



Internal and External Shame in Healthy and Chronically Ill Samples: Exploring Links to Psychological Health

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Abstract

This study aimed to examine the role of decentering and committed action as mediators of the link of external and internal shame with psychological health, in people with a chronic disease diagnosis ($n = 223$) and without chronic disease ($n = 230$). Participants with chronic disease presented higher levels of both external and internal shame. Path analysis results showed that these variables seem to be negatively linked to psychological health and that their effects on this outcome seem to be reduced by the mechanisms of decentering and committed action. The tested model explained 56% of psychological health's variance and was invariant across groups. This study emphasizes the importance of taking a decentered stance towards internal experiences and behaving accordingly to one's personal values on psychosocial functioning, independently of disease status. These results may have particular relevance to individuals with high levels of shame.

Keywords Committed action · Decentering · External shame · Internal shame · Psychological health

Over the past decades, the prevalence of chronic diseases has been growing in Europe along with an ageing population (Busse et al., 2010; WHO, 2018). As a consequence of increasing longevity, living with one or more chronic disease has become increasingly common (Gerteis et al., 2014; Smith & O'Dowd, 2007). Indeed, chronic health conditions implicate deep life changes with a significant impact on physical, social, and psychological functioning (e.g., Alonso et al., 2004; Forestier et al., 2019). Several studies have indeed shown that chronic diseases may have a detrimental impact on quality of life and well-being (e.g., Graham et al., 2011; Pinto-Gouveia et al., 2013). Moreover, chronic patients seem to present an increased vulnerability to several mental health problems, such as depression and anxiety (e.g., Clarke & Currie, 2009; Lotfaliany et al., 2018; Trindade et al., 2015a, 2015b). In addition, literature suggests that patients with chronic diseases, particularly those with visible symptomatology, are theoretically more

vulnerable to experience higher levels of shame (e.g., Casati et al., 2000; Kellett & Gilbert, 2001).

Shame has been recognized as an unwanted and powerful self-conscious emotion (involving feelings of inferiority or inadequacy, isolation, uselessness and self-judgment; Ferreira et al., 2020) that can be incapacitating and play a central role in psychosocial functioning (e.g., Dearing & Tangney, 2011; Gilbert, 1998, 2007; Kim et al., 2011; Tangney & Dearing, 2002). Some authors have argued that it is possible to distinguish two shame dimensions: external shame and internal shame, which complement each other (e.g., Gilbert, 2003, 2009; Kim et al., 2011). In the lens of the biopsychosocial and evolutionary model, developed by Gilbert (1998, 2007), external shame emerges when individuals believe that they are being judged and seen by others as inferior, defective or unattractive due to the person's unfavourable characteristics (such as an illness or physical attributes) or due to behaviours that can be perceived as inadequate by others. With external shame, one's attention is focused on what is going on in the mind of others about the self (Gilbert, 1998, 2007). When this experience is internalized, it arises as a self-focused feeling named internal shame. This dimension of shame relates to negative self-evaluations about the attributes, characteristics, and behaviours that individuals perceive as unpleasant or undesired (Gilbert, 2003).

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A growing body of research has shown a strong association of shame with psychopathology (e.g., Kim et al., 2011; Matos et al., 2013) and quality of life outcomes (e.g., Persons et al., 2010; Singh et al., 2016). Particularly, some studies have explored the experience of shame specifically in the context of having a chronic illness and its impact on individuals' psychological health. Trindade et al. (2018), in a study with chronically ill patients, showed that illness-related shame is negatively associated with psychological health. In another study with a sample of inflammatory bowel disease (IBD) patients, Trindade et al. (2017b) found that illness-related shame has a detrimental impact on the psychological functioning of these patients.

