THE CONSTRUCTION AND PRELIMINARY VALIDATION
OF A SCALE FOR IDENTIFYING SYMPTOMS OF
RAYNAUD'S PHENOMENON IN THE GENERAL
POPULATION

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Summary—This study describes the construction and factorial validation of a scale designed to assess the
incidence of symptoms characteristic of Raynaud's phenomenon in the general population. The
preliminary questionnaire was administered to a sample of 330 university undergraduates, and a factor
analysis of their responses led to the extraction of three factors labelled Neuroticism, Raynaud's
Symptoms, and Emotional Inhibition. Coefficient α and the retest reliability coefficient (determined over
a 6-week inter-test interval) were both satisfactory. Of particular interest was the Raynaud's Symptoms
factor, comprising 18 items related to the general characteristics of Raynaud's phenomenon, and a number
of subsidiary analyses using this factor alone are reported.

INTRODUCTION

Raynaud's phenomenon is a peripheral vascular disorder characterised by bilateral colour changes
of the extremities, usually involving the fingers and, less commonly, the toes (Surwit, 1973). In
extreme cases gangrene may occur in the distal phalanges of the fingers (Taylor, 1974). The
phenomenon has a primary form (or Raynaud's disease) when no other associated condition or
disorder such as scleroderma is identified, and a secondary form when it occurs in conjunction with
these associated conditions (Freedman, Ianni and Wenig, 1983). Episodes of Raynaud's symptoms
are usually elicited by exposure to cold stimulation and/or emotionally distressing circumstances,
although sudden decreases in temperature are apparently more likely to precipitate symptoms than
continuous exposure to cold (Lafferty, 1984). Clinical cases of Raynaud's phenomenon occur five
times more often in women than in men, and onset is typically during the second two decades of
life, particularly around puberty (Surwit, 1973).

In typical and well-developed Raynaud's attacks, three marked phases of colour change may
occur in the affected area: first, whiteness, then blueness, and finally, bright redness (Lafferty, 1984). These
characteristic colour changes are likely to be accompanied by burning, tingling feelings,
numbness and throbbing pain (Olsen and Nielsen, 1979). The colour changes are attributed to
fluctuations in the blood flow to the skin due to vasoconstriction and vasodilation occurring in
the affected areas (Spittell, 1980), and the coldness of the hands which Raynaud's patients suffer
from both during acute attacks and under normal ambient temperature conditions is also thought
to be a consequence of restricted peripheral blood-flow (Surwit, Shapiro and Feld, 1976; Young
and Blanchard, 1980).

The aetiology of the disorder is not well understood (Franks, 1982; Edwards, Phinnery, Taylor,
Keeman and Porter, 1987), but emotional factors are thought to play an important role (Winsor
and Hyman, 1965; Blanchard and Haynes, 1975). Amongst the personality correlates of Raynaud's
phenomenon, particularly the primary form, Graham (1955) considered anxiety and hostility to
be the most prevalent and influential emotions associated with the disorder and its recurring
attacks. Valk and Groen (1968) have claimed that disorders involving malfunctions of the vascular
system (such as Raynaud's disease) are more common among those who are highly emotional but
do not express their feelings, while Lipp (1976) found that Raynaud's patients are more
field-dependent and less internally oriented than normal controls. Millet, Lief and Mittlemann

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field-dependent and less internally oriented than normal controls. Millet, Lief and Mittlemann (1953) suggest that Raynaud's patients characteristically show a large number of self-sacrificing and self-blaming tendencies, although there is little empirical evidence for these views.

In addition to uncertainties about the aetiology of Raynaud's disease, little is known about the incidence of Raynaud's symptoms in the general population (Heslop, Coggon and Acheson, 1983; Maricq, Weinrich, Keil and LeRoy, 1986). Certainly, disorders of the vascular system contribute to a range of psychosomatic problems which are widely distributed in the general population, such as migraine headaches and hypertension (see for example Lachman, 1972), and much may be learned about clinical syndromes from the study of their incidence in normal populations. An example of this approach is to be found in 'high-risk studies' of disorders such as schizophrenia, where normal Ss who show some of the non-pathological and benign aspects of the disorder (and therefore are presumably at risk of developing the clinical form) may be identified. Researchers such as Kety, Rosenthal and Wender (1971) and Kendler, Gruenberg and Strauss (1981) have characterised this tendency towards schizophrenic symptomatology in the general population as 'schizotypy', and the main aim of the present study was to develop a corresponding self-report scale with which to assess what might be referred to as 'Raynaudtypic' symptomatology amongst normal Ss. The study was concerned primarily with the psychological dimensions of Raynaud's phenomenon, and a second aim was to attempt to identify the personality characteristics associated with the somatic features isolated by the scale.

