Title

The Queensland Cancer Risk Study: General Population Norms for the Functional Assessment of Cancer Therapy – General (FACT-G)

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Abstract

Objective: To derive Australian normative scores for the Functional Assessment of Cancer Therapy-General Population (FACT-GP) and to confirm its factor structure.

Methods: QoL data (as measured by the FACT-GP) were collected within the Queensland Cancer Risk Study (QCRS) in 2004. The QCRS explored cancer screening and cancer risk behaviours amongst 9,419 English-speaking residents of Queensland aged 20-75 years. Information was collected through computer-assisted telephone interviews, and augmented by mailed, self-administered questionnaires. A total of 2,727 participants largely comparable to the general population of Queensland self-completed the FACT-GP, however participants were somewhat higher educated; more likely to have had cancer; and less likely to be of indigenous heritage.

Results: The Queensland population reported a FACT-GP summary score of 85.9 (SD=15.1), with subscale scores (range: 19.2 for social well-being to 25.1 for physical well-being). In this study, men and women within different age groups reported similar QoL. QoL was clinically and significantly lower among participants not married, with a body mass index deviating from normal weight and with one or more self-reported morbidities. A four-factor solution was confirmed with good goodness-of-fit indices (RSMEA <0.05 for all three age groups).

Conclusions: The reference values from the general population reported here can be used for comparison with the QoL measured in populations of cancer patients, providing a benchmark against which clinicians can evaluate the impact of the disease and/or the treatments on QoL.

Keywords: reference values, normative data, quality of life, cancer, oncology

Introduction

Patients diagnosed with, or treated for cancer often experience quite severe reductions in quality of life (QoL). Questionnaires are frequently used to measure QoL in clinical or research settings. However, QoL is not a static state and patients' responses to the same questions may change as they adapt to living with cancer, resulting in response shift due to recalibration, reprioritisation and/or reconceptualisation[1]. Without a benchmark, such as population norms for QoL questionnaires, it is often difficult to ascribe meaning to a given score. This is particularly an issue when trying to assess a patient's status and likelihood of improvement when evaluating a treatment. For example, limited change in QoL may reflect an ineffective intervention or little room for improvement because the patient is already similar to gender- and age-matched peers.

In Australia, normative scores are available for a commonly used health-related QoL questionnaire, the Medical Outcomes Study Short Form-36 (SF-36)[2, 3]. This measure of patients' general health status, however, may not be sensitive to changes in cancer patients' well-being [4, 5]. One of the most commonly used cancer-specific QoL questionnaires is the Functional Assessment of Cancer Therapy-General (FACT-G) which has strong supporting evidence regarding reliability, validity and sensitivity in several samples of cancer patients.[6] Normative scores are available for a modified version of the FACT-G (items irrelevant for non-cancer samples removed) from United States (US) and Austrian general population samples (FACT-General Population (FACT-GP)) [7-9]. However, there is some evidence that Australian populations score differently on QoL questionnaires compared to other populations,[3, 10, 11] making it important to develop population-based norms and confirm the factor structure for the FACT-GP in Australia [9, 12].

Therefore, a population-based survey of residents from the state of Queensland, Australia, was used to establish population-based norms for the FACT-GP compared to those from US [13, 14] and European populations [7]. In addition, the influence of body mass index, co-morbidities and

personal history of cancer on QoL was explored. An additional aim of this work was to evaluate the factor structure for its comparability to that observed in the US.

Methods

QoL data were collected within the Queensland Cancer Risk Study (QCRS) [15], which explored cancer screening and cancer risk behaviours amongst English-speaking residents aged 20-75 years. Information was collected through an anonymous 30-minute telephone interview (Module 1) between February and November 2004, followed by a mailed, self-administered questionnaire (SAQ) from respondents who agreed to provide their contact details (Module 2).

Sampling

Respondents were sampled at random within strata defined by gender, age and geographic region. The regions were subsequently combined into four distinct areas according to remoteness (major city, inner regional, outer regional, remote/very remote) as defined by the Accessibility/Remoteness Index of Australia (ARIA+) classification.

