# The Effects of Self-Criticism on Psychological Distress and Well-being in Patients with Chronic Conditions: A Questionnaire Study

**Kimberly Stadtlander**

**Faculty of Behavioural, Management, and Social Sciences**

**Department of Psychology, Health, and Technology**

**University of Twente**

**Supervisor: Dr. Stans Drossaert**

**2nd Supervisor: Dr. Annemarie Braakman – Jansen**

**June 25, 2021**

## Abstract

***Background:*** The negative consequences of self-criticism on psychological distress and well-being have been established in research. However, there are no studies that provide information about the correlations of the subdimensions of self-criticism on mental well-being and psychological distress in patients with various chronic conditions. Up to now, there are also no studies that examine the correlation between the subscales of self-criticism, namely shame, self-critical cognitions, guilt, and harshness, and the variables age, visibility of the illness, and social media usage. It is important to know the various ways in which patients engage in self-criticism and which factors might make them more at-risk for behaving self-critically to facilitate intervention development and clinical practice. ***Aim:*** The study at hand aims to apply the newly developed Self-Compassion and Self-Criticism Scale for Patients with Chronic and Life-Threatening Physical Conditions (SCCC), to gain insight into the relation of the subscales of self-criticism and mental well-being, as well as psychological distress. Further, the study aims to identify possible at-risk factors which may enhance self-criticism in patients with chronic diseases. ***Method:*** A quantitative cross-sectional online survey was conducted in a sample of patients affected by one or multiple chronic conditions ($n$=167). The participants had a mean age of 47 (SD=12.3) and all of them were German. For the survey, the SCCC was used to measure self-criticism, the Mental Health Continuum Short Form (MHC-SF) measures mental well-being, and the Patient Health Questionnaire (PHQ-9) was used to measure psychological distress. A self-developed questionnaire was used to measure social media usage, age, and visibility of the illness. To answer the research questions, multiple Pearson correlation analyses were performed. ***Results:*** The results of the correlation analyses revealed a positive association ($p<0.01$) between self-criticism (total score) and psychological distress ($r=.75$), and mental well-being ($r=.57$). No correlation was found between the variables self-criticism and age. Self-criticism was significantly positively associated with visibility of the condition ($r=.16$) and negatively with social media usage ($r=.34$). ***Conclusion:*** The current study provides novel evidence about the occurrence of the subscales of self-criticism and how these are related to psychological distress and well-being. A possible at-risk group for engaging in more self-criticism is patients with a visible manifestation of their illness. Interestingly, in the present study higher social media usage was associated with lower self-criticism.


**Keywords:** Chronic illness, self-criticism, psychological distress, well-being, social media usage, age, visibility of the illness, quantitative study

# Content

## Introduction

Cancer, Diabetes, Arthritis, and HIV are just a few examples of common chronic diseases nowadays. The WHO stated that seven out of the 10 leading causes of death worldwide in 2019 are chronic diseases (*Leading Causes of Death Worldwide 2019*, n.d.). Generally, a chronic disease is defined as a condition that is present or expected to last for at least six months, or that is final (O'Halloran et al., 2004). Additionally, factors such as having a poor prognosis, or living with consequences, or sequelae that have an impact on the quality of life of the individual affected are also considered. Up to now, there is no universally used definition of what a chronic disease is, but the characteristics mentioned above are the most significant ones.

After being diagnosed with a chronic condition, the illness may induce acute changes in a person's day-to-day life which can influence the quality of life in a negative way (Sprangers et al., 2000). Individuals affected by a chronic disease must adapt to new situations that challenge their usual coping styles (de Ridder et al., 2008). Some chronic illnesses, e.g., rheumatoid arthritis, need long-term pharmacological treatment and are accompanied by proceeding bodily disability and pain. There are also chronic diseases, e.g., diabetes, which can be medically controlled but only under the condition of observance of certain management regimens. In both cases, the patient needs to adapt to a new lifestyle, which may have consequences for their usual functioning, as well as on psychological and social aspects. It may bring along aspects of fear or depression, not being able to participate in social activities, or the inability to work, to fulfil social roles such as being a parent or taking care of the household. The affected person must incorporate, almost always, lifelong medical activities which are completely new and different from those of healthy individuals. For around one-third of patients that get diagnosed with a chronic disease, the adjustment phase is prolonged or unsuccessful (de Ridder et al., 2008).

A prolonged or unsuccessful adjustment phase might result in a negative effect on well-being and psychological distress (de Ridder et al., 2008). Generally speaking, well-being reflects the individual's perceptions of their own lives in terms of emotional, social, and psychological functioning (Joshanloo & Nosratabadi, 2009). Emotional well-being is measured in life satisfaction, presence of positive affect, and the absence of negative affect. Psychological well-being entails self-acceptance, personal growth, having a meaningful purpose in life, and having a sense of autonomy. The last dimension of well-being is social well-being, which is concerned with whether and to what extent individuals are functioning

well in their social world. Experiencing an unsuccessful adjustment phase can worsen the multidimensional construct of well-being by minimizing positive feelings and maximizing negative ones (Joshanloo & Nosratabadi, 2009). However, maladjustment cannot only lead to lower well-being, but also to psychological distress (Trindade et al., 2017). Psychological distress can result in physical and psychological symptoms like fatigue, memory and concentration problems, depression, inner tension, and anxiety (Dekker & de Groot, 2018). Patients with a chronic disease are oftentimes in a vicious cycle of having the feeling of inadequacy towards the self, thereby heightening self-critical thinking styles, which results in experiencing more symptoms like depression (Trindade et al., 2019).

