. In other words, they might be less likely to post a specific question about their health condition, or have less experience to share with others. In contrast, those in the more advanced stage might have encountered more significant personal challenges, or they might have more to offer to other members of the group. They might also have a greater need to post a question regarding their own personal challenges.

Lurkers reported spending significantly less time (both number of days and hours) accessing online support groups in an average week. Compared to lurkers who just read the messages, posters not only read but also post a message to the online support group (Nonnecke & Preece, 2003). In addition, as they have posted messages to the group, they might need to check the group more frequently for the response from other members.

Surprisingly, there were no significant differences in length of membership in online support groups between posters and lurkers. Our results are inconsistent with previous research which has suggested that lurkers are active for a significantly shorter period of time, and are more likely to be newcomers to the online support group compared to posters (van Uden-Kraan, Drossaert, Taal, Seydel et al., 2008). Based on our own findings, this suggests that in the context of HIV/AIDS, length of online support group use might not be an indicator of whether participants would post a message. Indeed, Nonnecke et al. (Nonnecke, Preece, Andrews, 2004) noted that lurkers demonstrate more introvert behaviour than posters, they do not publicly ask questions but want answers. Similarly, Katz (Katz, 1998) suggested that lurkers are less hostile than posters, and are uncomfortable with languages that demonstrate disrespect or hostility. Lurkers are also more likely to be shy and lack the confidence that their posting would be helpful (Bishop, 2007). In one study on online social network services, Rau et al. reported that lurkers tended to score lower in both verbal and affective intimacy (Rau, Gao, & Ding, 2008). Therefore, it may be the case that the intrinsic characteristics of the participants might play a more important role in whether the participants would choose to simply observe in a group or participate through posting messages.

In addition to the demographic variables and nature of online support group use, the present study also revealed significant differences between lurkers and posters in the extent to which they experienced a range of empowering processes resulting from online support group participation. Our results revealed that lurkers scored significantly lower in receiving social support, receiving useful information, and helper others compared to posters. After taking account of other background differences between the groups, an overall significant difference was maintained and follow up analyses reported that lurkers scored significantly lower in receiving social support and receiving useful information compared to posters. One explanation for the difference in the process of receiving useful information might be that posters in the study have posted to the group to ask for some very specific information that is unique to their personal needs (Barak et al., 2008; Culver, Gerr, & Frumkin, 1997; Lasker, Sogolow, & Sharim, 2005). Therefore, posters might see the information obtained as more personal and useful to them. In contrast, lurkers only read the messages posted by other members and such information might not be fully applicable to their situation. Furthermore, as lurkers do not post to the group, they generally have not established a social contact with other members in the group. Therefore it is conceivable that they are less likely to receive social support from other members and

to benefit from the interaction with other members (Rafaeli, Ravid, & Soroka, 2004). Overall, our results are in line with previous studies showing that lurkers are less likely to see the online support group as a source of support, (Bane, Haymaker, & Zinchuk, 2005; van Uden-Kraan, Drossaert, Taal, Seydel et al., 2008).

Surprisingly, the results from our study did not reveal a significant difference between lurkers and posters in finding positive meaning and helping others in the empowering processes. Our results suggest that simply reading the messages from other members can foster positive meaning to the same extent as those who choose to post messages. As for the non-significant difference in helping others, one possible explanation might be that posters were accessing the online group in order to ask a question or to stay in touch with other members, instead of sharing their own experiences or to offer advice to others. This is consistent with our findings that one main reason for accessing an online support group was to know how other members were doing, or when they had question about their health.

Our study also revealed a significant difference between lurkers and posters in their satisfaction with online support groups. It is important to note that although previous studies have reported posters were generally more satisfied with online support groups, there was no specific information regarding which aspects of the online support group posters were indeed satisfied with. The present study suggested that after adjusting for covariates, lurkers scored significantly lower in satisfaction with their relationship with other group members compared to posters. As lurkers do not enjoy the same opportunity to develop a relationship with other members of the group this may account for their lower levels of satisfaction. On the other hand, there were no differences in satisfaction with the content, amount of information, and the responses from other members.