During the telephone interview, demographics and information on a range of cancer risk behaviours including self-reported height and weight were collected. A total of 9,419 interviews were completed (overall response rate of 45.6%). To calculate the study's response rate, the denominator included only those eligible telephone numbers where contact was made with a householder. Then, an eligible household was based on filling the pre-set age and sex quotas. Only one individual from the eligible household was surveyed and no information was able to be obtained from non-participants. Of these participants, 8,398 (89.2%) agreed to provide their contact details to receive the SAQ, of which 5,822 (69.3%) were returned. The QoL component was introduced midway during the SAQ data collection phase. The number of respondents with QoL data was 2,727.

The FACT-GP is comprised of 21 items (after removal of 6 items irrelevant for non-cancer populations from the FACT-G) rated on a 5-point Likert scale (ranging from 0 = not at all to 4 = very much). FACT-GP subscales and overall summary scores were then pro-rated using the scoring algorithms provided in the FACIT manual to obtain scores comparable to the 27-items FACT-General (FACT-G) for cancer patients.[16] Thus the FACT-GP summary scores range between 0-108. Scores for the subscales of physical well-being (PWB), social/family well-being (SWB), and functional well-being (FWB) range between 0 and 28, and between 0 and 24 for the emotional well-being (EWB) subscale. Higher scores represent better QoL. The SAQ also queried co-morbidities.

Analysis

Means, standard deviations (SD), percentages scoring at the floor or ceiling and scores at the 25th, 50th and 75th percentiles were calculated using SPSS (v15) for each subscale and the FACT-G summary score. Self-reported height and weight were used to calculate body mass index (BMI) according to WHO guidelines (underweight <18.5, normal weight 18.5 to 24.9, overweight 25.0-29.9, and obese ≥ 30.0 BMI)[17]. To compare mean scores by participants' demographic and health-related characteristics, t-tests and one-way analyses of variance were conducted. A clinically meaningful difference between groups was defined as equal to or greater than two points for the subscales and five points for the FACT-GP summary score [8].

For the confirmatory factor analysis, four observations/participants with greater than 20% of missing values were excluded. Other missing values were estimated using regression imputation. Means, variances and correlations of the pre- and post- imputation datasets were calculated to confirm that the imputation process did not lead to bias or a decrease in association among items. A measurement model was specified and is presented in Figure 1. AMOS (v7) was used to perform the Confirmatory Factor Analysis using the Asymptotic Distribution Free estimation

method. Model adequacy was assessed using Root Mean Square Error of Approximations (RSMEA) and the scaled χ^2. Adequate models were those not exceeding the upper bounds of 0.05 and 3 for each statistic respectively. The PCLOSE statistic was generated to ensure each RSMEA lower than 0.05 was not likely to be an artefact of sampling variation.

Initially an overall model (no stratification) was assessed. However, the subsequent model was likely to represent an overfit. Stratification by Age, Gender and Age*Gender was then performed. It was found that stratification by Age (20-39, 40-59 and 60-75 year age groups) provided the best measurement models in terms of model simplicity, parsimony and fitness.

For ease of interpretation subscale and FACT-GP summary scores were subsequently transferred to t-scores using the formula ((raw score – mean/ SD) x10) + 50)), resulting in a t-distribution (mean = 50; SD = 10) overall. No observations were recorded for some of the lower raw scores within the PWB, EWB, and FACT-G. We were therefore unable to calculate the associated t-scores. The study was approved by the Human Research Ethics Committee of the Queensland University of Technology.

Results

The 2,727 respondents who completed the FACT-GP were similar in demographic characteristics to the overall QCRS survey sample, which in turn was reasonably similar to the whole Queensland population [18], with those participants who completed the QoL component reporting a higher level of education. There were also a greater number of people with a previous diagnosis of cancer (including skin cancer) and other co-morbidities, and fewer Indigenous participants compared to the Queensland population (Table 1).