There is increased recognition that the relationship between shame and psychological health can be mediated by different psychological processes (e.g., Trindade et al., 2017b). One potential and unexplored mediating processes may be decentering. Decentering is defined by the ability to observe one's internal experiences (e.g., thoughts, feelings, emotional states) as transitory events in the mind, which do not necessarily express the reality or the self truthfully and, ultimately, do not claim any particular response (Sauer & Baer, 2010). This present-focused ability implies an acceptance and non-judgemental attitude of one's own thoughts and feelings as they occur in the mind (e.g., instead of believing the thought "I am depressed", an individual with decentering abilities is aware that "At this moment I am thinking that I am feeling depressed"), as opposed to self-focused forms of attention (Fresco et al., 2007). Decentering has been shown to buffer against psychopathological symptomatology (e.g., Naragon-Gainey & DeMarree, 2017; Segal et al., 2002), having a positive role on individuals' well-being (e.g., Fresco et al., 2007; Mendes et al., 2016).

Another adaptive mechanism that seems to play an important role on psychological health and well-being is committed action. Although research on this specific process is scarce, committed action appears to be a promising construct. Indeed, committed action is a key process of the psychological flexibility model of Acceptance and Commitment Therapy (ACT; Hayes et al., 1999), defined as a present-oriented process related to a lifelong on-going pattern of effective actions that are based on personal goals and life chosen values (Hayes et al., 2006; McCracken, 2013). This process of pursuing valued life directions has an underlying persistence and flexibility in its actions and requires willingness to experience pain, discomfort and failure (McCracken, 2013; McCracken et al., 2015). Recent developments have shown that committed action is linked with a higher subjective perception of psychological health and well-being (Trindade et al., 2015a, 2015b; Trompetter et al., 2013), and decreased psychological responses to stress (Cresswell et al., 2005). Particularly, Trindade et al. (2017) showed that committed action presents negative associations with depressive

and anxious symptomatology on both healthy individuals and women with breast cancer.

Considering this literature, the main goal of our study is to test an integrative model to examine the relationship between the experience of external and internal shame and psychological health, and to test whether decentering and committed action significantly influence this relationship. Given the lack of studies on internal shame, it seems particularly important to explore the relationship between each of the two shame dimensions and psychological health, in two different groups (participants with and without a chronic disease diagnosis). This allows us to compare whether these processes hold the same importance in different health contexts. We hypothesize that higher levels of shame (both external and internal) may be associated with lower levels of decentering, which in turn may explain lack of committed action, which overall tends to be associated with low psychological health.

Material and Methods

Participants

This study's total sample included 453 Portuguese adults, which comprised two groups: participants without a chronic disease diagnosis ($n = 230$) and participants with chronic disease ($n = 223$). The group of participants without chronic disease comprised 160 women and 70 men, with ages ranging between 18 and 62 ($M = 31.30$; $SD = 10.52$) and a mean of 14.28 ($SD = 2.60$) years of education. Regarding the marital status of the participants without chronic disease, 34.8% were married, 60.9% single, 3.5% divorced and 0.4% widowed. The group of participants with chronic disease included 196 women and 27 men, with ages ranging from 18 to 65 ($M = 38.53$; $SD = 11.82$), and a mean of 13.97 ($SD = 2.88$) years of education. Concerning the marital status of the participants with chronic disease, 51.1% were married, 39% single, 7.6% divorced and 1.3% widowed. The two groups presented significant differences regarding age [$t_{(451)} = -6.89$, $p < 0.001$], gender [$\chi^2_{(1)} = 22.60$; $p < 0.001$], and also marital status [$\chi^2_{(4)} = 22.80$; $p < 0.001$]. No significant differences were found [$t_{(451)} = 1.22$, $p = 0.225$] regarding years of education.

Concerning the group of participants with chronic disease, 174 participants (78.03%) reported having one chronic disease, and 49 participants (21.97%) reported having two or more chronic diseases. Table 1 presents a description of the chronic diseases reported by participants, grouped by organ system. The most reported diseases were lupus (33.63%), fibromyalgia (10.76%), endometriosis (9.87%), and asthma (7.62%).