Our results also revealed that after controlling for covariates, lurkers scored significantly higher in distraction and lower in planning compared to posters. One possible explanation might be that posting a message to the group might help posters stay focussed on their health issues so they would be less likely to distract themselves from the situation. Planning in the present study was conceptualised as thinking about what strategies or steps to take in order to cope with the stress of the situation. It might be the case that the responses received from other members serve as a useful reference for posters, so that they are more likely to come up with strategies about what to do with their own problems. Our findings also revealed that lurkers scored lower in social functioning but higher in energy compared to posters. As lurkers did not have the chance to establish social contacts with other members by simply reading the messages, it is plausible that they had worse social functioning compared to posters. This is consistent with the findings from van Uden-Kraan (van Uden-Kraan, Drossaert, Taal, Seydel et al., 2008) in that participants who posted reported enhanced social well-being. On the other hand, posters reported less energy compared to lurkers. This might be due to the fact that posters needed to constantly consider what and where to post, and also to check the response from other members and to reply to them.

Nevertheless, there were no significant differences in self-care self-efficacy, loneliness, depression, or optimism between lurkers and posters. These findings suggest that lurkers seem to profit to the same extent from accessing online support groups as posters. In fact, there is evidence that simply reading the messages has similar beneficial effect as those who read and post to the group (van Uden-Kraan, Drossaert, Taal, Seydel et al., 2008).

4.1. Limitations of the study

There are some limitations of the study that should be noted when interpreting the results. First of all, the study was cross-

sectional and no causality could be inferred from the studies. Although our speculation that those who do not post a message to the group feel less empowered and are less satisfied makes theoretical sense, it might be also possible that members who feel less empowered during the online support group participation process, or those who are less satisfied with the group choose not to post a message to the group. Longitudinal or randomized-controlled studies are warranted to examine the effects of lurking in both the short and long term.

Participants from the present study were recruited from six online support groups. In addition, as lurkers normally outnumbered posters in an online support group, it was expected that more lurkers would respond to the questionnaire than posters. Nevertheless, only one-fifth (24.7%) of the participants in the study were classified as lurkers, which is lower than the number estimated for health-related online support groups (Nonnecke & Preece, 2000a). One of the reasons might be that lurkers were less enthusiastic with the groups (Nonnecke et al., 2006; Preece, Nonnecke, & Andrews, 2004) and thus, are less inclined to participate in research studies. In addition, it is unclear whether participants in the study are representative of online support group users who are HIV-positive. Future studies should seek to recruit participants from multiple groups and to increase the response rate of lurkers. Regardless of these issues, it is important to note that the number of lurkers in our study is similar to those in Van Uden-Kraan's study (van Uden-Kraan, Drossaert, Taal, Seydel et al., 2008).

There has been speculation that participation in face-to-face support groups, and communication skills, and experience in using the interactive tools in the Internet might affect whether individuals might lurk or post to a group. Further studies should take these factors into account and examine whether they affect the nature and extent of participation in online support groups.

4.2. Conclusion and practice implications

While the many positive effects of online support groups have been documented in the growing body of literature, many of them have focused on members who read and post messages to the group and very little work has been done to explore the extent to which lurkers might benefit through online support group participation. The results of the present study suggest that lurkers might benefit from online support group participation to the same extent as those who read and post messages. As online support groups have the potential to provide cost-effective support to individuals who might be difficult to reach by conventional means, health care professionals should seek to encourage the use of online support groups for individuals living with HIV/AIDS. Lurking should not be discouraged and it is not necessary for lurkers to de-lurk, especially for members in large online support groups. As the number of online support group users continues to grow, more research is needed to further examine the role of online support groups in promoting empowerment and quality of life for individuals living with HIV/AIDS.

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