One of the best predictors to experience psychological distress and lower well-being is self-criticism. Self-criticism is a phenomenon that appears frequently in patients after being diagnosed with a chronic disease (Pinto-Gouveia et al., 2014). Self-criticism involves the act of negative self-labelling and harsh judgements (Shahar et al., 2015). Recently, Volkov (2020) distinguished four dimensions of self-criticism in patients with chronic diseases based upon a literature review and multiple interviews. These four dimensions are namely guilt, harshness, self-critical cognitions, and shame. Guilt can be described as experiencing dysphoria resulting from the realization that one has violated a relevant moral or social standard (Kugler & Jones, 1992). After being diagnosed with a chronic condition, patients frequently report feeling guilty about not being able to carry out usual work duties and asking for support from others (Trindade et al., 2017). Further, patients are concerned with feeling guilty and useless because they are not able to conduct their social roles and/or being able to contribute as much as before their diagnosis (Volkov, 2020). Another factor resulting in guilt is self-blame for not having contacted a doctor earlier and having caused the condition due to unhealthy behaviour. Further, the dimension of guilt included losing temper and not being nice to oneself or others. The second dimension of self-criticism is harshness, which entails that affected patients might treat themselves with harshness or strictness (Volkov, 2020). Consequently, they usually try to execute their daily life while ignoring the restrictions imposed on them by their chronic illness. Harshness also entails the suppression of emotions and not allowing oneself to feel down. Further, it is about attributing errors and shortcomings to oneself and having an inner critical voice. The third dimension of self-criticism is called self-critical cognitions. These cognitions are made up of a selective focus on negative information and memory recall, focusing on weaknesses and failures, and negative self-expectations (Ishiyama & Munson, 1993). The last dimension, which is shame, can be defined

as a self-conscious, hurtful emotion that warns an individual of the risk of being excluded or rejected (Gilbert & Andrews, 1998). Shame is associated with the own perception of the self, showing unfavourable characteristics or behaving in an inadequate or unattractive way (*Self-Conscious Emotions*, 1995). Patients diagnosed with a chronic illness that has a visible manifestation may be considered even more prone to experience shame (Trindade et al., 2017). To give an example, patients with a chronic disease like Morbus Crohn (IBD) describe feelings of shame, embarrassment, stigma, and isolation, as well as a feeling of dirtiness. Despite the importance of self-criticism regarding well-being and psychological distress, research about self-criticism in patients affected by a chronic condition is scarce. Further, there is no existing research on how often the subdimensions of self-criticism occur and how they are related to psychological distress and well-being. An investigation of these possible relations could lead to a better understanding of self-criticism and its relations with mental health and psychological distress. Yet, it is important to have these insights because psychological distress and well-being are not opposite ends of a measurement continuum and therefore could have different consequences for the progress of the chronic condition.

Further factors which might influence self-criticism, psychological distress, and well-being are social media usage, visibility of the illness, and age. Many patients of chronic illnesses that do have bodily manifestations of the illness report that they have the perception of failing to reach sociocultural standards and that this perception of self-unattractiveness results in shame (Gilbert & Procter, 2006). Examples of chronic diseases that could have a visible manifestation of the illness are Morbus Crohn, Rheumatoid Arthritis, and Paraplegia. The importance given to (especially women's) body appearance rose through societal influence and increased in the past years through social media and media in general (Fardouly et al., 2015). The use of social media is growing rapidly worldwide, and e.g., on Facebook, there are 10 million new photographs every hour (Mayer-Schönberger & Cukier, 2013). Research shows that especially young women frequently compare their appearance to the appearance of others, which can lead to body dissatisfaction and self-criticism (Leahey et al., 2007). This was especially true for following appearance-focused accounts on social media platforms like Facebook or Instagram (R. Cohen et al., 2017). Further, it was found that female high school students, who were users of social media, reported more body image concerns than did non-users (Fardouly et al., 2015). In line with these findings regarding the younger age of the affected ones, is the study of Kopala-Sibley et al. (2013). They found out that as people age, they tend to strive towards more realistic standards for themselves. In their

study, they stated that older age might be associated with a more positive and satisfied view of the self. Other studies suggested that between the ages 27/29 to 43 there is a personality change, making the individual less self-critical (Kopala-Sibley et al., 2013; Shahar et al., 2012). However, these studies were conducted without incorporating people diagnosed with a chronic disease in the sample. Further, there is no existing literature about the consequences of social media usage on people of an older age. As most people affected by a chronic disease are older than 29, it might be interesting to look at the consequences of social media usage on self-criticism in this age group as well. After introducing the consequences of self-criticism in patients with chronic diseases, it seems to be important to investigate the aspect of age and social media usage as other important factors. Further, it might be important to take the visibility of the illness into account as another aspect that might heighten self-criticism. As it was already mentioned, self-criticism provokes psychological distress which influences the therapy and the progress of the illness negatively. Physicians and other medical professionals should therefore be attentive to these factors and should attempt to reduce self-criticism. Furthermore, as it might seem that younger people, who use social media platforms regularly, are more concerned with comparing themselves, they are at risk of experiencing bodily dissatisfaction. Therefore, younger patients, especially when they do have a visible manifestation of the illness, might be more inclined to engage in the act of self-criticism. They might need special attention from medical personnel and might be referred to psychological care to get further support. The latter part is, to my knowledge, not yet discussed in any existing literature.

The development of a theoretical foundation of the factors of age, visibility of the illness, and social media usage influencing self-criticism and the resulting psychological distress and low well-being seems to be important for several reasons. First, since there is only a limited amount of research in general about the consequences of self-criticism in patients with chronic diseases, this study can serve as a basis for future research. Second, it can discover the at-risk group of people tending to engage more in self-critical behaviour, which then can help physicians to adapt a fitting intervention plan. Third, the instrument used for measuring self-criticism in patients with chronic diseases can be practical for use in clinical practice and to keep track of the interventions addressing self-criticism and its consequences.

### Research Question

The purpose of the present study is to identify the at-risk group in patients with chronic diseases for engaging in self-critical behaviour, concentrating on age, social media usage, and visibility of the illness. The research questions are as followed:

RQ1: Which dimensions of self-criticism are most strongly correlated with psychological distress and well-being?

RQ2: To what extent are the four dimensions of self-criticism correlated to age, social media usage, and having visible signs of the illness?

## Methods

### Design

A quantitative cross-sectional online survey was conducted.

