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Measuring Rogers' Conception of Personality Development:

Validation of the Strathclyde Inventory-French Version

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Abstract

The Strathclyde Inventory (SI) was created as an outcome measure to go beyond symptom intensity. It is designed to assess personality development such as congruent and flexible functioning from a person-centered perspective. The present study validated the data obtained from the 22-item French version of the SI collected in eight samples, including student groups and patients from four different hospital settings. This study describes the psychometric properties of the Strathclyde Inventory-French version. Results indicated high internal consistency and test-retest reliability. A single general Congruence vs. Incongruence factor structure with two sub-factors was found. The scale scores indicate sensitivity to the effects of two types of experiential trainings among university students and in an alcohol withdrawal program for hospitalized patients but did not show change in the absence of experiential training and in treatment as usual conditions among cancer and psychiatric patients. Construct validity was confirmed using correlations with data from trait, behavioral, and symptom measures. The results indicated that the scale is well designed to assess the process of personality development in training helping professionals and therapy process-outcome studies.

Keywords: personality assessment, psychological development, personality change, self-actualization, congruence

Measuring Rogers' Conception of Personality Development:

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Person-centered and experiential psychotherapies (PCEP) have consistently been found to be effective treatments for clients (e.g., Elliott, Greenberg, & Lietaer, 2004; Elliott, Watson, Greenberg, Timulak, & Freire, 2013). However, Levitt, Stanley, Frankel, and Raina (2005) found that the outcome measures currently being used in PCEP research may not detect the types of change that would be predicted or aimed at by PCEP and therefore may not be ideal for the purposes of evaluating the success of PCEP. Indeed, most standard measures used in psychotherapy outcome research (e.g., Derogatis, Rickels, & Rock, 1976; Evans et al., 2002), including PCEP, are pathology-oriented, that is rooted in deficit models of psychological problems and designed to assess general levels of symptom intensity and impairment of functioning. Thus, they tend to focus primarily on negative emotional experiences (i.e., anxiety, depression, anger). While the authors acknowledge the potential adaptive nature of distressing emotions such as sadness or fear, the broad measurement of negative emotion as an outcome measure is coherent with biomedical and symptom-oriented models of human functioning and not particularly consistent with a person-centered theory of change. Indeed, while hopefully remediating some suffering, important goals of PCEP are processes of self-actualization, personal growth, authenticity, affective awareness and development of comfort with emotion, increased tolerance with ambiguity, and agency. These approaches thus address positive developments in the person. In their evaluation of the outcome measures used in 85 studies of PCEP, Levitt et al. (2005) concluded that person-centered researchers need to develop and select theory-congruent measures (see also Patterson & Joseph, 2007). Similarly, Stiles (2002) suggested that person-centered and experiential therapists construct measures of “positive functioning and theory-relevant strengths and resources” (p. 75).

It is important to underline that all of the above-mentioned outcomes are in fact process concepts rather than states that can be achieved and may be missed by standard outcome measures (Elliott, 2000; Levitt et al., 2005). With the development of positive psychology, some measures of personal strengths and resources have begun to emerge (e.g., Grosse & Grawe, 2002; Longo, Coyne, & Joseph, 2017; Seligman, Steen, Park, & Peterson, 2005). However, these generally focus on concepts such as optimism, quality of life, general well-being and coping strategies, and thus are not specifically relevant to the person-centered theory of change. It is also not ideal to assess person-centered outcomes as fixed personality traits (e.g., NEO-FFI; Costa & McCrae, 1992) though the authors acknowledge stability over time may be partially a function of personality. Indeed, Rogers' (1962, 1967) theory of personality change considers personality as an ever-continuing process underlined by the actualizing and proactive tendency to develop one's self. In the process of personality development, there may be considerable continuity within persons and, at the same time, changes and modifications in their ways of being (Bohart, 2013). Changes occur under facilitative conditions involving respectful, empathic, and congruent relationships (see Norcross & Lambert, 2011; Rogers, 1957). Within such interpersonal contexts which can happen outside therapy, people move toward becoming more "fully functioning persons" who are characterized to be more open to new information and experiences, more inclined to learn from and cope with adversity; in general, they become more able to engage in wise and socially positive behavior (Bohart, 2013).

A search of theory-relevant evaluations of change reveals that person-centered researchers have privileged qualitative methods of assessment that seem more congruent with idiosyncratic views of the person (Angus, Watson, Elliott, Schneider, & Timulak, 2015). Such methods are however quite time-consuming with regard to data collection and analysis. Nevertheless, a small number of self-report measures specifically developed to assess

Rogers's conception of personality change exist. A few of these measures have been designed to assess broad aspects of personality consistent with the person-centered approach, including Shostrom's (1964) *Personal Orientation Inventory – POI* and Cartwright and Mori's (1988) *Feelings, Reactions, and Beliefs Survey – FRBS*. However, such measures tend to be overly long (150 and 130 items respectively) and insufficiently sensitive to change, leading some to strongly question their utility as change measures (e.g., Ray, 1984; Weiss, 1987, 1991; Whitson & Olczak, 1991). Watson (2001) developed two brief questionnaires to measure real-ideal (RI) and real-ought (RO) self-discrepancies: the *Self-Concept Questionnaire – Personal Construct*, SCQ-PC, and the *Self-Concept Questionnaire – Conventional Construct*, SCQ-CC. These measures were based on the original *SIO Q-Sort* (e.g., Butler & Haigh, 1954), a self-discrepancy (incongruence) measure following Stephenson's (1953) Q-Technique used in the development of client-centered therapy during the 1940's and 1950's. Whilst data from Watson's (2001) measures indicate adequate test-retest reliability and good construct validity (Bryan, Watson, Babel, & Thrash, 2006), the measures assess only one characteristic of personality change. Most recently, Behr and Becker (2012) developed the *Scales of Experiencing Emotions*, a 46-item multidimensional measure of experiencing, valuing and regulation of feelings, data from which has also demonstrated good reliability and validity. However, though the instrument is based broadly on person-centered theory of personality and on concepts of emotional intelligence, only two of its seven subscales assess constructs derived from the person-centered theory of change. The 12-item *Authentic Scale* developed by Wood and colleagues (2008) is relevant to person-centered theory and to existential and psychodynamic theories. It is composed of items designed to measure the three factors of self-alienation, authentic living, and accepting external influence and is thus partly indicating personality development.