Total FACT-G and subscale scores

Overall, the Queensland population reported a FACT-GP summary score of 85.9 (SD=15.1), with subscale scores ranging from 19.2 (SWB) to 25.1 (PWB). The percentage of participants scoring the lowest possible score (floor) ranged from 0% for the PWB, to 0.8% for the FWB. The percentage of participants recording the highest possible score (ceiling) ranged from 1.9% for the FACT-GP summary score to 38.3% for the EWB. We did not observe clinically significant differences in QoL between men and women, participants within the three different age groups or those living within different areas of Queensland. Those married/living together reporting clinically significant better SWB than those not married (t_{2710} = 8.1, p ≤0.001), and those with university or college degree education reporting clinically significant better FWB ($F_{(2, 2879)}$ = 19.1; p ≤ 0.001) and better QoL overall (FACT-G summary score; ($F_{(2, 2842)}$ = 16.4; p ≤ 0.001) compared to participants with less than high school education. Participants who were currently working full-time reported better FWB ($F_{(2, 2879)}$ = 36.2; p ≤ 0.001) and FACT-G summary scores ($F_{(2, 2842)}$ = 23.7; p ≤ 0.001) compared to participants who were currently not working (Table 2).

Compared to participants with a BMI within the normal weight range, participants with a lower or higher BMI reported significantly lower EWB ($F_{(3, 2587)}$ = 12.2; p ≤ 0.001), FWB ($F_{(3, 2612)}$ = 13.1; p ≤ 0.001) and FACT-GP summary scores ($F_{(3, 2577)}$ = 14.2; p ≤ 0.001). Similarly, compared to participants who reported no co-morbidity, QoL decreased with increasing number of co-morbidities for all subscales and the FACT-GP summary score (PWB ($F_{(3, 2717)}$ = 100.7; p ≤ 0.001), SWB ($F_{(3, 2712)}$ = 57.9; p ≤ 0.001), EWB ($F_{(3, 2679)}$ = 74.2; p ≤ 0.001), FWB ($F_{(3, 2705)}$ = 77.1; p ≤ 0.001)) and the FACT-G ($F_{(3, 2669)}$ = 100.3; p ≤ 0.001; Table 2). Similarly, physical (t=-2.0; p=0.45), emotional (t=-2.5; p=0.01) and functional (t=-2.15; p=0.3) well-being subscales and FACT-GP (t=-2.2; p=0.02) scores differed significantly between participants with or without a cancer diagnosis in the past, with those being diagnosed with cancer scoring lower.

Confirmatory factor analysis

Confirmatory factor analysis replicated the hypothesised four factor structure previously reported[6] within all three age-strata groups with good fit. Figure 1 displays the measurement model for participants 20-39 years, and Table 3 displays the r^2 and factor loadings for those participants 40-59 and 60-75 years. Table 4 displays the remaining correlations between the subscales for the two older groups, while this information is included in Figure 1 for the youngest age group. Table 5 displays the corresponding raw and T–scores for each subscale and the FACT-GP summary score, which can be used for comparison with patients' results.

Discussion

This Australian study found similar levels of QoL across gender and age categories, whereas QoL was found to be clinically significantly lower amongst participants not married or living with a partner, those with a BMI deviating from normal and participants with one or more self-reported co-morbidities. Approximately 38% of participants scored the highest possible score on the EWB indicating that this subscale may be less sensitive to improvements in emotional well-being within Australia. However, compared to findings from other QoL scales used in Australia, [3, 10, 18, 19] the FACT-GP score distribution was considerably less skewed within the general Queensland population.

Evaluation of the factor structure of the FACT-GP items confirms a great deal of common ground between the US and Australian concepts of physical, emotional, social and functional well-being. All confirmatory factor models within the three age groups showed good fit.

Compared with the US population sample obtained through an Internet-based survey, this sample scored, on average, clinically significantly higher on all subscales and the FACT-G summary score, with the exception of the SWB [8]. However, the mean scores of this sample are almost identical to those reported from an Austrian population obtained by mailed questionnaire,[7]

suggesting that the differences from the US sample may either be related to the method of data collection or to greater cultural differences in response patterns between the Australian and US populations, in contrast to a European population [20-22].

Design of truly culturally-equal questionnaires has proven difficult in the past as cultural norms dictate how people understand questions and respond to those [23]. At present, new research is underway to assess the value of item banks, adaptive testing and item response theory for the assessment of QoL. These psychometric methods have long been used in educational assessment to allow adjustment questionnaire items depending on the first few responses a person gives [24]. In other words, the most informative questionnaire can be created at the time of testing and calibrated against a common measurement scale to allow optimal response characteristics and maximal precision for the individual [25, 26]. This also reduces the number of items each individual patient has to respond to thus alleviating subject burden. Until this new generation of questionnaires is available for use in clinical practice, benchmarking existing questionnaires against population norms seems to be the best option.