### Participants and Procedure

Ethical approval was obtained by the Ethics committee of the University of Twente, Faculty of Behavioural Management and Social Sciences (BMS). To participate in the study, the participants had to meet the criteria of being affected by one or multiple chronic diseases, having a minimum age of 18 years, and access to a mobile device or computer on which the questionnaire could be filled out. Participants that did not meet these criteria were excluded from the study. For recruiting the participants, a purposive sample was used. Participants were recruited through snowball sampling from the researchers' networks, as well as by contacting the clinic "Ostseeblick", the company "Wijkteams", and the psychotherapy practice "Olaf Schlüter Praxis für Physiotherapie". Additionally, several patient groups on social media (Facebook) were also contacted. Overall, 308 participants started the questionnaire. Out of these, one was excluded due to not giving consent and another 140 were excluded because they responded to less than 70% of the initial questions. Consequently, a total of 167 individuals participated (Female: 143; Male: 20; Missing: 4).

The survey was constructed online via a software called Qualtrics. To be able to participate in the survey, a link, which was created from Qualtrics, had to be opened. After opening the link on a mobile device or a computer, the participants were provided with a short introduction, in which the aim of the study was presented. Secondly, all participants had to sign a consent form, which informed the participants about the purpose of the study as well as

their rights during the study. The consent form (see Appendix A) stated clearly that participation in the study is voluntary and that the participant can withdraw at any time during the survey. The participants got the information that the study is carried out anonymously and that the resulting data will be shared with the other members of the group but will not be transferred to third parties. At the end of the consent form, the contact information was given to offer the participants the possibility to contact the responsible researchers for asking questions or any other concerns. The participants could then give their consent by clicking on the boxes with "yes", and after that, the actual questionnaire was presented. In the beginning, the participant had to answer questions regarding their chronic condition and the survey ended with a message of gratitude and the possibility to leave their E-Mail address to be provided with the results of the survey. The total time to take the questionnaire was about 20 minutes.

## Questionnaire

The online survey consisted of multiple questionnaires focusing on various variables. To answer the first research question, the variables self-criticism, psychological distress, and well-being were included. Next, the variables of the second research question; demographics (age), visibility of the illness, and social media usage were also administered. As the survey was conducted as a group, there were also other variables included in the final questionnaire, namely social environment, marital status, health-promoting behaviours, and self-compassion. In the following paragraphs, all relevant questionnaires to answer the research questions are presented.

### *Self-Compassion and Self-Criticism Scale for Patients with Chronic and Life-Threatening Physical Conditions (SCCC)*

The variable self-criticism was measured with the Self-Compassion and Self-Criticism Scale (SCCC) (Volkov, 2020). This questionnaire is specially tailored to individuals affected by chronic and/or life-threatening physical conditions. The questionnaire consists of 58 items and the respondents are asked to indicate how often they had the presented experiences in the past four weeks. Self-criticism is measured with 27 items, which are divided into four subscales. Shame is measured with 9 items ("I felt ashamed of my condition"), Guilt with 5 items ("I felt guilty about having been a burden to others"), Self-Critical Cognitions with 4 items ("When I thought about my condition, I was disappointed with myself for not meeting my expectations") and Harshness again with 9 items ("When I was having a hard time with my condition, I told myself to stop whining"). Respondents can answer the items on a 5-point

Likert scale (1- never, 2-rarely, 3-sometimes, 4-often, 5-always). Subscale scores are obtained by calculating the mean of all subscale items. In this study, the SCCC (Subscale self-criticism) shows excellent internal consistency reliability, with a Cronbach's alpha of 0.93. The subscales shame, self-critical cognitions, and harshness show very good reliability as well, with Cronbach's alpha of 0.93, 0.82, and 0.86. The subscale of guilt shows acceptable internal consistency reliability with a Cronbach's alpha of 0.67.

### *Mental Health Continuum-Short Form (MHC-SF)*

Mental well-being was measured with the Mental Health Continuum-Short Form (MHC-SF), which is a 14 item self-administered questionnaire (Lamers et al., 2011). A total of 14 items were chosen to represent every facet of well-being, namely emotional, psychological, and social well-being. The subscale of emotional well-being is measured by 3 items ("During the past month, how often did you feel happy?"). Psychological well-being is measured by 6 items ("…that you liked most parts of your personality?") and the last 5 items measure social well-being ("…that you had something important to contribute to society?"). Respondents are asked to indicate every feeling they had during the past month on a 6-point Likert scale ranging from "never" to "every day". Scores of the MHC-SF are calculated by taking the mean of every item score. The higher the resulting score, the higher is also the mental well-being of the participant with a maximum score of 5. In this study, the MHC-SF shows excellent internal reliability with a Cronbach's alpha of 0.91. The subscales of emotional, social, and psychological well-being showed very good internal reliability as well with Cronbach's alpha of 0.86, 0.80, and 0.86. For the online survey, a German, not validated, version of the MHC-SF was used which was created by the University of Twente.

### *Patient Health Questionnaire (PHQ-9)*

To measure psychological distress, the Patient Health Questionnaire (PHQ-9) was used. The PHQ-9 is a self-report questionnaire consisting of 9 items that measure depression severity. In this questionnaire, participants are asked to indicate the frequency of depressive symptoms they experienced in the last two weeks on a 4-point Likert scale (0-not at all, 1-several days, 2-more than half the days, 3-nearly every day). An example item of the PHQ-9 is "Over the last two weeks, how often have you felt down, depressed, or hopeless?". Psychological distress is assessed by summing up the scores on the items, with e.g., 0-4 points displaying "none" and 20-27 "severe" (Kroenke et al., 2001). The PHQ-9 is a valid and reliable instrument to measure psychological distress. In this study, the PHQ-9 shows good

internal reliability with Cronbach's alpha of 0.86. As the questionnaire was given to German participants, the validated German version of the PHQ-9 (Reich et al., 2018) was used.

### *Questions about the Chronic Condition*

Visibility of the chronic condition was measured by asking general questions about the chronic illness. To assess the types of chronic and life-threatening physical conditions represented in the study, participants were asked to fill out a text field with the name of the chronic condition they have. If a respondent was diagnosed with more than one chronic condition, they were asked to name all of them. Further, the participants were asked to describe the characteristics of their chronic condition by answering two questions. At the first question, participants were asked to indicate the visibility of their illness (always visible, only visible under certain circumstances, and not visible). The second question aimed at identifying the nature of the illness. In this case, it was of interest if the illness is recurrent, stable, or progressive.