In their review of outcome evaluation developments related to person-centered therapy, Patterson and Joseph (2007) also reported on their own measure, the *Unconditional Positive Self-Regard Scale* (UPSRS). The UPSRS uses Rogers' delineation of two elements, positive self-regard and the conditionality of that regard. It is practical at only 12 items, and initial psychometric work showed adequate reliability and validity of data obtained from the measure. Also relevant to person-centered outcome measurement, Patterson and Joseph reviewed the *Contingencies of Self-Worth Scale* (CSWS, Crocker, Luhtanen, Cooper, & Bouvrette, 2003), a 35-item scale evaluating a concept similar to the person-centered concept of conditions of worth. However, the UPSR and CSWS center only on specific aspects of personality change, one on the construct of UPSR, the other on conditions of worth. Patterson and Joseph also reviewed other measures, not created for, but still relevant to person-centered therapy. For example, the 10-item *Self-Determination Scale* (SDS, Sheldon & Deci, 1996) was designed to assess individual differences in the extent to which people tend to function with more autonomous functioning. This scale bears similar meta-theoretical assumptions to person-centered theory and has been shown to return data that has adequate psychometric properties and be correlated with variables of interest to person-centered theory, such as self-actualization and empathy.

The review of these instruments indicates that there was a need to more fully evaluate the outcomes aligned to client-centered theory of change. For this purpose, Freire and colleagues developed the Strathclyde Inventory (SI) directly from Rogers' (1959, 1967) descriptions of the characteristics of the "Fully Functioning Person" who would emerge if facilitative conditions were maximally successful. Specifically, items were constructed from statements reflecting eight interrelated characteristics: openness to experience; becoming the true self beyond false fronts; living fully in each moment; trust in one's total organismic reaction to each immediate situation; internal locus of evaluation; accepting oneself as a fluid

process; self-acceptance; and living in harmony with others. For the pilot version of the SI (Freire, 2006), a 51-item measure was developed and tested on 122 participants recruited from various professional settings (counselling courses, conferences, organizational websites and journals). From this pilot data, Freire, Elliott, and Cooper (2007) developed a shorter 31-item measure with some items rewritten to simplify the language. Data from 399 participants from three samples (202 US undergraduate students; 67 US Masters students, and 130 UK counsellors and counselling trainees) indicated two primary factors (Congruence/Experientially Fluidity and Incongruence/Experiential Constriction), excellent internal reliability and good construct validity in relation to other measures. Finally, Freire (2009) used Rasch analysis to develop a shorter, more psychometrically sound version of the questionnaire, the SI-22. Though data from the measure showed greater than desired overlap with clinical distress as measured by the CORE-Outcome Measure (Evans et al., 2002), overall the developers of the measure concluded that the Strathclyde Inventory offered researchers a valuable instrument not oriented toward pathology, which could assess the outcomes of person-centered interventions more effectively than other standard outcome measures (Freire et al., 2007).

The present study investigated the construct validity and sensitivity to change of data returned from the French translation of the 22-item SI (the SI-22-F) among clinical and nonclinical samples. Internal reliability of the SI-22-F scores were analyzed using Cronbach's alpha and factor analysis. SI-22-F differences between psychology students, trainees, and patients suffering from medical and psychological conditions were explored. Test-retest reliability and sensitivity to change were examined in six sets of respondents who had different delays and situations (i.e., training for students or therapy as usual for patients). Construct validity was also explored by correlating the Strathclyde Inventory scores with data

from other measures of concepts theoretically related to person-centered conception of personality development as well as measures of constructs presumably unrelated to it.

Method

Participants and procedure

The participants ($N = 518$) were recruited for different analyses in eight different French-speaking samples. The total sample consisted of 433 females (83.8%) and 84 males (16.2%) (data regarding gender was missing for 1 participant). The mean age was 33.87 years ($SD = 17.17$; range = 18 to 85 years). The groups differed significantly in mean age [Welch $F(7, 83.24) = 291.17, p < .001, \eta^2 = .80$]. Bonferroni-corrected post-hoc tests are presented in Table 1 together with the corresponding means and SD. The overall mean score from the SI-22-F was 2.74 ($SD = .57$, median = 2.77, range = .82 to 4.00). The mean score from females ($M = 2.78, SD = .56$) was significantly higher than the mean score from males ($M = 2.52, SD = .59, t(515) = -3.78, p < .001, d = .45$). There was no significant correlation between age and SI scores, $r(517) = .02, p = .73$.

Four student samples were recruited from a large Belgian university while four patient samples were recruited either from a university hospital (anxiety, alcohol, cancer) or from a psychiatric clinic in Brussels (psychiatric patients). Sample 1 consisted of 109 undergraduate sophomores who participated in a test-retest study in which they were randomly assigned to three conditions of counselling training (encounter group vs. structured training vs. waiting control). Sample 2 was composed of 119 Masters psychology students of a course in methods in clinical psychology who participated in a test-retest study in which they learned counselling skills using role plays. Sample 3 was composed of 61 masters-level psychology students who answered the questionnaires only once, after a role-play exercise at home. Sample 4 was composed of 36 post-graduate psychology trainees in evidence-based practice in psychotherapy who answered the questionnaires only once.

Samples 5 to 8 consisted of patients consulting a hospital unit or clinic specializing in anxiety disorders, alcoholic withdrawal, psychiatric disorders, or breast cancer, respectively. The 15 patients in sample 5 were consulting for anxiety disorders (i.e., panic disorder, generalized anxiety disorder, simple or social phobia) and answered the questionnaire 3-months apart with treatment as usual in between (i.e., multidisciplinary treatment that included psychiatric medication, psychological, and/or physiotherapy). The 57 patients of sample 6 had entered the gastro-intestinal unit for a 3-week alcohol withdrawal program (one week of medical and psychological treatment, one week home, one week of treatment) and answered the questionnaires twice, first at entrance and second at the end of the third week of the program. The 10 inpatients of sample 7 were in a long-term psychiatric ward unit whose therapeutic approach involved person-centered treatment activities (including pre-therapy and multisensory stimulation workshop) in addition to pharmacological treatment and answered the questionnaire 6-months apart with treatment as usual in between. Finally, the 111 breast cancer patients (all women) of sample 8 answered the questionnaires once after the first meeting with their primary health care worker (usually a nurse), a few days after cancer diagnosis was confirmed, and a second time at the end of their medical treatments (i.e., surgery plus some combination of chemotherapy, radiotherapy and hormone therapy), usually 3-months later.

The studies with patients were approved by the Bio-medical Ethics Committees of the university hospitals involved, while those involving the psychology students were approved by the Ethics Committee of the Research Institute of Psychological Sciences of the university involved in the data collection. Participants who volunteered to participate always received an information sheet and signed an informed consent. Table 1 shows the additional questionnaires that are relevant for testing construct validity and that were completed by each sample as well as the contexts in which they were completed.