Table 1 Chronic diseases reported by participants, grouped by organ system ($n=223$)

	<i>n</i>	%
Neoplasms	3	1.34
Cardiovascular diseases	13	5.83
Respiratory diseases	32	14.35
Kidney diseases	18	8.07
Gastrointestinal diseases	14	6.28
Liver diseases	3	1.34
Neurological diseases	2	0.90
Blood and Endocrine diseases	27	12.11
Gynaecological diseases	23	10.31
Rheumatic and musculoskeletal diseases	157	70.40
Neuromuscular diseases	2	0.90
Skin diseases	12	5.38
Sense organ diseases	1	0.45

Measures

External and Internal Shame Scale (EISS; Ferreira et al., 2020)

EISS, Ferreira et al. (2020) measures the experience of shame in two dimensions: external and internal shame. The EISS comprises 8 items, which assess four domains of the experience of shame through two items (one related to the external dimension and one related to the internal dimension): inferiority/inadequacy (e.g., “I am different and inferior to others”), sense of isolation/exclusion (e.g., “Other people don’t understand me”), uselessness/emptiness (e.g., “I am unworthy as a person”) and criticism/judgment (e.g., “Others are judgmental and critical of me”). The items are rated on a 5-point scale, ranging from 0 (“Never”) to 4 (“Always”), according to the frequency of shame experiences. In the original study, Cronbach’s alpha values were 0.80 and 0.82 for the external and internal shame subscales, respectively (Ferreira et al., 2020).

Experiences Questionnaire (EQ; Fresco et al., 2007; Gregório et al., 2015)

The EQ is a 11-item self-report instrument designed to assess decentering in daily experiences (e.g., “I can separate myself from my thoughts and feelings”), rated on a 5-point Likert scale from 1 (“Never”) to 5 (“Always”). Higher scores indicate a greater capacity to observe one’s thoughts and feelings as temporary events and separated from the self. The EQ presented good internal reliability, both in the original version ($\alpha=0.83$; Fresco et al., 2007) and in the Portuguese validation study ($\alpha=0.81$; Gregório et al., 2015).

Committed Action Questionnaire (CAQ-8; McCracken et al., 2015; Trindade et al., 2017a, b, c)

The 8-item version of the CAQ measures committed action, as conceptualized in ACT. The CAQ-8 has two subscales, one positively phrased (e.g., “I can remain committed to my goals even when there are times that I fail to reach them”) and one negatively phrased (e.g., “I find it difficult to carry on with an activity unless I experience that it is successful”), each with 4 items. CAQ-8 presented a α of 0.87 (McCracken et al., 2015). The Portuguese version also revealed good internal consistency ($\alpha=0.79$ for the breast cancer sample and of 0.86 for the healthy sample; Trindade et al., 2017a, b, c).

World Health Organization Brief Quality-of-Life Assessment Scale (WHOQOL-BREF; WHOQOL Group, 1998; Canavarró et al., 2007)

This self-report instrument assesses one’s subjective perception of their quality of life (QoL) through 24 items distributed in four specific QoL’s domains (physical, psychological, social relationships and environment) and two additional items which evaluate general QoL and general health. The items are rated on a 5-point Likert scale, with higher scores demonstrating a higher perceived QoL. Given the aim of the current study, only the psychological health (WHOQOL_Psyc) domain was used. This instrument presented psychometric adequacy in its original study (α ranging from 0.66 to 0.84; WHOQOL Group, 1998) and in the Portuguese validation study (α ranging from 0.67 to 0.87; Canavarró et al., 2007).

The alphas for the variables considered in the current study are reported in Table 2.

Procedures

The sample was recruited through online advertisements on the social network Facebook (exponential discriminative snowball sampling technique). The invitation included information regarding the general aims of the study and the target population (adults aged between 18 and 65). The voluntary nature of the participation, and the anonymity and confidentiality of the data were also assured.

Data was collected between November 2018 and March 2019. All participants gave their informed consent before participating. In order to obtain a larger sample of chronic patients, thirty-two Portuguese chronic patients associations were asked to advertise the study. Of the contacted associations, seven replied and agreed to collaborate in sample recruitment.