### *Demographic Data*

To generate more general information about the sample, questions about demographics were included in the questionnaire. Participants were asked to indicate their age, gender, and their highest educational level. The educational level was measured in German educational levels (see Table 1) because the questionnaire was given to a German sample. Respondents were further asked to indicate whether they have a migration background or not.

### *Social Media Usage*

To gain more insight into the participants' social media usage, a total of 10 questions were asked. First, it was of interest to know if the participants have a social media account or not and if yes, how many hours per day they spend on it which could be answered on a 6-point Likert scale, ranging from never/almost never to more than three hours per day. After that, the participant also had to answer some questions about whom they are following on social media. Options ranged from health/fitness accounts to the accounts of friends. Lastly, it was asked how the respondents feel after they use social media. For exact wording of questions and answer options, see appendix (B).

## Data-Analysis

First, the descriptive statistics were analysed. For determining the normal distribution of the variables self-criticism, psychological distress, and mental well-being, a Kolmogorov-Smirnov test was executed. To determine which dimensions of self-criticism are most strongly correlated with psychological distress and well-being, a Pearson correlation analysis was conducted for each subscale. Next, the strength of the correlation was determined by computing a line of best fit through the data to get the correlation coefficient (r). The strength of the correlations was operationalized by using Cohen's (1992) guidelines for the interpretation of the correlation coefficients (J. Cohen, 1992). Moreover, to determine the correlation between the variables age, having visible signs of the illness, and social media usage, and self-criticism, multiple correlation analyses were performed. To be able to conduct a Point Biserial correlation with the variable visibility of the illness, the variable had to be recoded and the categories had to be rearranged, meaning that 1 was "not visible" and 2 included "Always visible" and "Under certain circumstances". To get information about all three categories of the variable visibility of the illness, mean scores on self-criticism were compared. The correlation analysis on the variable social media usage was executed based on the question of having a social media account or not. Again, lines of best fit were drawn through the data, to display the strength of the correlations.

# Results

## Description of the study group

The mean age of the sample was 46.9 (SD=12.2) (Table 1). The grand majority of the participants in the study were female (86%). Most of the participants stated that their highest educational level is an apprenticeship ("Ausbildung") and 78.4% mentioned to not have a migration background. The most common chronic conditions in the sample were breast cancer (33%) and rheumatoid arthritis (50%). Concerning the time since diagnosis, one-third of the participants indicated that their diagnosis is between 1 and 5 years ago. The sample had an approximately equal distribution of visible and non-visible illnesses.

**Table 1**

*Participant Characteristics (n=167).*

| Item | Category | Frequencies (N) | % | M (SD) |
|---|---|---|---|---|
| Gender | Female | 143 | 85.6 | |
| | Male | 20 | 12.0 | |
| | No Answer | 4 | 2.4 | |
| Age | | | | 46.9 (12.2) |
| | 18-30 | 21 | 12.6 | |
| | 31-40 | 23 | 13.8 | |
| | 41-50 | 40 | 24.0 | |
| | 51-60 | 57 | 34.1 | |
| | 61-74 | 18 | 10.8 | |
| | No Answer | 8 | 4.7 | |
| Educational Level | No formal education (Kein formaler Bildungsabschluss) | 1 | 0.6 | |
| | Elementary school (Grundschule) | 2 | 1.2 | |
| | Between elementary school and A-Levels (Mittlere Reife) | 24 | 14.4 | |
| | A-Levels (Hochschulreife) | 22 | 13.2 | |
| | College (Fachhochschule) | 30 | 18.0 | |
| | Apprenticeship (Ausbildung) | 62 | 37.1 | |
| | University (Universität) | 17 | 10.2 | |
| | No answer | 9 | 5.3 | |
| Chronic condition | Breast cancer | 55 | 32.9 | |
| | Rheumatoid Arthritis | 83 | 49.7 | |
| | Morbus Crohn or Morbus Bechterew | 10 | 6.0 | |
| | Diabetes | 6 | 3.6 | |
| | Other (e.g., Stroke, Acne, MS, Asthma) | 13 | 7.8 | |
| Time since diagnosis | Less than 6 months | 17 | 10.2 | |
| | Less than 1 year | 21 | 12.6 | |
| | Between 1 and 5 years | 56 | 33.5 | |
| | Between 5 and 10 years | 39 | 23.4 | |
| | More than 10 years | 34 | 20.4 | |
| Visibility of the illness | No | 81 | 48.5 | |
| | Under certain circumstances (e.g., when going to the beach) | 57 | 34.1 | |
| | Always, or most of the time | 29 | 17.4 | |
| Migration Background | Yes, Western (e.g., UK, Poland) | 15 | 9.0 | |
| | Yes, Non-Western (e.g., Turkey) | 6 | 3.6 | |
| | No, both my parents and I were born in Germany/Netherlands | 131 | 78.4 | |
| | Prefer not to say/No answer | 15 | 9.0 | |

## Social Media usage and the (self-reported) impact of usage

The frequencies for social media usage and its impact can be seen in Table 2. The grand majority of participants indicated that they have a social media account. Most of the participants reported to spent between 30 minutes and two hours daily on social media. More than half of the participants reported to not follow any celebrities or influencers online. In contrast, approximately 50% stated that they do follow accounts that provide health-related content. Interestingly, the majority of participants indicated that they feel inspired or connected after using social media.