Substantial variation in QoL scores measured within different countries using other more general QoL and health outcomes questionnaires have been observed [3, 8, 11, 27]. In contrast to previous findings,[7, 28, 29, 11] this Queensland population did not report a decline in QoL with older age. However, in contrast to others who observed a decline in QoL among those 70 years and older [7], we only included participants up to 75 years which may have contributed to this finding. Also the items within the PWB focus on quite severe limitations such as fatigue, pain and nausea which may not be very common even among the older Queensland population. There were no also differences between men and women in their QoL scores; this is similar to some overseas findings [7, 13]. Apart from the threat to QoL through social isolation, co-morbidities and rising BMI levels, the Queensland population seems to enjoy a very good QoL on average.

Some limitations of this study must be noted. Participants with higher education were over-represented, while Indigenous people were under-represented. Therefore, QoL amongst the Queensland population may have been over-estimated. On the other hand, cancer survivors and people with co-morbidities were over-represented [30]. Thus, we may have under-estimated QoL amongst the Queensland population.

Normative data derived from the general population can be used within clinical settings and health research by comparing patients raw scores against the norms in Table 5. In clinical practice, T-scores can be used in a similar fashion to the normative values provided by pathology laboratories for clinical blood chemistries. Thus, a clinician can immediately estimate if patients' scores deviates in a clinically meaningful way (more than 1/2 SD above or below the mean of 50) from the score that could be expected within the general population overall and within each subscale of the FACT-G [8]. For example, if the FACT-G raw score is 64, using the T-score conversion table, the associated T-score score of 35.5 can immediately be interpreted as falling well below the Queensland general population mean.

In summary, the present analysis confirms the four-factor structure of the FACT-GP within an Australian population. It also provides an indication of the impact of elevated BMI and co-morbidities on the QoL of the Australian population. The reference values reported can be used to compare the QoL within cancer populations against those observed within the general population.

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Table 1. Sample distribution

Variable	Total sample distribution[a] %	Module 2 QoL distribution[b] %	Queensland distribution %
Gender			
Male	49.9	50.0	49.9
Female	50.1	50.0	50.1
Age groups			
20-39 years	42.6	42.3	43.8
40-59 years	40.5	40.5	40.2
60-75 years	16.9	17.2	16.0
Residential region by ARIA+			
Major city	54.5	58.1	53.7
Inner regional	25.2	12.4	25.4
Outer regional	18.1	28.1	17.9
Remote/Very remote	2.2	1.4	3.0
Country of birth			
Australia	79.6	79.9	77.7
Overseas	20.4	20.1	17.2
Ethnicity			
Indigenous Australian	1.3	0.8	3.1
Education level			
University or college degree	25.9	29.1	10.8
Trade or technical certificate/Diploma	30.8	30.3	21.5
Senior high school or below	43.3	40.6	67.7
Employment status			
Employed full-time[d]	69.9	67.6	63.9
Employed part-time	29.9	32.2	33.0
Marital status			
Married	64.2	65.9	51.3
Divorced	5.4	5.3	8.0
Married, but separated	2.7	2.8	3.8
Widowed	2.6	2.3	5.8
Never married (includes living together)[e]	25.0	23.7	31.2[d]
Disease/Condition			
Heart conditions[f]		5.6	9.5
High blood pressure/Hypertension		21.3	15.8
High cholesterol/Lipid problems		18.0	11.1
Stroke		1.6	1.1
Diabetes/High blood sugar		6.3	7.3
Stomach ulcer		5.9	3.7
Migraine		13.7	8.3

Table 1 continued:

Variable		Total sample distribution[a] %	Module 2 QoL distribution[b] %
Arthritis[g]		21.2	16.0
Cancer/Leukaemia (including skin cancer)		20.0	10.9
Total	**N=9,419**	**N=2,727**	**N=3,655,139**

[a] Column percentages are standardised to the 2003 Queensland population by age, sex and geographic location.