**METHOD**

*Subjects*

Ss were 259 female (mean age = 19.50; SD = 3.06) and 71 male (mean age = 20.03; SD = 4.09) undergraduate students from the University of York.

*Scale construction*

Using a forced choice (yes/no) response format, a preliminary 149-item questionnaire entitled the ‘Self-Evaluation Questionnaire’ (SEQ) was devised. In addition to items aimed specifically at assessing symptoms and associated features of Raynaud’s phenomenon, the SEQ included questions designed to reflect various psychological or clinical variables thought to be related to Raynaud’s phenomenon. Some of these were derived from standard personality scales, while others were generated on the basis of previous research findings; thus, following Graham’s work (1955), nine items relating to anxiety were included. Items were also included to assess the association between Raynaud’s phenomenon and other clinical and personality variables such as self-esteem, depression, hostility, emotional inhibition, hypochondriasis and psychosomaticism.

The responses of the 330 Ss in the sample were initially analysed for response frequencies, and using a 20/80% criterion, 30 items were deleted for failing to achieve a satisfactory proportion between response alternatives. However, this criterion was relaxed in the case of those intended Raynaud’s scale items which reflected overt somatic symptoms, since they were expected to be reported relatively infrequently in the general population. Responses to the 119 items which remained on the scale were then subjected to factor analysis.

A scree test (Cattell, 1966) indicated a 3-factor structure, and following initial principal factoring the matrix was rotated to an orthogonal (Varimax) terminal solution. Using a 0.30 factor-loading criterion, 35, 18 and 9 items loaded on the first, second, and third factors, respectively. The first of these factors, with the highest loading (0.60) on the item “I often feel anxious and uneasy”, was labelled Neuroticism. The second factor was clearly concerned with Raynaud’s symptoms (highest loading of 0.60 on the item “I often have cold hands”) and was labelled accordingly, although some of the items were not directly associated with the symptoms of Raynaud’s disease (for example, “I frequently find myself worrying about something”). These items may be seen as reflecting psychological, as opposed to purely somatic, components of the syndrome. The third factor, with the highest loading (−0.49) on the item “At times I feel like smashing things”, was labelled Emotional Inhibition. Few items loaded above criterion on more than one factor, and an oblique rotation made little difference to the structure, especially as far as the Raynaud’s Symptoms factor was concerned. Individual item loadings above the 0.30 criterion on the three factors are shown in Table I, and a copy of the final form of the questionnaire appears in the Appendix.
A separate factor analysis of the responses for female Ss was then carried out, which resulted in a virtually identical factor structure to that obtained for the overall sample. In view of the small sample size and the much lower incidence of Raynaud’s symptoms amongst males, no separate factor analysis was performed on the data for the male Ss. Correlations amongst the factors for the overall sample showed that, with the exception of a modest correlation between Raynaud’s Symptoms and Neuroticism (r = 0.20), the factors were statistically independent of one another.

The 18 item Raynaud’s Symptoms (RS) factor was of particular interest in the present study, and in order to obtain a more detailed account of the characteristic features of Raynaud’s phenomenon in the general population the RS factor was itself subjected to a separate factor analysis. A scree test indicated a 2-factor terminal solution, and a Varimax orthogonal rotation uncovered a component of the factor which was related specifically to the main presenting

<table>
<thead>
<tr>
<th>Items</th>
<th>Neuroticism</th>
<th>Raynaud’s symptoms</th>
<th>Emotional inhibition</th>
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symptoms of the phenomenon. The highest loading here was for item 42, "I sometimes have periods of being so cold my fingers go white or blue", (0.65), which loaded together with eight further items: 53, 47, 12, 54, 1, 5, 13, and 21. Items 17 (with the highest loading of 0.82), 19, and 41 appeared on a separate factor, but with only three items loading above the 0.30 criterion the range of behaviours sampled was too restricted for them to be regarded collectively as an independent factor. The remaining items did not load above criterion on either factor in this more restricted analysis, but all 18 items were included in the RS factor used in subsequent analyses reported in this paper. The distribution of responses to the factor tended to be positively skewed for both males (mean = 2.49; SD = 2.31; skewness = 1.48) and females (mean = 3.78; SD = 3.18; skewness = 0.97), and the mean scores for males and females differed significantly (t = 3.52; d.f. = 140; P < 0.01). For the whole sample, the mean RS score was 3.50 (SD = 3.06). The relationship between age and RS was negligible.