**Table 2**

*Frequencies of social media usage and its impact (n= 167).*

| Item | Category | N | % |
|---|---|---|---|
| Social Media Usage | Yes | 128 | 76.6 |
| | No | 36 | 21.6 |
| | Missing | 3 | 1.8 |
| Time spent on social media | Never/almost never | 10 | 6.0 |
| | Less than 30 min/day | 25 | 15.0 |
| | 30-60 min/day | 45 | 26.9 |
| | 1-2 hrs/day | 34 | 20.4 |
| | 2-3 hrs/day | 19 | 11.4 |
| | More than 3 hrs/day | 15 | 9.0 |
| | Missing | 19 | 11.4 |
| Following celebrities or “influencers” | Yes | 56 | 33.5 |
| | No | 92 | 55.1 |
| | Missing | 19 | 11.4 |
| Following accounts with health-related content | Yes | 84 | 50.3 |
| | No | 63 | 37.7 |
| | Missing | 20 | 12.0 |
| Feeling after using social media | Inspired | 45 | 26.9 |
| | Attractive | 1 | 0.6 |
| | Connected | 48 | 28.7 |
| | Insecure | 19 | 11.4 |
| | Self-confident | 10 | 5.4 |
| | Missing | 45 | 26.9 |

**Self-Criticism, Psychological distress, and Mental well-being**

Table 3 shows the descriptive statistics for the variables self-criticism, psychological distress, and psychological well-being. The total score of the scale self-criticism could range from 0 (no self-criticism) to 5 (high self-criticism). In the present study, self-criticism had a mean value of 2.7. Among the subscales of self-criticism, harshness showed the highest mean. With regards to well-being, a mean score of 2.6 was found. The maximum score which could have been reached was 5. Among the subscales of well-being, emotional well-being had the highest mean score, followed by psychological well-being. According to cut-off scores, the sample showed a mean score of moderate psychological distress. However, 43.7% of the participants fit into the categories of moderately severe and severe psychological distress. The Kolmogorov Smirnov test showed that all variables were normally distributed.

**Table 3**

*Minimum and maximum scores, means, and standard deviations of self-criticism, psychological distress, and well-being.*

| Variable | N | Mean | SD |
|---|---|---|---|
| Self-criticism [1-5] | 155 | 2.7 | 0.7 |
| Guilt [1-5] | 164 | 2.4 | 0.7 |
| Shame [1-5] | 160 | 2.6 | 1.0 |
| Self-Critical Cognitions [1-5] | 165 | 2.6 | 0.9 |
| Harshness [1-5] | 164 | 3.1 | 0.7 |
| Well-being [0-5] | 158 | 2.6 | 1.0 |
| Emotional well-being [0-5] | 158 | 3.1 | 1.1 |
| Social well-being [0-5] | 160 | 1.9 | 1.2 |
| Psychological well-being [0-5] | 163 | 2.9 | 1.1 |
| Psychological distress [0-27] | 131 | 10.7 | 6.3 |

| Psychological distress cut-off scores as defined by the PHQ-9* | N (%) |
|---|---|
| Minimal [0-4] | 30 (18) |
| Mild [5-9] | 27 (16.2) |
| Moderate [10-14] | 37 (22.2) |
| Moderately severe [15-19] | 22 (13.2) |
| Severe [20-27] | 51 (30.5) |

*Cut-off scores from Kroenke et al. (2001)

## Correlation between all dimensions of self-criticism and psychological distress and well-being

A Pearson correlation analysis was conducted to investigate if self-criticism, in general, is correlated to psychological distress and psychological well-being. The analysis showed that higher scores in self-criticism were associated with higher scores of psychological distress and lower scores of well-being ($p<0.01$) (see Table 4). All four subscales of self-criticism showed strong significant correlations to higher psychological distress. For the variable well-being, the analysis indicated that the correlations between well-being and all dimensions of self-criticism were moderate significant. As expected, all correlations were negative, which means that higher self-criticism was significantly associated with worse psychological well-being.

**Table 4**

*Pearson correlations between self-criticism and psychological distress and psychological well-being*

| | Self-criticism (total scale) | Subscale Guilt | Subscale Shame | Subscale Harshness | Subscale Self-critical cognitions |
|---|---|---|---|---|---|
| Psychological distress | .75** | .57** | .63** | .58** | .59** |
| Psychological well-being | -.57** | -.38** | -.46** | -.42** | -.41** |

** Correlation is significant at the 0.01 level (two-tailed)

## Correlation between self-criticism and age, social media usage, and having visible signs of the illness

Neither self-criticism nor the subdimensions of self-criticism were associated with age (see Table 5). The other variables namely social media usage and having visible signs of the illness showed significant correlations. Interestingly, higher social media usage was associated with lower self-criticism. This was true for the total scale as well as for all four subscales of self-criticism. Among the variable visibility of the illness, the mean score for the category “not visible” was 2.6 (SD=.76), for “always visible” 2.9 (SD=.60), and for “visible under certain circumstances” 2.8 (SD=.54). These results indicated that participants with visible illnesses scored slightly higher on self-criticism. A significant weak association between visibility of the illness and self-criticism was found, implying that visibility of the

illness heightens self-criticism. The subdimensions of shame and self-critical cognitions were also significantly correlated to visibility of the illness.

**Table 5**

*Point Biserial correlations between self-criticism, its' subdimensions, and social media usage and visibility of the illness*

| | Self-criticism (total scale) | Subscale Shame | Subscale Guilt | Subscale Harshness | Subscale Self-critical Cognitions |
|---|---|---|---|---|---|
| Age | -.90 | -.11 | .01 | -.08 | .00 |
| Social Media Usage | -.34** | -.23** | -.25** | -.37** | -.20* |
| Visibility of the illness | .16* | .19* | .10 | -.04 | .18* |

Correlation is significant at the **0.001 level (two-tailed); *0.05 level (two-tailed).