[b] Column percentages are standardised to the population sample by age and sex

[c] Applicable to all persons (excluding overseas visitors).

[d] Full-time is defined as having worked 35 hours or more in all jobs during the week.

[e] Never married is defined as per the Australian Bureau of Statistics Registered Marital Status and refers to the legal status of the person and not necessarily his/her current living arrangements therefore, "living together" is included in the "never married" category.

f Includes rheumatic heart disease, heart attack, angina, irregular heartbeat or heart murmur

g Includes osteoarthritis, rheumatoid arthritis, other types of arthritis and unknown arthritis.

Table 2: FACT-G subscale and summary raw scores according to participants' socio-demographic characteristics and presence of morbidities [a]

	PWB Mean (SD)	SWB Mean (SD)	EWB Mean (SD)	FWB Mean (SD)	FACT-GP Mean (SD)
Overall	25.1 (3.7)	19.2 (6.6)	21.2 (3.7)	20.3 (6.2)	85.9 (15.1)
Gender					
Males (n=1,362)	25.4 (3.5)	18.5 (6.5)	21.4 (3.6)	20.4 (6.0)	85.8 (14.8)
Females (n=1,357)	24.9 (3.7)	19.9 (6.6)	20.8 (3.9)	20.5 (6.1)	86.2 (15.4)
Age Groups					
20-39 years (n=1,154)	25.1 (3.6)	19.3 (6.4)	21.1 (3.8)	20.5 (5.7)	86.0 (14.7)
40-59 years (n=1,104)	25.2 (3.7)	18.9 (6.5)	20.9 (3.7)	20.4 (6.2)	85.7 (15.4)
60-75 years (n=468)	25.2 (3.6)	19.6 (6.6)	21.4 (3.6)	20.3 (6.6)	86.5 (15.1)
Marital Status					
Married/Living together (n=2,118)	25.2 (3.6)	19.7 (6.1)	21.2 (3.7)	20.8 (6.0)	86.9 (14.6)
Not married (n=600)	24.9 (3.7)	17.3 (7.5)	20.9 (3.8)	19.3 (6.4)	82.6 (16.2)
Residential Region by ARIA+					
Major City (n=1,584)	25.1 (3.5)	19.4 (6.2)	21.0 (3.7)	20.5 (6.1)	86.2 (14.9)
Inner Regional (n=338)	24.7 (4.3)	18.9 (6.6)	20.9 (4.0)	19.7 (6.2)	84.3 (15.6)
Outer Regional (n=766)	25.3 (3.5)	18.7 (6.9)	21.4 (3.5)	20.6 (6.0)	86.3 (15.1)
Remote/Very Remote (n=37)	25.1 (2.9)	19.5 (5.1)	21.2 (2.7)	20.1 (4.7)	86.9 (12.2)
Education Level					
University or College Degree (n=792)	25.5 (3.4)	20.2 (6.0)	21.4 (3.4)	21.5 (5.6)	88.6 (13.5)
Trade Certificate/Diploma (n=827)	25.1 (3.8)	19.0 (6.6)	21.3 (3.8)	20.5 (6.2)	85.9 (15.5)
Senior High School or Below (n=1,107)	24.9 (3.7)	18.9 (6.8)	21.0 (3.8)	19.6 (6.5)	84.5 (15.6)
Employment Status					
Employed Full-time[b] (n=1,044)	25.6 (3.0)	19.3 (6.4)	21.5 (3.3)	21.2 (5.5)	87.7 (13.3)
Employed Part-time (n=501)	24.9 (3.7)	19.7 (6.2)	21.1 (3.5)	20.7 (5.5)	86.4 (14.6)
Unemployed/Retired (n=1,172)	24.5 (4.3)	18.7 (6.9)	20.6 (4.1)	19.0 (7.0)	83.0 (15.1)
Body Mass Index (kg/m^2)					
BMI < 18.5 (n=35)	24.4 (3.7)	19.0 (7.9)	18.3 (5.5)	18.9 (5.9)	80.7 (19.3)
BMI 18.5-24.99 (n=1,171)	25.4 (3.5)	19.5 (6.5)	21.2 (3.5)	21.0 (5.7)	87.3 (14.5)
BMI 25-29.99 (n=965)	25.3 (3.4)	19.2 (6.1)	21.3 (3.6)	20.6 (6.2)	86.5 (14.3)
BMI ≥ 30 (n=463)	24.3 (4.3)	18.1 (7.0)	20.4 (4.4)	19.0 (6.7)	82.2 (17.6)
Morbidity [c]					
None (n=576)	26.4 (1.8)	20.0 (6.3)	22.3 (2.4)	22.3 (5.1)	91.1 (11.8)
One (n=593)	25.7 (3.1)	20.1 (6.1)	21.5 (3.5)	21.4 (5.6)	88.7 (13.5)
Two (n=521)	25.3 (3.2)	19.1 (6.2)	21.1 (3.5)	20.4 (5.9)	85.8 (13.4)
Three or more (n=1,027)	23.5 (4.8)	17.7 (6.8)	19.6 (4.5)	18.0 (6.6)	79.0 (17.7)
Ever diagnosed with cancer [d]					
No (n=2,461)	25.2 (3.5)	19.2 (6.5)	21.2 (3.7)	20.5 (6.1)	86.2 (15.0)
Yes (n=266)	24.7 (4.2)	18.9 (6.3)	20.5 (4.1)	19.7 (6.0)	83.9 (15.6)