Measures

The Strathclyde Inventory-22 (SI-22; Freire, 2009) was created to measure the person's development according to Rogers' description of the characteristics of personality change that will occur when facilitative interpersonal conditions are present and the person moves toward becoming a more "*fully functioning person*" (Rogers, 1962). Fully functioning persons have flexible, constantly evolving self-concepts. They are realistic, open to new experiences, and capable of changing in response to these. Rather than defending against or distorting their thoughts or feelings, they experience congruence: Their sense of self is consistent with their emotions and experiences. The SI-22 is a non-pathology-oriented instrument and fits the intended outcomes of person-centered therapies (internal locus of evaluation, openness to experience, self-liking, existential living, acceptance of others, and psychological adjustment). The 22 items are rated on a 5-point Likert scale ranging from 0 (*Never*) to 4 (*All or most of the time*) (see Appendix). Freire (2007) presented evidence on the 22-item English version, pointing to excellent consistency of scores across items ($\alpha = .94$) and time ($r = .76$). She also reported good convergence of scores with related-trait measures such as NEO subscales; the SI-22 was not substantially associated with social desirability. The present study used the French version translated (SI-22-F) by English-French bilinguals in our team using the back-translation method: a native French speaker translated the original items into French and a native English speaker back-translated them into English. No difference in meaning was found between both English versions on any of the items. Evidence for consistency over time was assessed in the groups of participants who answered the questionnaire twice (see Table 3). The duration and type of experience between measurements varied among groups of participants. The psychometric properties of scores from this version are presented in the results section.

Individual trait measures. *Emotional competence* was measured via the Trait Emotional Intelligence Questionnaire-Short Form (validated French version, Mikolajczak, Luminet, Leroy, & Roy, 2007). The TEIQue-SF is a 30-item questionnaire rated on a 7-point Likert scale. It is designed to measure people's perceptions of their global trait emotional intelligence or competence and is thus considered as an aspect of self-development. The TEIQue-SF provides a highly reliable global trait emotional intelligence score. Trait emotional intelligence has a significant association with important life outcomes such as physical and mental health, work performance, and social relationships. In the present study, the internal consistency alpha was .84.

The Toronto Alexithymia Scale (TAS-20; Taylor & Bagby, 1988; validated French version, Zech, Luminet, Rimé, & Wagner, 1999) is a 20-item instrument that is the most commonly used measure of *alexithymia*. Alexithymia refers to a difficulty in identifying and describing emotions, minimizing emotional experiences, and an externally-oriented attention style (Taylor & Bagby, 1988). Items are rated on a 5-point Likert scale (ranging from 1 = *strongly disagree* to 5 = *strongly agree*). TAS-20 scores have good internal consistency (Cronbach alpha in French version = .79; Zech et al., 1999) and test-retest reliability, $r(1931) = .77$ (Bagby, Parker, & Taylor, 1994). Research using the TAS-20 has demonstrated adequate levels of construct validity (e.g., Parker, Shaughnessy, Wood, Majeski, & Eastabrook, 2005). Additionally, TAS-20 scores have been found to be stable and replicable across clinical and nonclinical populations. In the present study, the internal consistency alpha of scores was .81.

Personality traits were assessed using the French version of the NEO-Five Factor Inventory (NEO-FFI, Costa & McCrae, 1989; validated French version, Rolland, Parker, & Stumpf, 1998), which consists of 60 items and allows a reliable and a valid assessment of the following dimensions: neuroticism (emotional instability), extraversion, openness to

experience, agreeableness, and conscientiousness. Neuroticism is the disposition to experience negative affects such as anxiety, anger, and depression, and also a low ability to cope with stress. Extraversion includes sociability, liveliness, cheerfulness and the general experience of positive emotion. Openness comprises aesthetic sensitivity, intellectual curiosity, attentiveness to inner feelings, and an active imagination. Agreeableness is primarily a dimension of interpersonal tendencies encompassing trust, altruism, sympathy, and cooperativeness. Conscientiousness is a dimension that contrasts scrupulous, well-organized, and disciplined people with individuals who are lax, disorganized, and lackadaisical (Costa & McCrae, 1992). In the present study, the internal consistency alphas of scores ranged between .73 and .91.

Symptom measures. Current anxiety symptoms were assessed with Spielberger's State-Trait Anxiety Inventory (validated French version, Schweitzer & Paulhan, 1990; STAI-state scale, Spielberger, Gorsuch, & Lushene, 1970) in the anxiety and alcohol patients. The STAI contains separate self-report scales to measure two distinct anxiety concepts: state anxiety (A-State) and trait anxiety (A-Trait). The A-State scale was used in the present study. It has 20 statements that ask how the person feels at a particular moment, on 4-point Likert items. The STAI measures the severity of the overall anxiety level. In the present study, the internal consistency alpha of scores was .74.

Current depression symptoms were assessed with Beck Depression Inventory (BDI-II in French version, Beck, Steer, & Brown, 1996) in the alcohol sample. The BDI-II is a widely used 21-item self-report inventory measuring the severity of depression in adolescents and adults, following DSM-IV criteria for depression. The BDI-II is widely used as an indicator of the severity of depression, but not as a diagnostic tool, and numerous studies provide evidence for the reliability and validity of scores across different populations and cultural groups. It has

also been used in numerous treatment outcome studies. In the present study, the internal consistency alpha of scores was .96.

In cancer patients, anxiety and depression symptoms were assessed by the Hospital Anxiety and Depression Scale (validated French version, Razavi, Delvaux, Farvacques, & Robaye, 1989; HADS, Zigmond & Snaith, 1983). The HADS was developed by Zigmond and Snaith in 1983 to identify caseness (possible and probable) of anxiety disorders and depression among patients in nonpsychiatric hospital clinics. It is divided into an Anxiety subscale (HADS-A) and a Depression subscale (HADS-D) both containing seven intermingled items. To prevent ‘noise’ from somatic disorders on the scores, all symptoms of anxiety or depression relating also to physical disorder, such as dizziness, headaches, insomnia and fatigue, are excluded in this scale. Symptoms relating to serious mental disorders are also excluded, since such symptoms are less common in patients attending a non-psychiatric hospital clinic. This self-assessment scale has been found to produce reliable data for indicating states and severity of depression and anxiety in the setting of a hospital medical outpatient clinic. In the present study, the internal consistency alpha of scores was .82 for the anxiety scale and .75 for the depression scale.