The initial sample was composed of 471 participants. However, considering the purpose of the study, 18

Table 2 Cronbach's alphas (α), means (M), standard deviations (SD) and t-test differences between groups

	Participants with chronic disease (<i>n</i> = 223)			Participants without chronic disease (<i>n</i> = 230)			<i>t</i>	<i>p</i>
	α	<i>M</i>	<i>SD</i>	α	<i>M</i>	<i>SD</i>		
Eiss_Ext	0.84	6.00	3.31	0.83	4.99	2.90	− 3.47	0.001
Eiss_Int	0.85	4.52	3.55	0.86	3.60	3.12	− 2.95	0.003
EQ	0.90	36.65	7.52	0.91	39.20	7.23	3.67	***
CAQ-8	0.80	30.35	8.02	0.81	32.28	7.43	2.65	0.008
WHOQOL_Psyc	0.87	61.86	20.42	0.83	72.22	15.42	6.08	***

EISS_Ext and *EISS_Int* External and Internal Shame Subscales, *EQ* Experiences Questionnaire, *CAQ-8* Committed Action Questionnaire, *WHOQOL_Psyc* Psychological health domain of the World Health Organization Brief Quality-of-Life Assessment Scale (WHOQOL-BREF)

*** $p < 0.001$

participants were excluded: 16 participants of the group with chronic disease were excluded from the database (14 were over 65, 1 reported having a disease but did not indicate which one, and 1 reported having psychiatric illness); 2 participants from the group without chronic disease were excluded (1 was under 18 years old, and the other indicated did not provide informed consent).

Data Analyses

Data analysis was conducted using IBM SPSS 20 (IBM Corp, 2011). Descriptive statistics were conducted to analyze the characteristics of the two groups (participants with and without chronic disease diagnosis). Independent *t* tests were conducted to estimate mean differences between groups. Pearson product-moment correlations were calculated to examine the associations between study variables (Cohen et al., 2003). Path analysis, a form of structural equation modeling (SEM; MacKinnon, 2008), was performed to examine the associations between study variables in the theoretical proposed model. This procedure enables both the analysis of structural associations and the exploration of the significance of direct and indirect effects between variables, while controlling for errors. To test regression coefficients and fit statistics, Maximum Likelihood was used as estimation method. To examine the model's fit to empirical data, a set of goodness-of-fit indices were used: the Comparative Fit Index (CFI), the Tucker Lewis Index (TLI) and the Root Mean Square of Approximation (RMSEA). CFI and TLI are both indicative of a very good fit when values are above 0.95 (Hu & Bentler, 1999; Kline, 2005). RMSEA was examined considering that values between 0.05 and 0.08 indicate a good fit. The Bootstrap resampling procedure, with 5000 samples, was used to test the significance of the paths, with 95% bias-corrected confidence intervals (CIs) around the standardized estimates of total, direct and indirect effects (Kline, 2005).

A multi-group analysis was conducted to test whether the path coefficients are equal or invariant between groups (Byrne, 2010). For this purpose, the unconstrained (i.e., with free structural parameter coefficients) and the constrained models (i.e., where the parameters are constrained to be equal across groups) were compared. The non-significant result of the χ^2 difference test indicate that the invariance tests claimed are supported (Byrne, 2010). Path analysis and multi-group analysis were performed using AMOS (v.22; Arbuckle, 2013).

Results

Descriptive and Correlation Analyses

Descriptive and *t*-test results are reported in Table 2. Results indicated that, in comparison with the group without chronic disease, the group with chronic disease reported higher levels of external and internal shame and lower levels of decentering, committed action, and psychological health.

Correlation results (Table 3) indicated that, in both groups, the two dimensions of shame (external and internal) presented moderate to strong negative correlations with decentering and committed action. Regarding psychological health, strong negative correlations with both external and internal shame were found. In contrast, strong positive correlations between psychological health with decentering and committed action were found. Finally, in the group without chronic disease, age did not present significant correlations with any variable. The same was found for the chronic disease group with an exception: age presented a significant (albeit weak) association with external shame.

