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ARTICLE

Development and Psychometric Assessment of the Dyslexia Awareness Instrument in Teachers

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ABSTRACT

Dyslexia is a specific learning disability that is neurobiological in origin. It is characterized by difficulties with accurate and/or fluent word recognition and by poor spelling and decoding abilities. Teachers may not be very sure about the definition of dyslexia and generally struggle to tell the difference between dyslexic learners and slow learners. Developing the DyAwI may provide an important psychometric assessment tool in determining the awareness level of the teacher and being able to make this distinction. A descriptive, explorative design was used in this study. The study consisted of two main phases. In the first phase, in order to develop the instrument, a literature review and a pilot study on 20 primary school teachers were carried out, and in line with expert opinions, the content validity index was calculated. In the second stage, exploratory and confirmatory factor analyses were carried out to identify the construct validity and reliability. The study included 182 primary school teachers for the second stage. The KMO and Bartlett test values, which determine the suitability of DyAwI for factor analysis, were found to be 0.77 and 0.000, respectively. The overall Cronbach's alpha value of DyAwI was 0.75. As a result of the assessment of its construct validity, the scale consisted of 2 factors and 14 items. The findings of the study show that the tool is reliable and sufficient. The instrument is easy to understand, and this tool can determine the dyslexia awareness levels of teachers. DyAwI could promote teachers' awareness of dyslexia and support the early identification of primary school students with dyslexia. It is believed that, thanks to the data obtained from the instrument, teachers will be able to decide on an educational assessment of a student with reading difficulties more quickly.

Keywords: Dyslexia; Learning disability; Awareness; Teachers; Psychometric assessment

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1. Introduction

Learning to read is essential in early education. Children who have difficulties in reading may experience low levels of education and low employment expectations in their future lives [1-3]. Language-based lifelong reading difficulty is known as dyslexia [4]. Although there are many educational and medical definitions of dyslexia, its acceptance as a learning disability that occurs on the basis of words is common in all definitions [5,6].

Dyslexia primarily results in difficulties in spelling and decoding words [7]. Researchers have shown in recent years that the most fundamental shortcomings of dyslexic children are phonological processing difficulties, which often involve rapid naming in alphabetical linguistics and/or alphabetic languages [8,9]. While dyslexia is defined as a specific learning obstacle on the word level, reading comprehension deficiencies are more common among children who are diagnosed with dyslexia in comparison to the general population [3,10]. Studies show that about 5-13% of school-age children have dyslexia or other reading difficulties [11,12]. According to the Diagnostic and Statistical Manual V (DSM-V), the prevalence of dyslexia in school-age children is around 4%, and there are numerous undiagnosed cases [13]. Individuals experiencing difficulties in learning may face certain difficulties in their lives. The international literature has reported that school unattendance, which results in school dropouts, is present in 40% of cases [14,15]. Lack of confidence and social and behavioral problems at the school related to low academic achievement may be persistent, which may create a serious emotional burden [11,14,15]. Certain findings show that these effects may influence adult life and adversely affect school and career success, leading to significant difficulties in employment and social adaptation [13,16-18]. Thus, it is crucial to identify dyslexia early and ensure adequate intervention to reduce the damage and make sure that the difficulty is properly overcome [11,16,19]. While adverse effects and persistent consequences for academic skill acquisition may be mitigated through early intervention for students with dyslexia at an earlier age [20], the difficulty in learning may persist across the lifespan of the individual beyond the acquisition of academic skills to more complex developmental stages. So, early identification is very crucial to help students with dyslexia. The diagnosis of dyslexia, which is considered a specific learning disability, is made by clinically reviewing the individual's developmental, medical, educational and family history, test scores, teacher observations and response to academic interventions [13].

Determining the awareness levels of teachers in the education system of Turkey on dyslexia seems to be one of the most important steps in terms of overcoming these problems in the early period and increasing the quality of education to be provided to these students. Teachers' awareness of dyslexia is necessary because it will initiate the process of early diagnosis of students with dyslexia. However, as in the international scientific literature, no measurement tools that measure dyslexia awareness in teachers have been found in Turkey. In this regard, the main reason for developing this instrument was to test its psychometric characteristics and provide a practical and useful measurement instrument in studies of improving the dyslexia awareness levels of teachers. Through this measurement instrument, the detection of teachers who show a lack of understanding about dyslexia may be accelerated, and it may be easier for these teachers to be directed towards targeted professional development.

2. Materials and methods

2.1 Design and general procedure

This was a study conducted to develop a measurement instrument for teachers' dyslexia awareness, whereas the exploratory and confirmatory factor analysis methods were used to determine the construct validity and reliability of the study. The study was conducted with primary school teachers at schools in Malatya, Turkey.