## Discussion

The present study aimed to investigate the relationship between self-criticism and psychological well-being, as well as psychological distress, in patients with various chronic conditions. Further, it was examined how the variables age, social media usage, and visibility of the illness correlate with self-criticism. The results suggest that higher self-criticism is associated with lower psychological well-being and higher psychological distress. Generally, self-criticism with a mean score of 2.7 was approximately the same as in the study of Volkov (2020) in a sample affected by various chronic diseases. The mean score of psychological distress indicated that most of the participants suffer from moderate depressive symptoms. However, 43.7% of the participants fall into the categories of moderately severe and severe psychological distress, which can be seen as quite an alarming amount. Further, the participants showed lower levels of well-being compared to already existing studies (Lamers et al., 2011). In the present study, well-being had a mean score of 2.6 whereas in the study from Lamers et al. (2011) they reported a mean score of 4.0 in a representative sample of the Dutch population. The scores on all three subscales of well-being were also lower compared to the mean scores in other studies. These findings were in line with already existing literature saying that self-criticism is one of the best predictors for experiencing psychological distress and lower well-being (Trindade et al., 2017). These findings imply that a lot of patients who are diagnosed with a chronic condition do suffer from quite severe mental issues. Therefore, these results should stress the need to consider a holistic health assessment of patients' psychological distress and mental well-being, to detect those issues earlier and to offer them

the support they may need. To answer Research Question 1, it can be said that all four subdimensions of self-criticism, namely shame, guilt, harshness, and self-critical cognitions, showed approximately, with small differences, similarly strong correlations to both constructs. These results were in line with the study of Volkov (2020), in which the subdimensions of self-criticism showed nearly similar strong correlations to mental well-being and psychological distress. As the SCCC is a newly developed scale to measure the subdimensions of self-criticism, there is no existing literature that could be used to make comparisons to the general population.

In the following paragraphs, the second research question will be discussed. The correlation analysis indicated that self-criticism is not related to age. Contradicting the findings of Kopala-Sibley et al. (2013), there was no significant association between the participants' age and their level of self-criticism. Different studies suggested that between the ages 27/29 to 43 there is a personality change, making the individual less self-critical (Kopala-Sibley et al., 2013; Shahar et al., 2012). In contrast, the present study implied that individuals diagnosed with a chronic disease, irrespective of their ages, did not differ in their level of self-criticism. The studies mentioned before did not incorporate individuals with chronic diseases, therefore, it might be that self-criticism is distinct in individuals with and without a chronic condition. Nevertheless, it might be the case that the correlation analysis showed no significant correlation because the mean age of this study was approximately 47 years. Further, there were only 19 participants who fit in the age range 18 to 29, compared to 148 participants in the age range 30 to 74. Future research should focus on an equal distribution of participants regarding the age groups, to get more meaningful results.

Interestingly, the variable social media usage was negatively correlated to self-criticism. In this sample, using social media was associated with a decrease in self-criticism. Support for this finding was that 76% of the participants indicated that they felt inspired or connected after using social media and only 16% felt insecure. These results were again surprising, as already existing literature predicted the opposite (R. Cohen et al., 2017). In these studies, especially when following appearance-focused accounts, social media led to higher self-criticism. However, it must be mentioned that existing studies did not include participants that were affected by chronic diseases, which could be a reason for the different results. Further, it was also mentioned in these studies that especially young women frequently compare their appearance to others and that this behaviour led to higher self-criticism. As already mentioned, there were only 19 participants in this study who could be

allocated in the age category of "younger than 29". Therefore, the findings of this study did not say much about the correlation between social media usage and self-criticism at a younger age. More importantly, this study showed that individuals with a mean age of 47 and a chronic disease could get a positive effect out of using social media. Relating to this, among the subdimensions of self-criticism, harshness showed the strongest correlation. As a result, after using social media, the participants might not be as harsh to themselves as before using it. This positive effect might also be due to the fact that approximately half of the participants mentioned that they do follow accounts with health-related content which may demonstrate body positivity. Further, especially in times of social distancing, it might be the case that individuals affected by a chronic condition use social media to connect with other individuals who are also affected by a chronic disease and that this contact may lead to less self-criticism. As existing literature mainly focuses on the negative effects of social media usage, it might be interesting for future research to also investigate if social media, especially for people above the age of 30, could predominate its bad reputation.

Lastly, the results indicate that visibility of the illness is correlated to self-criticism, especially to the subscales shame and self-critical cognitions. These findings are in line with already existing literature, mentioning that patients of chronic illnesses that do have bodily manifestations of the illness, more often experience self-unattractiveness which results in shame and a critical inner voice (Casati et al., 2000). These results could be caused due to the perception of failing to reach sociocultural standards (Gilbert & Procter, 2006). As it seems that visibility of the illness is an at-risk factor for experiencing self-criticism, especially shame and self-critical cognitions, practitioners should be attentive to these outcomes and may offer additional support.

**Strengths, Limitations, and Future Directions**

Several strengths of the present study can be identified. First, the study served as an application for the new instrument (SCCC) which measures self-criticism in patients affected by one or multiple chronic conditions. This questionnaire enabled the analysis of all subdimensions of self-criticism, which gave interesting insights, especially regarding the findings on the variable social media usage. After getting reliable results out of the instrument, it might be used in clinical practices and to keep track of the interventions addressing self-criticism and its consequences. For this purpose, it might be interesting for future research to examine the sensitivity of the SCCC and to investigate if, due to the self-report nature of the scale, it accurately estimates individual levels of self-criticism. The last

point is important, as some people might tend to not be aware of their emotions or to suppress or avoid negative emotions, which would have an influence on the SCCC (Volkov, 2020). Another strength of the present study was to examine not only how psychological distress and self-criticism were correlated but to also look at the correlation with well-being. As psychological distress and mental health are not opposite ends of a measurement continuum, it was important to take both variables into account. The results showed that psychological distress, as well as well-being, are correlated to self-criticism. These findings can now be used in this respect that the practitioner can offer treatments to help the affected individuals lessen self-criticism to positively affect the therapy and course of the illness. Another strength of the study is the result that the visible manifestation of an illness is correlated to higher self-criticism. This is another important finding, as practitioners can be more attentive towards this factor and offer the affected patient special attention and support.

The generalizability of the findings might be slightly limited due to the homogeneity of the present sample regarding gender, migration background, and the chronic illness itself as 83% of the sample were affected by either breast cancer or rheumatoid arthritis. The most substantial limitation of the present study concerns the recruitment of the participants. As most of the participants got recruited via social media platforms, it was not surprising that 76.6% of them reported having a social media account. This might have affected the findings regarding the variable social media usage. As there were only a limited number of already existing social media questionnaires, which were all not quite up-to-date, social media in this study was simply measured in having a social media account or not. Future research should recruit participants in an equal manner online as well as offline to get an equal distribution and more reliable results. Further, future research should focus more on the activities the participants are executing on social media platforms as already existing research implies that e.g., following appearance-focused accounts could correlate with more self-criticism while following body-positivity accounts could provoke the opposite.