Table 3 Product-moment correlation coefficients between the study variables

Measures	1	2	3	4	5	6
1. EISS_Ext	–	0.73***	– 0.51***	– 0.38***	– 0.56***	– 0.16*
2. EISS_Int	0.66***	–	– 0.53***	– 0.45***	– 0.65***	– 0.07
3. EQ	– 0.39***	– 0.56***	–	0.51***	0.60***	0.13
4. CAQ-8	– 0.44***	– 0.50***	0.47***	–	0.46***	0.07
5. WHOQOL_Psyc	– 0.57***	– 0.68***	0.61***	0.57***	–	– 0.03
6. Age	– 0.05	– 0.04	0.06	0.13	0.07	–

Results at the bottom left refer to participants without chronic disease ($n=230$); results at the upper right (in bold) refer to the chronic disease group ($n=223$)

* $p < 0.050$; ** $p < 0.010$; *** $p < 0.001$

Path Analysis

A path analysis was performed to explore whether decentering and committed action mediated the link between external and internal shame with psychological health, using the total sample ($N=453$). First, this model was tested through a fully saturated model (i.e., zero degrees of freedom), comprising 26 parameters. The initial analysis of the model indicated that one path was non-significant: the direct effect of external shame on committed action ($b_{\text{EISS_Ext}} = -0.26$; $SE_b = 0.14$; $Z = -1.92$; $p = 0.055$). This path was eliminated, and the model was readjusted.

The final model's (Fig. 1) path coefficients were all statistically significant ($p < 0.001$) and explained 56% of psychological health's variance. Moreover, the model accounted for 31% of committed action, as well as decentering. The model presented an excellent model fit to the empirical data, as indicated by the analysis of the goodness of fit indices [$\chi^2_{(1)} = 3.68$; $p = 0.055$; CFI = 1.00; TLI = 0.97; RMSEA = 0.08, CI = 0.00 to 0.17, $p = 0.198$].

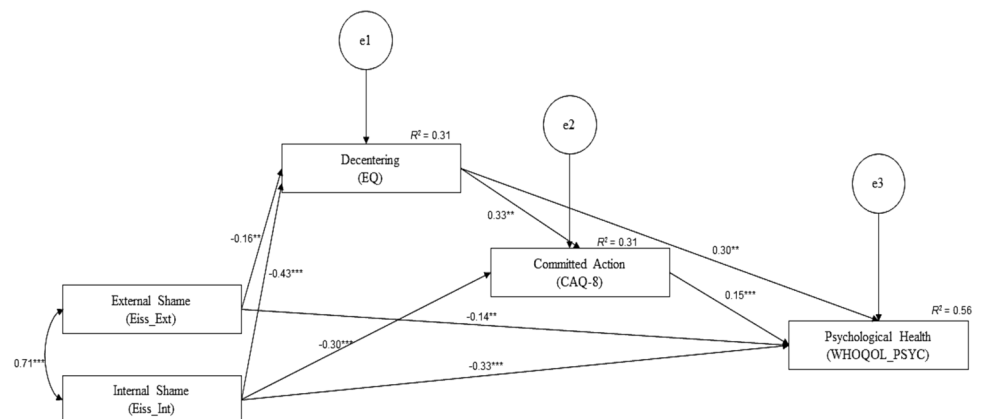
Specifically, external shame presented a significant direct effect on decentering of -0.16 ($b_{\text{EISS_Ext}} = -0.39$; $SE_b = 0.13$; $Z = -2.96$; $p = 0.003$) and of -0.14 on psychological health ($b_{\text{EISS_Ext}} = -0.84$; $SE_b = 0.27$; $Z = -3.16$; $p = 0.002$). In turn, internal shame had a significant