[a] Standardised to the 2003 Queensland population by age, sex and geographic location.
[b] Full-time employment is defined as having worked 35 hours or more in all jobs during the week
[c] Morbidities include heart conditions, high blood pressure, high cholesterol, stroke, diabetes, lung conditions, stomach or duodenal ulcer, chronic headaches or migraine, muscular-skeletal disorders, arthritis, cancer, mental health problem and other.
[d] Excluding non-melanoma skin cancer **Abbreviations**: PWB: physical well-being; SWB: social well-being; EWB: emotional well-being; FWB: functional well-being; FACT-GP: Functional Assessment of Cancer-General Population.

Table 3. Confirmatory factor analysis

	40-59 y [a]		60-75 y [b]	
FACT-GP	r^2	loading	r^2	loading
PHYSICAL WELL-BEING (PWB)				
1. I have a lack of energy	.40	.63	.47	.68
2. I have nausea	.23	.48	.08	.28
3. Because of my physical condition, I have trouble meeting the needs of my family	.28	.53	.42	.65
4. I have pain	.26	.51	.42	.65
5. I feel ill	.25	.50	.27	.52
6. I am forced to spend time in bed	.14	.38	.18	.42
SOCIAL/FAMILY WELL-BEING (SWB)[c]				
1. I feel close to my friends	.79	.89	.62	.79
2. I get emotional support from my family	.67	.82	.52	.72
3. I get support from my friends	.73	.85	.94	.97
4. I feel close to my partner (or the person who is my main support)	.26	.51	.15	.39
EMOTIONAL WELL-BEING (EWB)				
1. I feel sad	.82	.90	.52	.72
2. I feel nervous	.59	.77	.33	.58
3. I worry about dying	.15	.39	.09	.30
4. I worry that my condition will get worse	.33	.58	.49	.70
FUNCTIONAL WELL-BEING (FWB)				
1. I am able to work (include work at home)	.33	.57	.60	.78
2. My work (include work at home) is fulfilling	.44	.66	.53	.73
3. I am able to enjoy life	.75	.87	.84	.91
4. I am sleeping well	.40	.63	.37	.60
5. I am enjoying the things I usually do for fun	.75	.87	.77	.88
6. I am content with the quality of my life right now	.79	.89	.77	.88

[a] $\chi^2 = 425.98$, $df = 51$, $\chi^2/df = 2.679$, RSMEA = 0.045, PClose = 0.96
[b] $\chi^2 = 460.46$, $df = 50$, $\chi^2/df = 2.878$, RMSEA = 0.045, PClose = 0.99
[c] The question "I am satisfied with my sex life" was excluded as it is optional to answer

Table 4. Correlations between subscales for participants 40-59 years and 60-75 years

	PWB	SWB	EWB	FWB
PWB		0.44	0.75	0.76
SWB	**0.34**		0.31	0.58
EWB	**0.84**	**0.35**		0.62
FBW	**0.81**	**0.49**	**0.70**	

Note: Bold figures represent scores derived from 60-75 year olds.
Abbreviations: PWB = Physical Well-being, SWB = Social/Family Well-being, EWB = Emotional Well-being, FWB = Functional Well-being.