To assess Ss' response tendencies, an abbreviated form of the Marlowe–Crowne Social Desirability Scale (Reynolds, 1982) was also completed by the Ss. Results showed no significant correlation between the two variables for the whole sample, and the difference between mean male and female social desirability (SD) scores was not significant either. However, some correlation was found between SD and scores on the RS factor for females (r = -0.13; d.f. = 256; P = 0.018), with high scores on RS associated with low SD scores. There was no relationship between SD and RS scores for the male Ss.

**Reliability**

(i) **Internal consistency.** Internal consistency was assessed by means of Cronbach's $\alpha$, which produced coefficients of 0.84 for the overall SEQ and 0.78 for the RS factor separately.

(ii) **Test-retest.** Test-retest reliability was determined over a 6 week inter-test interval. The SEQ was sent out to a random sample of the initial 330 Ss, and analysis of the data from 51 completed questionnaires produced coefficients of 0.81 for the whole scale and 0.70 for the RS factor.

**Validity**

For the validation study, 36 of the 259 female Ss who took part in the scale construction exercise were selected, representing the 18 highest-scoring and the 18 lowest-scoring Ss on the 18-item RS factor isolated by the factor analysis. The mean age of the high scorers, designated the experimental group, was 19.78 yr (SD = 3.41), while the mean age of the low scorers (controls) was 20.83 yr (SD = 3.97). The mean scores on the RS factor for the experimental and control groups were 8.94 (SD = 9.6) and 0.56 (SD = 0.51), respectively, and a t-test revealed that the difference between these means was highly significant (t = 17.62; d.f. 34, P < 0.001). The experimental Ss represent the 'Raynaudotypic' sample, who might be thought of as 'at risk' for the disorder, and based on existing research it was expected that they would have significantly lower basal skin (hand) temperatures than the controls. It was also expected that skin temperature for the experimental Ss would decrease more than that of the controls following selective exposure to cold stimulation.

For the experiment, Ss were seated in a small laboratory in which ambient temperature could be maintained at approx. 22°C. The experiment formed part of a larger study involving these Ss, but for the initial cold stimulation procedure each S was asked to rest the second phalange of her right hand ring finger on a 2.5 cm² metal plate which was raised 4 cm from the surface of the table. The plate comprised a semiconductor thermoelectric unit with an initial temperature set at 20°C. The temperature was reduced at a rate of 2°C per min to a minimum of approx. 5°C, where it remained constant for 6 min. Skin temperature was monitored for each hand by means of thermistors attached by small velcro cuffs to the ends of the ring fingers; temperature sensors were integrated circuit transducers with 1°C sensitivity thresholds. Temperature readings from plate, fingers and testing room were analysed by means of a BBC micro computer positioned in an adjoining room.

All fluctuations in skin temperature were recorded continuously, but the data were collapsed into readings representing mean scores over blocks of 15 temperature change recordings. For the analysis, the first reading was compared with the last reading for each hand for the experimental and control groups, and the data were therefore cast into a 2 (Group) × 2 (Hand) × 2 (Reading) analysis of variance. The mean temperature scores, in °C, are shown in Table 2.
**Table 2. Mean initial and final left and right hand temperature readings (°C), experimental and control groups**

<table>
<thead>
<tr>
<th>Groups</th>
<th>Initial reading</th>
<th>Final reading</th>
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<tbody>
<tr>
<td></td>
<td>RH</td>
<td>LH</td>
</tr>
<tr>
<td>Experimental</td>
<td>26.27</td>
<td>27.11</td>
</tr>
<tr>
<td>Control</td>
<td>27.88</td>
<td>30.01</td>
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</table>

*Key: RH = right hand, LH = left hand.*

Analysis of variance revealed significant main effects for Groups ($F = 4.25; d.f. 1,33; P < 0.05$), Hands ($F = 102.83; d.f. 1,33; P < 0.01$) and Readings ($F = 6.23; d.f. 1,33; P < 0.05$), which showed that the overall temperature readings were lower for the experimental as compared to control groups, for right as compared to left hands and for last as compared to first readings. There was also a significant Group $\times$ Reading ($F = 9.31; d.f. 1,33; P < 0.01$) interaction, and tests of simple main effects here showed that the experimental group obtained significantly lower digital skin temperature than the control group at the final reading ($F = 7.14; d.f. 1,34; P < 0.05$). Initial mean right-hand readings were lower for the experimental group than for controls, but the difference was not significant.