Therapeutic relationship measures. The perceived quality of the relationship between a therapist and a client as indicated by the levels of warmth, genuineness, and empathy was measured via Burns, Auerbach, and Salkovskis’ (1996) Empathy Scale (ES). The 10 items (e.g., “I understood what my client said in today’s session”) are rated on a 4-point Likert scale ranging from 0 (*not at all*) to 3 (*a lot*). A global score is computed by subtracting the sum of the 5 last (negatively formulated) items from the sum of the 5 first (positively formulated) items. Scores can range from -15 (completely inadequate relationship) to +15 (completely adequate relationship) and reflect the client-therapist relationship quality. Two versions exist: one for the therapist and one for the client. Both versions were used in the training studies

(Sample 1 and 2) after a role play in which the student playing the therapist had to empathically listen to their simulated client. The present study used the French version translated by our team (using the back-translation method) which has yielded scores with adequate internal consistency levels of .73 for the therapist version and .79 for the client version.

The Barrett-Lennard Relationship Inventory (BLRI, Barrett-Lennard, 1962, 1978, 1986) assessed the perception of the therapist's attitudes among students and trainees with the exception of the sophomores (Sample 2 to 4). In this study, the BLRI 64-items therapist version of the scale ('Myself-to-the-Other' or MO) was selected with 6-point bipolar rating scales from -3 (*No, I strongly feel that it is not true*) to 3 (*Yes, I strongly feel that it is true*). There are 16 items (8 positive and 8 negative) for each of the four subscales (Congruence, Empathy, Level of Regard, and Unconditionality). An example of an empathy item is "I want to understand how he/she/my client sees things". It is currently considered the best measure assessing perceived therapeutic attitudes (Asay, Lambert, & Cain, 2002; Freire & Grafanaki, 2010; Gurman, 1977). The mean internal consistency reliability of scores across 14 studies (Gurman, 1977) was $\alpha = .91$ for Level of Regard, .88 for Congruence, .84 for Empathy, .74 for Unconditionality, and .91 for the total score. In the present study, which used a French-translation (Côté, 1975), the internal consistency alpha of scores was respectively .86, .81, .79, .61, and .90.

Results

Internal consistency of the SI and factorial structure

Using the combined sample, data from the 22 items of the Strathclyde Inventory demonstrated excellent inter-item consistency, with a Cronbach alpha of .88. At the same time, no pair of item scores had an inter-item correlation larger than .61. No item would increase the alpha of the scale if its scores were removed. Furthermore, this was consistent across samples, with only the small anxiety and inpatient samples showing lower values.

Data from the 22 items were inter-correlated and the resulting matrix was subjected to principal component analysis. Both measures of psychometric adequacy suggested that the correlation matrix was suitable for factor analysis: Bartlett's test of sphericity indicated that the item scores were interdependent, $\chi^2(231, N = 487) = 3680.27, p < .001$. The Kaiser-Meyer-Olkin measure of sampling adequacy was above the .50 minimally acceptable level (MSA = .91), indicating that the items were psychometrically linked in a construct. The scree plot showed a large proportion of the variance in the first component (6.90 eigenvalues, 31.35%), a smaller proportion of the variance in the second component (2.44 eigenvalues, 11.10%), and suggested a break between the second and third factors, indicating that a two-factor solution was suitable for rotation. The two-factor solution accounted for 42.44% of the total variance. Because previous English versions of the SI-22-F were reported to have a two-factor structure, the matrix was subjected to Varimax rotation with two fixed factors. As in previous studies, this showed a clear separation of the items into a positively worded group (Factor 1) and a negatively worded group (Factor 2). Factor 1 (with data from the 14 positively-keyed items) accounted for 27.19% of the total variance and Factor 2 (with data from the remaining 8 negatively-keyed items) accounted for 15.25% of the total variance (see Table 2). As in previous research on the English language version of the scale, these factors can be named '*Congruence/Experiential Fluidity*' and '*Incongruence/Experiential Constriction*' respectively. Pearson correlation between the two factors was $-.45, p < .01$. The internal consistency of Factor 1 was $\alpha = .90$ and of Factor 2 $\alpha = .76$.

Because the second factor only accounted for 15.25% of the variance and was only composed of the negatively-keyed items, we tested whether a one-factor solution would also fit the data. The principal component analysis matrix revealed that most items had factor loadings above the absolute value of .40, except for 4 items that had negative wording: item 2 "I have condemned myself for my attitudes or behavior" ($-.27$), 5 "I have felt afraid of my

emotional reactions” (-.35), 6 “I have looked to others for approval or disapproval” (-.26), and 20 “I have conformed to what others think or want” (-.22). Although a one-factor solution explains less variance, the conceptual advantage of having two moderately related factors that represent opposite sub-concepts is not very clear. Also, since a one-factor model is more parsimonious, we only used a total SI-22-F score in the analyses. One way of describing these results is that the SI-22-F generates scores with one general Congruence-Incongruence factor with two subfactors.

Population differences

Next, we examined whether the level of Congruence-Incongruence indicated by the SI-22-F was significantly different between groups of respondents. As expected, a large and statistically significant overall group effect was found on the total SI-22-F score: $F(7, 510) = 12.09$ ($p < .0001$, $\eta^2 = .14$). As can be seen in Table 1, Bonferroni post-hoc tests revealed that the level of SI-22-F score was significantly lower (i.e., less personality development) for the anxiety clinic patients ($M = 2.13$; $SD = .48$) and alcohol clinic patients before withdrawal ($M = 2.33$; $SD = .71$) than for the three groups of masters students and the breast cancer patients whose experiential functioning scores varied from 2.73 ($SD = .48$) to 2.91 ($SD = .44$). The university sophomore sample showed an intermediate level on the SI-22-F score ($M = 2.63$; $SD = .48$), significantly higher than the alcohol withdrawal clinic patients and significantly lower than the masters students. Psychiatric inpatients showed surprisingly high values, not significantly different from the other respondents, but it is possible that the sample was too small for meaningful comparisons ($N = 10$).

Test-retest consistency and changes over time

Test-retest consistency was examined in data from 6 samples (total $N = 348$): (1) University sophomores ($N = 104$) completed the SI-22-F at pre-test and 6 weeks later in a randomized control trial that compared the efficacy of two three-week (12-hour) helping skills

training courses (a structured teaching program vs. a nondirective encounter group) with a no-training control group; (2) Masters students in clinical psychology were trained during 4 weeks with role-plays that were subsequently debriefed (a total of 24 hours of nondirective counseling skills training) ($N = 119$); (3) a small sample of patients in an anxiety clinic ($N = 9$) were assessed at entrance and again 8 weeks later; (4) a group of patients in an alcohol withdrawal program ($N = 56$) were evaluated at intake and at the end of the program, three weeks later; (5) a group of inpatients diagnosed with schizophrenia and living together in community ($N = 10$) were assessed 6 months apart; (6) a group of oncology patients were assessed during the week they discovered they had breast cancer and again at the end of their medical treatments, in general 3 months later ($N = 50$). The mean interval between the two applications for these six samples was 7.33 weeks (range = 3 to 26; Mode = 4 weeks).