direct effect on decentering of -0.43 ($b_{\text{EISS_Int}} = -0.96$; $SE_b = 0.12$; $Z = -7.89$; $p < 0.001$), of -0.30 on committed action ($b_{\text{EISS_Int}} = -0.69$; $SE_b = 0.11$; $Z = -6.42$; $p < 0.001$), and of -0.33 on psychological health ($b_{\text{EISS_Int}} = -1.81$; $SE_b = 0.27$; $Z = -6.79$; $p < 0.001$). It was also verified that decentering had a significant direct effect on committed action of 0.33 ($b_{\text{EQ}} = 0.35$; $SE_b = 0.05$; $Z = 7.12$; $p < 0.001$) and on psychological health of 0.30 ($b_{\text{EQ}} = 0.74$; $SE_b = 0.10$; $Z = 7.44$; $p < 0.001$). Finally, committed action also presented a significant direct effect on psychological health of 0.15 ($b_{\text{CAQ-8}} = 0.37$; $SE_b = 0.09$; $Z = 4.02$; $p < 0.001$).

The analysis of indirect effects showed that internal shame had indirect effects of -0.14 on committed action through decentering (95% CI -0.20 to -0.10), and indirect effects of -0.20 on psychological health through committed action and decentering (95% CI -0.27 to -0.13). In turn, external shame had an indirect effect of -0.05 on committed action through decentering (95% CI -0.11 to -0.02); and an indirect effect of -0.06 on psychological health through committed action and decentering (95% CI -0.10 to 0.02). Finally, decentering had indirect effects of 0.05 on psychological health through committed action (95% CI 0.02 to 0.09).

To sum up, the model revealed that decentering and committed action mediated the link between external and

Fig. 1 Path model showing the association of external and internal shame with psychological health, mediated by decentering and committed action, with standardized estimates and squared multiple correlations ($N=453$). ** $p < 0.01$; *** $p < 0.001$



internal shame with psychological health. Further, results from this model also demonstrated that decentering seems to explain the effect of external shame on committed action.

Multi-Group Analysis

Before undertaking the invariance tests, the path model's analyses were separately conducted for both groups, which confirmed goodness-of-fit for both chronic disease (CFI = 1.00) and without chronic (CFI = 0.99) groups. Therefore, the invariance tests were conducted. Results from the Chi-square difference test between the unconstrained [$\chi^2_{(2)} = 6.44, p = 0.040$] and the constrained [$\chi^2_{(10)} = 18.04, p = 0.054$] models showed that the model was invariant for the two groups [$\chi^2_{\text{dif}(8)} = 11.60, p = 0.170$]. Thus, at the model-level, the studied associations seem to present no significant differences across the studied groups. Lastly, critical ratio differences were calculated to test differences between both groups regarding parameter estimates. Results revealed that two parameters' coefficients had statistically significant differences between groups: the relationship between external shame and decentering ($Z = -2.08, p < 0.05$) and the relationship between internal shame and decentering ($Z = 2.25, p < 0.05$). This result showed that the relationship between external shame and decentering was significant only for the chronic disease group. Further, both groups presented a significant relationship between internal shame and decentering, but chronic disease group presented a lower estimate compared to the group without chronic disease.

Discussion

The present study sought to explore the differences between two groups, people with and without chronic disease diagnosis, regarding the experience of shame in its two dimensions (external and internal shame) and psychological health, as well as regarding to two adaptive psychological processes (decentering abilities and committed action). Although some studies have demonstrated the impact of shame on psychological functioning and well-being in the context of chronic disease, they do not differentiate external shame from internal shame, or focus on chronic illness-related shame exclusively (e.g., Trindade et al., 2018; Trindade et al., 2017a, b, c). Thus, our study added new data to the literature in this area. Moreover, this study intended to clarify the role of decentering abilities and committed action as potential mediators of the links of external and internal shame with psychological health.