The RS factor formed the main focus of attention in the present study. However, a subsidiary analysis was conducted to test the concurrent validity of the first factor extracted in the analysis, which was entitled Neuroticism in view of the number of items loading on it which appeared to reflect this construct. To provide a criterion for the factor, 31 of the 36 Ss included in the cold stimulation experiment also completed the Eysenck Personality Inventory (Eysenck and Eysenck, 1964), and scores were extracted for Neuroticism. The correlation between the EPI and SEQ Neuroticism factors was 0.59 (d.f. 29; $P < 0.01$), indicating a fairly substantial proportion of common variance. The SEQ factor correlated approximately equally with the Social Sensitivity ($r = 0.45$; d.f. 29; $P < 0.01$) and Hypochondriasis ($r = 0.55$; d.f. 29; $P < 0.01$) components of EPI Neuroticism reported elsewhere by the second author (Roger and Nesmouoha, 1987).

**DISCUSSION**

In the present study, a questionnaire designed to explore the incidence of Raynaud’s phenomenon in the general population was administered to a large sample of male and female undergraduate students. A factor analysis performed on the data uncovered three factors entitled Neuroticism (35 items), Raynaud’s Symptoms (18 items), and Emotional Inhibition (9 items). The Raynaud’s Symptoms (RS) factor was of particular relevance to the present study, and subsequent analyses tended to focus primarily on this factor. Internal (coefficient $\alpha$) and test–retest reliability for the overall scale and for RS separately were substantial and satisfactory. Responses to the scale were uncontaminated by social desirability effects amongst males, and although there was a modest relationship between social desirability scores and scores on the RS factor for females their mean social desirability scores nonetheless fell within normal range: mean social desirability scores for samples of females from the top ($n = 23$) and bottom ($n = 22$) of the distribution of RS scores in the present study were 5.45 ($SD = 2.72$) and 4.00 ($SD = 2.56$), respectively, compared with a mean of 5.67 ($SD = 3.20$) for a sample from the normal population reported by Reynolds (1982).

The validation experiment used 36 female Ss, 18 selected from the top and 18 from the bottom of the distribution of scores on the extracted RS factor. Females were used exclusively for the validation study because of the much greater prevalence of Raynaud’s disease amongst women (Surwit, 1973), a trend which was echoed by the significantly higher scores obtained by female Ss on the RS factor in the present study. The high scorers in the experiment represented ‘Raynaud-typical’ Ss who might be regarded as at risk for developing Raynaud’s phenomenon, whereas the low-scoring controls exhibited a relative absence of Raynaud-like characteristics. All Ss were exposed to progressive cold stimulation to the second phalange of the right index finger, while skin temperature was recorded from the ends of the index fingers of both right and left hands.

Analysis of variance revealed a significant main effect for Groups, showing that overall mean recorded skin temperature was lower for the experimental group than it was for the controls, and although the initial temperature recording for the experimental Ss was not significantly lower than
that for the controls, a significant Group × Readings interaction confirmed the hypothesis that the experimental group would have a lower final skin temperature reading. Further informal evidence for the validity of the RS factor was obtained from a brief post-task rating of the relative unpleasantness of the task and the presence of symptoms characteristic of Raynaud’s phenomenon (such as skin discolouration or tingling) during cold stimulation. Analysis of these data showed that the experimental Ss had rated the task significantly more unpleasant than the controls \( t = 3.22; \) d.f. = 18; \( P < 0.01 \), and also reported significantly more characteristic symptoms during the task \( t = 2.02; \) d.f. 34; \( P < 0.05 \).

There is considerable evidence linking intracranial vascular fluctuations with headaches, particularly migraine headaches, and there is also a reported association between migraine and subnormal skin (hand) temperature (Sargent, Green and Walters, 1973). Spittell (1980) notes that 14% of all Raynaud’s patients suffer from migraine headaches, and finger warming and finger temperature feedback training are among the most popular techniques used for the management of migraines (Turin and Johnson, 1976). The relationship between the two syndromes is further strengthened by the appearance on the RS factor of item 57: “If I am troubled by cold hands I often have a headache too”. Subnormal hand temperature may be indicative of an increase in anxiety (Bloom, Houston and Burish, 1976), and the possibility that anxiety may form a common contributory condition to a variety of vascular disorders is confirmed by the prominence on RS of items related to anxiety (items 46, 9 and 16). Finally, the occurrence on RS of item 21 (“At least one other member of my family suffers from cold hands”) suggests that there may be some genetic component in Raynaud’s phenomenon (see also Spittell, 1980).