Pearson correlations between test and retest scores are presented in Table 3. The “pure” test-retest correlation in the scores from the sophomore group that did not receive training between assessments was .61 ($n = 34$; $p < .001$), the same as the overall test-retest value for data from all 6 groups combined, indicating good reliability of the SI-22-F scores. For data from the other groups, with the exception of the two very small subsamples (anxiety and psychiatric clinics), test-retest correlations were large and ranged between .52 and .79, confirming adequate test-retest reliability of the scale scores from student samples and alcohol and breast cancer patients.

We then examined sensitivity to change of the SI-22-F scores in the sub-groups. We expected that experiential training methods such as nondirective role-plays and encounter group participation would increase the level of the SI-22-F scores reported by students more than a more structured directive teaching method having involved academic presentations of knowledge and video clips about helping skills. In addition, we expected that withdrawing from alcohol dependence might promote self-development and greater self-awareness, and

that this would also be the case for anxiety patients being helped with a combination of psychiatric, psychological, and physiotherapeutic treatments, and for the psychiatric patients involved in several person-centered treatment activities. We did not expect that the medical treatment (usually mastectomy and/or chemotherapy) would have an impact on SI-22-F scores in breast cancer patients. Results confirmed most hypotheses (see Table 3): significant improvement (with small to medium-sized effects) in SI-22-F scores was found among students participating in short-term training interventions (encounter group and role-play training), with little or no effect for students who only followed their usual courses (no training) or who were in a structured helping skills training. Patients who participated in an alcohol withdrawal program also significantly increased their scores for self-development, with the largest effect size ($d = .87$). No other significant results were found for data from the other types of patients, probably due to the small number of respondents in the anxiety and psychiatric unit subgroups, or potentially to the chronic difficulties of severely distressed participants, or to the irrelevance of medical treatments for self-development in cancer patients. However, it should be noted that data from the anxiety clinic patients indicated a small-to-medium pre-post effect size, similar to the nondirective trained student sample. Taken together, these results suggest that data from the SI-22-F is sensitive to change in both student and client populations.

Because one of the intended uses of the SI-22-F is as a psychotherapy research outcome measure, we used our data to estimate a cut-off or threshold value for differentiating scores from clinical populations presenting for psychological treatment from nonclinical populations that do not currently present themselves as needing treatment. To do this, we combined pre-test scores for three of the patient populations in Table 3 (leaving out the breast cancer sample, which was in medical rather than psychological treatment) and combined the three student sample pre-tests. Then we used the formula for criterion c in Jacobson and

Truax (1991) to obtain a value of 2.52, quite close to the 2.45 estimate reported by Elliott, Rodgers, and Stephen (2013).

Relations to other variables of interest with regard to personality development

In concordance with the person-centered construct of the fully functioning person, we expected negative correlations of the data from the Strathclyde Inventory with indicators of Neuroticism and the TAS-20 scores, and a positive correlation with data from the TEIQue. We also expected smaller positive correlations with the other factor scores from the NEO-FFI and negative correlations with anxiety and depression indicators. Correlations were also expected with data from behavioral measures of relationship quality and Rogerian therapeutic attitudes, especially when rated by students in the role of the therapist. Table 4 presents the Pearson correlations of SI-22-F scores with scores from the other measures used in this study. Consistent with our predictions, the results showed that the SI-22-F scores had a highly positive correlation with indicators of emotional intelligence and moderate negative correlations with indicators of alexithymia and the Neuroticism factor scores from the NEO-FFI. There were also moderate positive correlations with indicators of extraversion and agreeableness and with data from Rogerian therapeutic attitudes measures taken on a very specific encounter with a real or simulated client. Finally, there were moderate negative correlations with indicators of anxiety and depression symptoms in patients.

Discussion

These results indicated that SI-22-F scores have very good inter-item consistency and adequate temporal consistency in student, trainee, and patient populations. As has been the case with data from previous versions of the inventory, our exploratory factor analysis results fit both one- and two-factor models (Freire, 2007, 2009; Freire et al., 2007). The clear separation of the factors into positively worded congruence items (Factor 1) and a negatively worded incongruence items (Factor 2) is a common result in factor analyses (Schmitt &

Stults, 1985) and can be interpreted as an artifact of differential respondent response biases (Spector, Van Katwyk, Brannick, & Chen, 1997). From this perspective, a single bipolar one-factor solution can be seen as more parsimonious. Nevertheless, given that the correlation between the two factor scores is only moderate ($r = .45$), the two-factor solution also makes sense for the SI-21-F. As a consequence, we advocate a hybrid model of an over-arching Congruence-Incongruence dimension, with two sub-factors. This conclusion is partially consistent with recent findings from a Rasch analysis of data from the English version of the Strathclyde Inventory which indicated that 16 items explain 64.2% of the data collected from 405 PCT clients and 1174 additional administrations on nonclinical samples (Stephen & Elliott, 2017, May). Indeed, these recent results suggested that data from the SI has a unidimensional structure as the correlation between the two sub-dimension scores was $r = .64$ and that the reverse scored items did not represent a separate construct, indicating that the two dimensions were not distinctively different. Taken together, these results indicated good psychometric qualities of the SI-22-F scores as a unidimensional measure.

The present results also indicated that scores from the SI-22-F could be useful for indicating personal experiences and attitudes that characterize a more fully functioning individual from a person-centered perspective. Firstly, the groups of university master students and trainees had significantly higher scores on the SI-22-F in comparison with scores from the two groups of patients suffering from mental health problems such as anxiety disorders and alcoholism, but not from the group of cancer patients being diagnosed with a physical condition. In line with expectations, data from patients who have been diagnosed with a mental health disorder generally indicated lower levels of congruence than data from post-graduate psychology students, psychotherapy trainees, or patients diagnosed with a physical cancer condition, with a value of around 2.5 providing a tentative threshold useful

for estimating whether clients at post-therapy more closely resemble psychologically distressed vs. nondistressed populations.