Table 5. Raw score and T-score comparison table for the general Queensland adult population (n = 2,727)

PWB		SWB		EWB		FWB		FACT-G					
Raw Score	T-Score	Raw Score	T-Score	Raw Score	T-Score	Raw Score	T-Score	Raw Score	T-Score	Raw Score	T-Score	Raw Score	T-Score
0	n/a	0	20.70	0	n/a	0	17.36	0	n/a	37	17.66	74	42.11
1	n/a	1	22.22	1	n/a	1	18.96	1	n/a	38	18.32	75	42.77
2	n/a	2	23.74	2	n/a	2	20.57	2	n/a	39	18.98	76	43.43
3	n/a	3	25.27	3	1.07	3	22.17	3	n/a	40	19.64	77	44.09
4	n/a	4	26.79	4	3.77	4	23.78	4	n/a	41	20.30	78	44.75
5	n/a	5	28.31	5	6.46	5	25.38	5	n/a	42	20.96	79	45.41
6	n/a	6	29.83	6	9.16	6	26.98	6	n/a	43	21.62	80	46.07
7	0.75	7	31.36	7	11.85	7	28.59	7	n/a	44	22.28	81	46.73
8	3.48	8	32.88	8	14.55	8	30.19	8	n/a	45	22.94	82	47.39
9	6.22	9	34.40	9	17.24	9	31.80	9	n/a	46	23.61	83	48.06
10	8.96	10	35.93	10	19.94	10	33.40	10	n/a	47	24.27	84	48.72
11	11.69	11	37.45	11	22.64	11	35.01	11	0.48	48	24.93	85	49.38
12	14.43	12	38.97	12	25.33	12	36.61	12	1.14	49	25.59	86	50.04
13	17.16	13	40.49	13	28.03	13	38.22	13	1.80	50	26.25	87	50.70
14	19.90	14	42.02	14	30.72	14	39.82	14	2.46	51	26.91	88	51.36
15	22.63	15	43.54	15	33.42	15	41.43	15	3.12	52	27.57	89	52.02
16	25.37	16	45.06	16	36.11	16	43.03	16	3.78	53	28.23	90	52.68
17	28.10	17	46.58	17	38.81	17	44.63	17	4.44	54	28.89	91	53.34
18	30.84	18	48.11	18	41.51	18	46.24	18	5.10	55	29.55	92	54.00
19	33.57	19	49.63	19	44.20	19	47.84	19	5.76	56	30.21	93	54.66
20	36.31	20	51.15	20	46.90	20	49.45	20	6.42	57	30.87	94	55.32
21	39.04	21	52.67	21	49.59	21	51.05	21	7.09	58	31.54	95	55.99
22	41.78	22	54.20	22	52.29	22	52.66	22	7.75	59	32.20	96	56.65
23	44.52	23	55.72	23	54.98	23	54.26	23	8.41	60	32.86	97	57.31
24	47.25	24	57.24	24	57.68	24	55.87	24	9.07	61	33.52	98	57.97
25	49.99	25	58.77			25	57.47	25	9.73	62	34.18	99	58.63
26	52.72	26	60.29			26	59.08	26	10.39	63	34.84	100	59.29
27	55.46	27	61.81			27	60.68	27	11.05	64	35.50	101	59.95
28	58.19	28	63.33			28	62.28	28	11.71	65	36.16	102	60.61
								29	12.37	66	36.82	103	61.27
								30	13.03	67	37.48	104	61.93
								31	13.69	68	38.14	105	62.59
								32	14.35	69	38.80	106	63.25
								33	15.02	70	39.47	107	63.91
								34	15.68	71	40.13	108	64.58
								35	16.34	72	40.79		
								36	17.00	73	41.45		

Abbreviations: n/a: not applicable as these raw scores have not been observed