**Conclusion**

In conclusion, the results of the study suggest that self-criticism is still an important topic in patients diagnosed with a chronic disease. Self-criticism, which correlates with higher psychological distress and lower well-being, should be a topic that practitioners should be more attentive to when offering treatment. The SCCC should be used in future research to examine if it is sensible enough to be used for monitoring the goals of the intervention. Another suggestion for future research is to explore the effect of the self-report nature of the

SCCC on how accurately it displays the levels of self-criticism. Further, as visibility of the illness is correlated to more self-criticism, this might be an inclusion factor for being at-risk to engage in self-critical behaviour. The finding that social media usage is associated with lower self-criticism in patients with chronic diseases should be examined further. It might be that, especially in times of social distancing, people affected by a chronic disease find support on social media from people who are affected by the same issues. This could lead to feeling more connected and inspired and being less harsh to oneself.

## References

Casati, J., Toner, B. B., De Rooy, E. C., Drossman, D. A., & Maunder, R. G. (2000). REVIEW: Concerns of Patients with Inflammatory Bowel Disease. *Digestive Diseases and Sciences*, *45*(1), 26–31. https://doi.org/10.1023/A:1005492806777

Cohen, J. (1992). A power primer. *Psychological Bulletin*, *112*(1), 155–159. https://doi.org/10.1037//0033-2909.112.1.155

Cohen, R., Newton-John, T., & Slater, A. (2017). The relationship between Facebook and Instagram appearance-focused activities and body image concerns in young women. *Body Image*, *23*, 183–187. https://doi.org/10.1016/j.bodyim.2017.10.002

de Ridder, D., Geenen, R., Kuijer, R., & van Middendorp, H. (2008). *Psychological adjustment to chronic disease*. *372*, 10.

Dekker, J., & de Groot, V. (2018). Psychological adjustment to chronic disease and rehabilitation – an exploration. *Disability and Rehabilitation*, *40*(1), 116–120. https://doi.org/10.1080/09638288.2016.1247469

Fardouly, J., Diedrichs, P. C., Vartanian, L. R., & Halliwell, E. (2015). Social comparisons on social media: The impact of Facebook on young women's body image concerns and mood. *Body Image*, *13*, 38–45. https://doi.org/10.1016/j.bodyim.2014.12.002

Gilbert, P., & Andrews, B. (1998). *Shame: Interpersonal Behavior, Psychopathology, and Culture*. Oxford University Press.

Gilbert, P., & Procter, S. (2006). Compassionate mind training for people with high shame and self-criticism: Overview and pilot study of a group therapy approach. *Clinical Psychology & Psychotherapy*, *13*(6), 353–379. https://doi.org/10.1002/cpp.507

Ishiyama, F. I., & Munson, P. A. (1993). Development and Validation of a Self-Critical Cognition Scale. *Psychological Reports*, *72*(1), 147–154. https://doi.org/10.2466/pr0.1993.72.1.147

Joshanloo, M., & Nosratabadi, M. (2009). Levels of Mental Health Continuum and Personality Traits. *Social Indicators Research*, *90*(2), 211–224. https://doi.org/10.1007/s11205-008-9253-4

Kopala-Sibley, D. C., Mongrain, M., & Zuroff, D. C. (2013). A Lifespan Perspective on Dependency and Self-Criticism: Age-Related Differences from 18 to 59. *Journal of Adult Development*, *20*(3), 126–141. https://doi.org/10.1007/s10804-013-9163-9

Kroenke, K., Spitzer, R. L., & Williams, J. B. W. (2001). The PHQ-9. *Journal of General Internal Medicine*, *16*(9), 606–613. https://doi.org/10.1046/j.1525-1497.2001.016009606.x

Kugler, K., & Jones, W. H. (1992). On conceptualizing and assessing guilt. *Journal of Personality and Social Psychology*, *62*(2), 318–327. https://doi.org/10.1037/0022-3514.62.2.318

Lamers, S. M. A., Westerhof, G. J., Bohlmeijer, E. T., ten Klooster, P. M., & Keyes, C. L. M. (2011). Evaluating the psychometric properties of the Mental Health Continuum-Short Form (MHC-SF). *Journal of Clinical Psychology*, *67*(1), 99–110. https://doi.org/10.1002/jclp.20741

*Leading causes of death worldwide 2019*. (n.d.). Statista. Retrieved February 26, 2021, from https://www.statista.com/statistics/288839/leading-causes-of-death-worldwide/

Leahey, T. M., Crowther, J. H., & Mickelson, K. D. (2007). The Frequency, Nature, and Effects of Naturally Occurring Appearance-Focused Social Comparisons. *Behavior Therapy*, *38*(2), 132–143. https://doi.org/10.1016/j.beth.2006.06.004

Mayer-Schönberger, V., & Cukier, K. (2013). *Big Data: A Revolution that Will Transform how We Live, Work, and Think*. Houghton Mifflin Hardcourt Publishing Company. https://books.google.nl/books?hl=en&lr=&id=uy4lh-

WEhhIC&oi=fnd&pg=PP1&ots=Jud7jiBWHU&sig=d65yPPicOBjie7dZ73qfpyItbUw&redir_esc=y#v=onepage&q&f=false

O'Halloran, J., Miller, G. C., & Britt, H. (2004). Defining chronic conditions for primary care with ICPC-2. *Family Practice*, *21*(4), 381–386. https://doi.org/10.1093/fampra/cmh407

Pinto-Gouveia, J., Duarte, C., Matos, M., & Fráguas, S. (2014). The Protective Role of Self-compassion in Relation to Psychopathology Symptoms and Quality of Life in Chronic and in Cancer Patients. *Clinical Psychology & Psychotherapy*, *21*(4), 311–323. https://doi.org/10.1002/cpp.1838