Secondly, scores from the SI-22-F were found to be sensitive to two types of person-centered therapy training among psychology students. The first training involved a 12-hour Rogerian encounter group and the second a 24-hour training using only role plays and experiential debriefings, each participant having examined how he/she experienced the played situation from his/her own perspective and sharing this with the other students. Importantly, the SI-22-F score did not change over time among students participating in a no training simple test-retest control condition, nor among students who had participated in a structured, more academic counselling skill training that involved minimal experiential training (only about 4 hours of role plays out of 12 hours of training) and focused more on the acquisition of knowledge (e.g., definitions) and the analysis of seven specific basic exploration helping skills techniques (e.g., asking questions, reflecting, summarizing). These results indicated that university students with no initial experience in person-centered counselling and who were specifically set in conditions to self-explore their inner experiences as well as experience mutual active empathic listening with other students enhance their congruence through experiential trainings. On the contrary, congruence levels stayed stable over a three-week time, or among students who were only minimally proposed to experience Rogerian facilitative conditions of change.

Among the subgroups of patients, scores from the SI-22-F were particularly sensitive to change from a 3-week alcohol withdrawal program involving chemical treatment and psychotherapy, as indicated by a large pre-post significant effect among these patients. This suggested that those treatments had helped patients to become much less incongruent persons, reaching levels of congruence after treatment similar to the functioning of psychology students and cancer patients. A medium size but not significant pre-post effect was also found

from data from the small group of patients suffering from anxiety who undertook a combination of 2-month psychiatric (medical), psychotherapeutic, and/or physiotherapy treatments. Taken together these results seem to indicate that scores from the SI-22-F are sensitive to change from a combination of medical and psychotherapy treatments for anxiety and alcohol patients. Similar results were not found in the small group of psychiatric inpatients who received TAU over a 6-month period, which suggests that such effects may be less obvious to find with patients who have severe psychological contact deficits. Logically, changes in levels of indicated Congruence/Incongruence were not found after three months of medical treatments against cancer. .

Data from the SI-22-F was also found to have consistent relationships with other measures relevant to person-centered personality development, supporting the assertion that the scale may be well designed to specifically measure the personal experiences and attitudes that characterize an individual functioning with more congruence and fluidity from a person-centered perspective. Indeed, as in previous studies with the Strathclyde Inventory, we found small to moderate negative correlations with scores from measures of clinical distress such as the STAI, BDI, or HADS, although these were not as large as Freire et al. (2007) reported for the CORE Outcome Measure. It is possible that the three instruments can be seen as different ways of measuring psychological pain. However, the characteristics of the fully functioning person described in person-centered theory can be seen as complementing medical model measures in a useful way. Thus, instead of being seen as redundant with distress measures like BDI or HADS, instruments like the SI-22-F could provide an alternative, growth-oriented approach to general client change in person-centered therapy and potentially also to other humanistic psychotherapies. This view is highly consistent with the claims of the current movement of positive psychology, which urge psychologists to focus more on human capacities, potentials, strengths, and virtues (e.g., Carr, 2011). This interpretation is also in

line with the highly positive correlation found between scores from the SI-22-F and the TEIQue, an individual positive trait measure of emotional competence. Moderate negative correlations between the SI-22-F scores and indicators of neuroticism and alexithymia were also found among students. This suggests that the SI-22-F, as a personality development instrument, also shares variance with personality dimensions and not only with state evaluations. Finally, in line with the person-centered approach, the results also indicate that more fully functioning students and trainees tended to report behaving with higher levels of Rogerian therapeutic attitudes, i.e., empathy, congruence, unconditionality, and level of regard, and quality of therapeutic relationships with either simulated or real clients.

Limitations and Future Research

There are several limitations of this study. First, even though this is common, there are uneven sized samples of men and women. Second, the variety of samples included was quite disparate, particularly with the small clinical samples. However, the samples serve to broaden the scale's potential application from training contexts in which personality development is expected to situations involving both physical and mental health difficulties. The sample of people with anxiety ($N = 9$) had the lowest SI-22-F initial score and a small to medium pre-post change effect size. The samples were also needed for calculating the clinical cut-off along with the alcohol withdrawal group. The SI-22-F structure should be stable and replicable across clinical and nonclinical populations. Future multigroup confirmatory factor analysis would be valuable to confirm that the factor loadings are invariant across sample, ethnicity, and gender using data from larger groups of respondents and clients.

The use of a classical test theory (CTT) analytic strategy in the present study was also a limitation, offering only preliminary data on the SI-22-F. Indeed, one limitation of the CTT approach is that it treats Likert scale data as interval level measurements when statistical analyses are performed. The problem with this is that respondents may not treat the scales as

intended in that they may not necessarily see each anchor point as being equidistant from the next. CTT also makes the assumption that each anchor point on such scales has an equal additive quality. Rasch analyses should be used in future research on additional clinical and nonclinical data, which could provide further evidence for validity for the SI-22-F. In addition to testing the structure of the scale data, a Rasch approach would help in identifying how well item scores fit different persons and how well persons fit different item scores. It would also examine rating scale functioning including whether respondents are treating SI-22-F item ratings as interval data. This analytic approach was recently adopted by Stephen and Elliott (2017, May) with a 16-item English version and confirmed the psychometric qualities of the scale data (e.g., clients could distinguish between the 5 categories on the rating scale).

Future research with the SI-22-F should also be undertaken to explore sensitivity to treatment effects among different patient groups, fine-tune the cut-off value between psychologically distressed patient populations and nondistressed community populations, and offer estimates of reliable change (Jacobson & Truax, 1991). For example, in the current study we were unable to clearly demonstrate that TAU among anxiety patients and psychiatric inpatients actually helped them to become more fully functioning or congruent persons. There may be several reasons for this. First, this might be due to the small number of patients in these groups. Second, it is possible that the time elapsed between measurements (2 and 6 months, respectively) was not adequate to sensitively grasp the evolving process among such highly distressed persons. Third, it is possible that the types of therapeutic interventions that were used (not further examined in this manuscript and which usually involved psychiatric drug treatment) might not help patients become more congruent and fully functioning persons (Moncrieff, 2009). It would thus be necessary to carry out randomized controlled trials comparing person-centered therapy with other therapy conditions and to compare the results on the SI-22-F among the competing conditions to be able to draw any conclusion as to

whether the instrument would particularly tap PCT processes and that other types of therapies would not. Case studies should also be conducted to explore potential personality development processes along with conditions of change among different groups of clients (e.g., we cannot explain why psychiatric inpatients presented more-than-expected elevated and stable scores and this deserves more attention, see the Wisconsin Project, Rogers, Gendlin, Kiesler, & Truax, 1967).