Results allowed to verify that individuals with chronic disease presented higher levels of external and internal shame compared to individuals without a diagnosis of chronic disease. These data are in line with previous findings

(e.g., Casati et al., 2000; Kellett & Gilbert, 2001; Trindade et al., 2017b) and extend them with findings on internal shame. Regarding the studied processes, the individuals without chronic disease reported higher levels of decentering and committed action compared to individuals with chronic disease. Specifically, the group with chronic disease seems to reveal a greater difficulty to take a decentered stance towards internal experiences, and a lesser tendency to engage in actions consistent with one's personal values, which goes against results reported by other studies (e.g., McCracken, 2013). Similarly to Coutinho et al.'s results (2019) and as expected, these two groups also differed in relation to psychological health, as the group with chronic disease scored lower in this domain.

Results from correlation analyses showed an identical pattern of relationship between variables in both groups. More specifically, results revealed strong negative associations of external and internal shame with psychological health, both for individuals with and without chronic disease. This result is consistent with literature that documented the adverse effects of shame on psychological functioning (e.g., Kim et al., 2011). In the group without chronic disease, decentering and committed action presented strong positive associations with psychological health, while in the chronic disease group, decentering was strongly and positively associated with psychological health, while committed action was moderately and positively associated with this outcome. These results seem to evidence the importance of promoting these psychological processes, both in healthy and ill populations.

To better understand the link between the studied variables, a theoretical model was tested via path analysis. The tested model hypothesized that external and internal shame may explain psychological health through decentering and committed action. This model explained 56% of the variance of psychological health and presented an adequate fit to the empirical data. Results showed that decentering abilities and committed action partially mediate the link of both external and internal shame on psychological health, which goes in line with our hypothesis.

Finally, a multi-group analysis revealed that these results were invariant across participants with and participants without chronic disease at the model level. Nevertheless, the link between shame and decentering was not invariant between the groups. External shame's effect on decentering was only significant for the chronic disease group. Internal shame's effect on decentering was significant for both groups, but stronger for the group of people without chronic disease. These data suggest that external shame plays a more significant role in the explanation of decentering in people with chronic disease than in people without chronic disease. In the latter, it is internal shame that seems to explain decentering. Overall, these findings

seem to indicate that, in the presence of chronic disease, believing that one is judged and seen by as inferior by others may limit one's ability to decenter from internal experiences, while in people without chronic disease it is self-evaluations that seem to influence one's decentering abilities.

These findings cannot be considered without note some limitations. First, the cross-sectional nature of this study does not allow the inference of causal directions between the variables. In this line, future research should be developed based on longitudinal designs. Secondly, the recruitment method (online survey) and the use of self-report measures may be susceptible to produce sample bias and does not allow the generalization of data. Thus, future studies could benefit from the use of different research methods and assessment measures (e.g., structured interviews) to confirm our findings. Another important limitation refers to the size and representability of the sample. Future research should replicate the tested model using larger samples, and in groups of people with the same chronic disease diagnosis.

These findings appear nonetheless to be promising and to have important implications, namely in the context of behavioural medicine, by showing that feelings of inadequacy or inferiority, either by perceiving a negative external evaluation or an internal negative appreciation, may negatively influence perceived psychological health. The ability to distance oneself from internal experiences and to perceive these negative internal events as transient, may lead to the engagement in actions committed to life values, and together, these two processes seem to diminish the influence of shame on psychological functioning. This seems to shed some light on the importance of decentering and committed action as adaptive mechanisms for psychological health, in both healthy and ill populations.

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Author Contributions Authors CF and IAT designed the study, prepared the measures and wrote the protocol. Author IM-P recruited and assessed the participants. All the authors conducted literature research and provided summaries of previous research studies, conducted the statistical analysis and wrote the manuscript throughout its development stages. CF supervised and contributed throughout the conduction of these tasks and approved the final manuscript.

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Declarations

Conflict of interest Inês Matos-Pina, Inês A. Trindade, and Cláudia Ferreira declares that they have no conflict of interest.

Informed consent All participants gave their informed consent before participating.

Ethical Approval All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards. The present study was approved by the Ethical Board of the Faculty of Psychology and Education Sciences of the University of Coimbra.

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