Reich, H., Rief, W., Brähler, E., & Mewes, R. (2018). Cross-cultural validation of the German and Turkish versions of the PHQ-9: An IRT approach. *BMC Psychology*, *6*(1), 26. https://doi.org/10.1186/s40359-018-0238-z

Shahar, B., Carlin, E. R., Engle, D. E., Hegde, J., Szepsenwol, O., & Arkowitz, H. (2012). A Pilot Investigation of Emotion-Focused Two-Chair Dialogue Intervention for Self-Criticism. *Clinical Psychology & Psychotherapy*, *19*(6), 496–507. https://doi.org/10.1002/cpp.762

Shahar, B., Doron, G., & Szepsenwol, O. (2015). Childhood Maltreatment, Shame-Proneness and Self-Criticism in Social Anxiety Disorder: A Sequential Mediational Model. *Clinical Psychology & Psychotherapy*, *22*(6), 570–579. https://doi.org/10.1002/cpp.1918

Sprangers, M. A. G., de Regt, E. B., Andries, F., van Agt, H. M. E., Bijl, R. V., de Boer, J. B., Foets, M., Hoeymans, N., Jacobs, A. E., Kempen, G. I. J. M., Miedema, H. S., Tijhuis, M. A. R., & de Haes, H. C. J. M. (2000). Which chronic conditions are associated with better or poorer quality of life? *Journal of Clinical Epidemiology*, *53*(9), 895–907. https://doi.org/10.1016/S0895-4356(00)00204-3

Tangney, J. P., & Fischer, K. W. (Eds.). (1995). *Self-conscious emotions: The psychology of shame, guilt, embarrassment, and pride* (pp. xvii, 542). Guilford Press.

Trindade, I. A., Ferreira, C., & Pinto-Gouveia, J. (2017). Chronic Illness-Related Shame: Development of a New Scale and Novel Approach for IBD Patients' Depressive Symptomatology. *Clinical Psychology & Psychotherapy*, *24*(1), 255–263. https://doi.org/10.1002/cpp.2035

Trindade, I. A., Irons, C., Ferreira, C., Portela, F., & Pinto-Gouveia, J. (2019). The influence of self-criticism on depression symptoms among ambulatory patients with inflammatory bowel disease. *Clinical Psychology & Psychotherapy*, *26*(6), 743–750. https://doi.org/10.1002/cpp.2398

Volkov, N (2020). Development and First Validation of a Self-Compassion and Self-Criticism Scale for Patients with Chronic and Life-Threatening Physical Conditions.

# Appendices

## Appendix A

## Informed consent (and answer options)

### Goals and Expectations of the Study

The results of the study will help to improve our understanding of how people deal with having a chronic or life-threatening condition and may be used for future interventions to help people cope with the disease. Your answers will be used in order to get insight into how people with various chronic diseases are treating themselves in relation to their disease. Are they responding with a caring attitude, wisdom, or self-kindness (which is called self-compassion)? Or are they rather harsh for themselves, pushing boundaries and/or criticising themselves (which is called self-criticism)?

### Personal Rights and Contact

Your participation in this research is voluntary. You have the right to withdraw at any time during this survey and without any reason or prejudice. The study is conducted as part of the department of psychology, health, and technology with the supervisors Stans Drossaert and Judith Austin. If you would like to contact the Principal Investigator in the study to discuss the research or if you have any other questions, please e-mail: Kimberly Stadtlander (k.l.stadtlander@student.utwente.nl), Hanna Lahn (h.lahn@student.utwente.nl), Julia Zabrowarny (j.a.zabrowarny@student.uwetnte.nl), or Leroy Nickisch (l.nickisch@student.utwente.nl).

### Handling of Data

This survey is completely anonymous. It will not be possible to trace back your identity based on the answers that you give. If you are interested in obtaining a summary of the results, there will be an opportunity to provide us your email address at the end of the questionnaire. You are free to not give us your email address. Any email address will be stored separately from your answers and will be deleted after we have emailed you the results of the survey. Your answers are available for all members of the research group but will not be transferred to third parties. The data will be used by the four researchers of this study and thus, the answers are stored on the University of Twente server. The data can be kept on the server for up to 10 years.

### Ethical Approvement

The study has been approved by the Ethical Committee of the Faculty Behavioural and Managerial Social studies of the University of Twente. In case of any complaints about this

research, please direct them to the secretary of the Ethics Committee of the Faculty of Behavioural Sciences at the University of Twente, Drs. L. Kamphuis-Blikman P.O. Box 217, 7500 AE Enschede (NL), telephone: +31 (0)53 489 3399; email: l.j.m.blikman@utwente.nl).

**Costs and Potential Burdens**

The study will take you around 20-30 minutes to complete. A potential burden could be that due to the sensitivity of the topic, you might find it hard to answer the questionnaires about your illness. Note that you can stop at any time. There are no reimbursements for this study.

**Non-Participation**

As stated above, you have the right to withdraw at any time and to refuse to give answers. Based on this, all answers that have not been answered to this point will be excluded and only the responses you gave are taken into account.

We are happy about every answer we receive!

I have read and understood the consent form.

Yes

No

I consent voluntarily to participate in this study.

Yes

No

I acknowledge that I can refuse to answer questions and I can withdraw from this study at any time, without providing any reason

Yes

No

## Appendix B

### Questions and answer options for the variable social media usage

Do you have a social media account (Facebook, Instagram, TikTok, etc.)?

Yes

No

On average, how many hours do you spend on social media?

Never/ Almost never

Less than 30 min/day

30-60 min/day

1-2 hrs/day

2-3 hrs/day

More than 3 hrs/day

Are you following health/fitness accounts?

Yes

No

Are you following your friends online?

Yes

No

Are you following any celebrity/ influencer accounts?

Yes

No

If you answered with yes, do you compare your physical appearance with theirs?

Yes

Sometimes

No

I do not know

Are you following travel accounts?

Yes

No

Are you following any patient accounts/ groups which highlight body positivity?

Yes

No

Are you getting more dissatisfied with yourself and your body after you spent time on social media?

Yes

Sometimes

No

I do not know

After using social media, I feel…

Inspired

Connected

Insecure

Confident

Attractive