Overall, the results of this study indicate that the SI-22-F is a potentially useful tool for evaluating the effectiveness of person-centered practice. It is a short, nonpathology-oriented instrument that is still sensitive to degree of psychological distress. SI-22-F scores have reasonably-sized associations to those from symptomatic distress measures such as the BDI and STAI, for which it could therefore be used as a proxy measure. Further, the SI-22-F allows the assessment of improvements in congruence and the extent to which a person is ‘fully functioning’ which are central concepts to a person-centered approach to training, counseling, and therapy.

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Table 1

Sample Summary: Demographics, Procedures, SI-22-F Scores and Internal Consistencies

	<i>N</i>	Female (Valid %)	Age in years	Other measures	Context	SI-22-F score	Cronbach's α
Psychology Students and Trainees							
Sophomores	109	84.4	20.07 ^a (2.24)	TEIQue, NEO-FFI, ES-therapist and client	Pre-post RC training (3 conditions); course credit received	2.63 ^{bd} (.48)	.83
Master students training	119	92.4	22.76 ^a (3.70)	TAS-20, BLRI, ES- therapist and client	Pre-post role play training (4 weeks)	2.91 ^c (.44)	.86
Master in psychology	61	86.9	21.92 ^a (1.59)	TAS-20, BLRI	After a role-play exercise	2.73 ^{cd} (.48)	.88
Complementary Master in Psychotherapy	36	91.4	30.23 ^b (6.96)	TAS-20, BLRI	After a consultation with a client	2.83 ^{cd} (.41)	.86
Patients (TAU)							
Anxiety clinic	15	66.7	38.60 ^c (13.89)	STAI	After 1st consultation ; 2 months later	2.13 ^{ab} (.48)	.72
Alcohol withdrawal	57	36.8	48.25 ^d (11.27)	STAI, BDI	At entrance and at the end of the program (3 weeks apart)	2.33 ^a (.71)	.90
Psychiatric ward	10	40.0	49.00 ^d (13.55)		Six months apart	2.71 ^{abc} (.42)	.69
Breast cancer	111	100.0	57.65 ^e (11.67)	HADS	After diagnosis of cancer and after medical treatments (3 months apart)	2.93 ^c (.64)	.89
Total sample	518	83.8	33.87 (17.17)			2.74 (.57)	.88

Note. Means with different superscripts are significantly different at $p < .05$, using Bonferroni post-hoc tests. Standard deviations are in parentheses. Cronbach's alphas were calculated on data with no missing value on any of the 22 items of the SI-22-F (n master in psychology = 60; n anxiety clinic = 14; n alcohol withdrawal = 50; n psychiatric ward = 8; n breast cancer = 92; n total sample = 488). RC = Randomized control; TAU = treatment as usual; SI-22-F = 22-item Strathclyde Inventory-French version; TEIQue = Trait Emotional Intelligence Questionnaire-Short Form; NEO-FFI = NEO-Five Factor Inventory; ES-therapist = Empathy Scale-therapist version; ES-client = Empathy Scale-client version; TAS-20 = Toronto Alexithymia Scale; BLRI = Barrett-Lennard Relationship Inventory; STAI = State-Trait Anxiety Inventory; BDI = Beck Depression Inventory; HADS = Hospital Anxiety and Depression Scale.

Table 2

Factor Analysis with 2 Fixed Factors and Varimax Rotation.

	1	2
19. I have accepted my feelings	.729	-.183
12. I have lived fully in each new moment	.709	-.148
17. I have felt true to myself	.695	-.321
10. I have listened sensitively to myself	.679	.030
13. I have been aware of my feelings	.679	.003
14. I have felt that I am a person of worth	.677	-.189
22. I have felt it is all right to be the kind of person I am	.651	-.312
7. I have expressed myself in my own unique way	.648	-.102
21. I have been able to understand those with whom I had personal contact	.632	-.029
16. I have taken responsibility for my choices	.632	-.120
4. I have experienced very satisfying personal relationships	.614	-.199
3. I have trusted my own reactions to situations	.587	-.316
9. I have made choices based on my own internal sense of what is right	.543	.157
1. I have been able to be spontaneous	.537	-.220
5. I have felt afraid of my emotional reactions (R)	-.042	.694
18. I have felt myself doing things that are out of character for me (R)	-.190	.657
8. I have found myself "on guard" when relating with others (R)	-.142	.646
11. I have felt myself doing things that were out of my control (R)	-.205	.630
15. I have hidden some elements of myself behind a "mask" (R)	-.189	.596
2. I have condemned myself for my attitudes or behavior (R)	-.020	.563
6. I have looked to others for approval or disapproval (R)	-.032	.504
20. I have conformed to what others think or want (R)	-.037	.415
Eigenvalues	5.983	3.355
Percentage of variance	27.19	15.25

Note. (R) = negatively-keyed item.

Table 3

Test-retest Correlations, Pre- and Post-test Means (SD in parentheses), Paired t-tests and Pre-post Effect Sizes of the Strathclyde Inventory in the Different Subgroups

	<i>N</i>	Delay (in weeks)	Test-retest Correlation	Pre-test	Post-test	Paired t-test	Cohen's <i>d</i>
Sophomores-RC training	104	6	.73***	2.63 (.46)	2.69 (.53)	-1.48	.12
3-week structured counselling training	36	6	.77***	2.63 (.50)	2.68 (.57)	-.84	.09
3-week encounter group	34	6	.79***	2.62 (.50)	2.80 (.54)	-3.13**	.35
No training control	34	6	.61***	2.64 (.39)	2.57 (.46)	1.07	.16
Master students-role play training (4 weeks)	119	4	.63***	2.91 (.44)	3.11 (.56)	-4.88***	.40
Patients (TAU)							
Anxiety clinic	9	8	.46	2.22 (.53)	2.37 (.28)	-.92	.35
Alcohol withdrawal	56	3	.63***	2.34 (.72)	2.93 (.64)	-7.32***	.87
Psychiatric ward	10	26	.01	2.71 (.42)	2.77 (.59)	-.24	.12
Breast cancer	50	13	.52***	3.00 (.68)	2.90 (.68)	1.18	.15
All	348	7.33 (6.00)	.61***	2.73 (.59)	2.89 (.61)	-5.96***	.27

Note. RC = Randomized control. TAU = treatment as usual.

** $p < .005$. *** $p < .001$.

Table 4

Correlations Between the Strathclyde Inventory and Individual Trait, Therapeutic Attitudes, and Symptom Measures.