The present study has shown that some of the mild symptoms typical of Raynaud’s phenomenon do indeed occur in the general population, and whereas the disorder is usually seen as a distinct clinical entity, these findings suggest a continuum of incidence. None of the participants in the present study reported suffering from the clinical form of Raynaud’s disease, and following trends in research on other disorders such as schizophrenia the authors have suggested using the term “Raynaudtypic” to describe those Ss who obtain high scores on the RS factor. Thus, Raynaudtypic refers to the benign form of Raynaud’s phenomenon, and may involve subnormal digital skin temperature, peripheral cutaneous vascular vulnerability (over-sensitivity to cold) and intermittent skin discolourations upon exposure to cold and/or emotionally stressful situations. An important feature of the RS factor is that it may allow the identification of individuals with relatively benign symptoms of Raynaud’s disease, and may thus facilitate the early identification and treatment of the disorder.

REFERENCES


**APPENDIX**

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<th>Name</th>
<th>Sex</th>
<th>Age</th>
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<tbody>
<tr>
<td>Please read each statement and indicate whether or not it applies to you by circling the appropriate response choice.</td>
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<tr>
<td>(1) Sometimes the colour of my toes may change if I become very upset or exposed to cold.</td>
<td>Yes</td>
<td>No</td>
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<td>(2) I sometimes feel that I cannot do anything well.</td>
<td>Yes</td>
<td>No</td>
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<td>(3) I usually wake up feeling fresh and rested.</td>
<td>Yes</td>
<td>No</td>
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<td>(4) When I am in a group of people, I have trouble thinking of the right thing to talk about.</td>
<td>Yes</td>
<td>No</td>
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<td>(5) My fingers often feel cold in the mornings.</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>(6) At times I feel like smashing things.</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>(7) I feel like giving up quickly when things go wrong.</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>(8) I often feel anxious and uneasy.</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>(9) I have had periods in which I lost sleep over worry.</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>(10) I often feel unhappy and depressed.</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>(11) I try to avoid arguing with people.</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>(12) I am unable of going outdoors in the winter without having to wear gloves.</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>(13) Sometimes if I hold something cold in my hands, they become very cold and I get pain in them.</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>(14) I make nasty remarks to people if they make me mad.</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>(15) I know what I want out of life.</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>(16) I frequently find myself worrying about something.</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>(17) I often have numbness in one or more regions of my skin.</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>(18) The future sometimes seems hopeless to me.</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>(19) I often experience tingling in my fingers.</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>(20) I often change between positive and negative feelings towards the same person.</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>(21) At least one other member of my family suffers from cold hands.</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>(22) I think that I have made too many mistakes in the past.</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>(23) Whenever possible I avoid being in a crowd.</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>(24) I usually don’t lose my temper easily.</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>(25) I often worry about my health.</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>(26) I wish I were not bothered by thoughts about sex.</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>(27) Even when I am with people, I feel lonely much of the time.</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>(28) I am very good at defending my opinion.</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>(29) I am easily embarrassed.</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>(30) People find it difficult to tell whether I’m excited about something or not.</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>(31) I often think that things are out of my control.</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>(32) Sometimes my face becomes cold when I’m emotionally upset.</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>(33) When I get angry I feel like throwing and breaking things.</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>(34) I often find myself thinking over and over about things that have made me angry.</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>(35) I have been involved in many fights or arguments.</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>(36) I sometimes feel that unreasonable thoughts keep returning in my mind.</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>(37) I have to check things to an unnecessary extent more than other people.</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>(38) I sometimes feel quite useless.</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>(39) I have periods of such great restlessness that I can’t sit long in a chair.</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>(40) I sometimes worry beyond reason over unimportant things.</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>(41) Parts of my body often have feelings like burning, tingling, crawling, or like going to sleep.</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>
(42) I sometimes have periods of being so cold my fingers go white or blue. Yes No
(43) I have always felt some kind of problems between me and the opposite sex. Yes No
(44) I usually feel that life is worthwhile. Yes No
(45) I often have a feeling that things in my life go from bad to worse. Yes No
(46) I have lost my appetite recently. Yes No
(47) I try not to wash my hands with cold water because they may become white, blue, or bright red. Yes No
(48) Even in school, I found it very hard to talk before the class. Yes No
(49) I think I lack self-confidence. Yes No
(50) I remember things that upset me or make me angry for a long time afterwards. Yes No
(51) If a passing car splashed me, I shout at the driver. Yes No
(52) Even if someone were to hit me, I would not strike back. Yes No
(53) I often have cold hands. Yes No
(54) I dislike washing my hands with cold water. Yes No
(55) I often have grave difficulties in controlling my thought when I'm thinking. Yes No
(56) Even when my anger is aroused, I don't use "strong language". Yes No
(57) If I am troubled by cold hands, I often have a headache too. Yes No
(58) Most of my troubles seem to go on and on. Yes No
(59) My fingers and toes sometimes become cold if I'm emotionally upset. Yes No