Measures	Samples	N	Correlation
Individual traits			
TAS-20	All master students and psychotherapy trainees	216	-.48***
TEIque	Sophomores	109	.70***
NEO-Neuroticism	Sophomores	109	-.46***
NEO-Extraversion	Sophomores	109	.38***
NEO-Openness	Sophomores	109	.09
NEO-Agreeableness	Sophomores	109	.16†
NEO-Conscientiousness	Sophomores	109	.33***
Therapeutic attitudes behavioral			
ES-Therapist version	Sophomores and master role play students	227	.43***
ES-Client version	Sophomores and master role play students	202	.14†
BLRI-Empathy	All master students and psychotherapy trainees	216	.35***
BLRI-Congruence	All master students and psychotherapy trainees	216	.34***
BLRI-Unconditionality	All master students and psychotherapy trainees	216	.25***
BLRI-Level of Regard	All master students and psychotherapy trainees	216	.28***
BLRI-Total	All master students and psychotherapy trainees	216	.41***
Symptoms			
STAI-state	Anxiety and Alcohol clinic	71	-.22†
BDI	Alcohol withdrawal	53	-.51***
HADS-Anxiety	Breast cancer	99	-.54***
HADS-Depression	Breast cancer	100	-.58***

Note. TEIque = Trait Emotional Intelligence Questionnaire-Short Form. NEO-FFI = NEO-Five Factor Inventory. ES-therapist = Empathy Scale-therapist version. ES-client = Empathy Scale-client version. TAS-20 = Toronto Alexithymia Scale. BLRI = Barrett-Lennard Relationship Inventory. STAI = State-Trait Anxiety Inventory. BDI = Beck Depression Inventory. HADS = Hospital Anxiety and Depression Scale.

† $p < .10$. *** $p < .001$.

Appendix

The Strathclyde Inventory-22-French version and the original English version (in brackets)

Lisez attentivement chaque énoncé ci-dessous et réfléchissez à la fréquence avec laquelle ils vous ont paru vrais DURANT CE DERNIER MOIS. Il suffit de mettre une croix (x) à la place appropriée. Il n’y a pas de bonnes ou de mauvaises réponses – Il est seulement important que cela soit vrai pour vous, dans votre individualité. *(Please read each statement below and think how often you sense it has been true for you DURING THE LAST MONTH. Then mark the box that is closest to this. There are no right or wrong answers – it is only important what is true for you individually.)*

AU COURS DE CE DERNIER MOIS <i>(OVER THE LAST MONTH)</i>	Jamais <i>(Never)</i>	Occasion- nellement <i>(Only occasion- ally)</i>	Parfois <i>(Sometimes)</i>	Souvent <i>(Often)</i>	La plupart du temps <i>(All or most of the time)</i>
1. J’ai pu être spontané(e)..... <i>(I have been able to be spontaneous)</i>	☐ 0	☐ 1	☐ 2	☐ 3	☐ 4
2. J’ai réprouvé mes attitudes ou mes comportements..... <i>(I have condemned myself for my attitudes or behavior)</i>	☐ 4	☐ 3	☐ 2	☐ 1	☐ 0
3. J’ai eu confiance en mes propres réactions <i>(I have trusted my own reactions to situations)</i>	☐ 0	☐ 1	☐ 2	☐ 3	☐ 4
4. J’ai vécu des relations personnelles très satisfaisantes..... <i>(I have experienced very satisfying personal relationships)</i>	☐ 0	☐ 1	☐ 2	☐ 3	☐ 4
5. J’ai été effrayé(e) par mes réactions émotionnelles..... <i>(I have felt afraid of my emotional reactions)</i>	☐ 4	☐ 3	☐ 2	☐ 1	☐ 0
6. J’ai cherché l’approbation ou la désapprobation des autres..... <i>(I have looked to others for approval or disapproval)</i>	☐ 4	☐ 3	☐ 2	☐ 1	☐ 0
7. J’ai pu exprimer ce que je ressentais de manière personnelle..... <i>(I have expressed myself in my own unique way)</i>	☐ 0	☐ 1	☐ 2	☐ 3	☐ 4
8. Je me suis senti(e) sur mes gardes dans mes relations avec d’autres..... <i>(I have found myself “on guard” when relating with others)</i>	☐ 4	☐ 3	☐ 2	☐ 1	☐ 0

9. J'ai fait des choix basés sur ma propre perception de ce qui est juste..... (I have made choices based on my own internal sense of what is right)	☐ 0	☐ 1	☐ 2	☐ 3	☐ 4
10. J'ai eu une écoute sensible de moi-même..... (I have listened sensitively to myself)	☐ 0	☐ 1	☐ 2	☐ 3	☐ 4
11. J'ai eu le sentiment de faire des choses qui étaient hors de mon contrôle. (I have felt myself doing things that were out of my control)	☐ 4	☐ 3	☐ 2	☐ 1	☐ 0
12. J'ai vécu pleinement chaque nouvel instant..... (I have lived fully in each new moment)	☐ 0	☐ 1	☐ 2	☐ 3	☐ 4
13. J'ai été conscient(e) de mes sentiments..... (I have been aware of my feelings)	☐ 0	☐ 1	☐ 2	☐ 3	☐ 4
14. J'ai senti que j'étais une personne de valeur..... (I have felt that I am a person of worth)	☐ 0	☐ 1	☐ 2	☐ 3	☐ 4
15. J'ai caché certaines facettes de moi-même derrière un « masque »..... (I have hidden some elements of myself behind a "mask")	☐ 4	☐ 3	☐ 2	☐ 1	☐ 0
16. J'ai pris la responsabilité de mes choix..... (I have taken responsibility for my choices)	☐ 0	☐ 1	☐ 2	☐ 3	☐ 4
17. Je me suis senti(e) vrai(e) avec moi-même..... (I have felt true to myself)	☐ 0	☐ 1	☐ 2	☐ 3	☐ 4
18. J'ai eu le sentiment de faire des choses qui ne correspondaient pas à mon tempérament..... (I have felt myself doing things that are out of character for me)	☐ 4	☐ 3	☐ 2	☐ 1	☐ 0
19. J'ai accepté mes sentiments..... (I have accepted my feelings)	☐ 0	☐ 1	☐ 2	☐ 3	☐ 4
20. Je me suis conformé(e) à ce que les autres pensent ou veulent..... (I have conformed to what others think or want)	☐ 4	☐ 3	☐ 2	☐ 1	☐ 0
21. J'ai pu comprendre les personnes avec qui j'ai eu des contacts personnels..... (I have been able to understand those with whom I had personal contact)	☐ 0	☐ 1	☐ 2	☐ 3	☐ 4
22. J'ai senti que c'était très bien d'être ce que je suis..... (I have felt it is all right to be the kind of person I am)	☐ 0	☐ 1	☐ 2	☐ 3	☐ 4