In the first stage, a focus group meeting was held with 8 experts for the theoretical framework of the concept of dyslexia, and afterwards, the topic was investigated by in-depth interviews with 20 primary

school teachers in Malatya. As a result of all these examinations and reviewing the literature, an item pool (62 items) regarding awareness of dyslexia was formed, and the theoretical framework was structured [21]. As a result of the modifications of the researchers, the number of items was reduced to 39, and then, the items were sent to experts again in terms of content and face validity. The number of items was reduced to 18 as the experts decided that 14 of the items were not suitable for the purpose of the study, and 7 items were redundant and unnecessary. The last step of the first phase was that the scale consisting of 18 items was applied among 20 primary school teachers randomly selected for the pilot study. In the second stage, exploratory and confirmatory factor analyses were performed with the data of 182 participants. The scale was structured in two dimensions with 14 items (**Figure 1**).

2.2 Sample and participants

The population of the study consisted of 370 teachers teaching at the primary level schools in Malatya. Considering the fact that the data forms could be filled out incompletely and/or incorrectly, to increase the statistical power of the study, it was aimed to reach the entire population. Nevertheless, 151 participants could not be accessed, and 37 participants filled in the data form incompletely, as a result of which the study was completed with the participation of a total of 182 primary school teachers. This number was sufficient to perform factor analysis because the sample size in scale development studies is recommended to be 5-10 times the number of items [22]. Based on this information, approximately 5 times the number of scale items was reached (n = 182). The inclusion criteria were determined as: serving as 1st to 3rd grade primary school teachers, having at least 1 year of professional experience and being teachers who natively speak Turkish and are open to communication.

Table 1 presents the descriptive characteristics of the teachers. The mean age of the teachers was 38.08 ± 7.71 (minimum = 22, maximum = 61). Their mean working experience was 14.63 ± 7.25 years. Of the teachers, 54.4% were female, 77.5% had no education/information on dyslexia during their studies, 85.7% had no education/information on dyslexia after graduation, and 54.4% never met a student with dyslexia during their work lives. There was no spe-

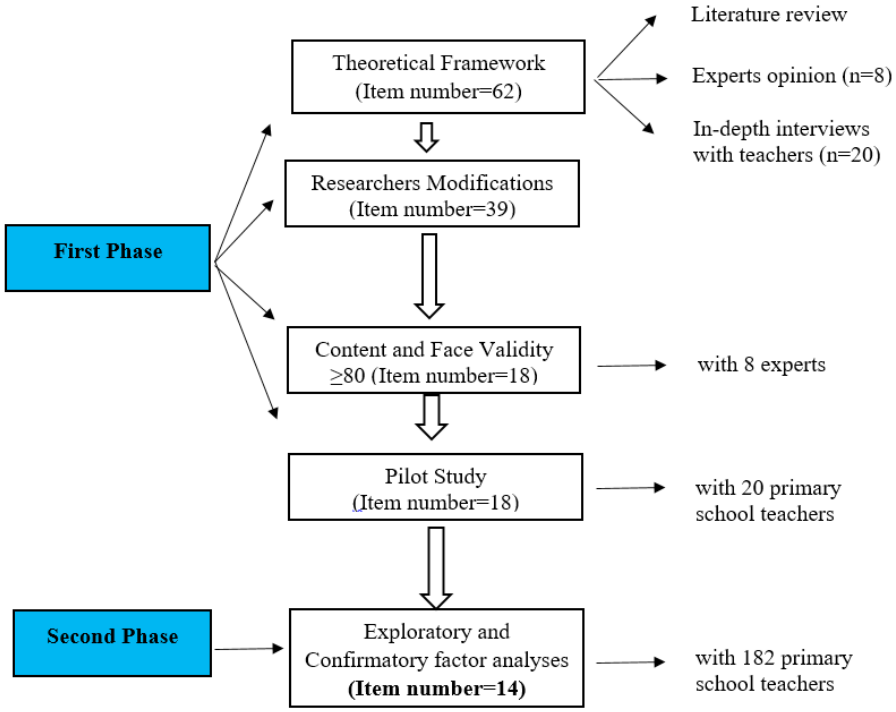

Figure 1. Flow diagram of the dyslexia awareness instrument.

cial procedure/practice for dyslexia at the institutions of 94.5% of the teachers, and 83.5% stated that not every teacher could diagnose dyslexia.

Table 1. Descriptive characteristics of the teachers (n = 182).

Characteristics		**N**	**%**
Gender			
Female		99	54.4
Male		83	45.6
Information about dyslexia in education			
Yes		41	22.5
No		141	77.5
Information about dyslexia in postgraduate education			
Yes		26	14.3
No		156	85.7
Encounter with a dyslexic student			
Yes		83	45.6
No		99	54.4
Special practice for dyslexia at work			
Yes		10	5.5
No		172	94.5
Every teacher can diagnose a dyslexic person			
Yes		30	16.5
No		152	83.5
	Min	**Max**	**Mean ± SD**
Age	22	61	38.08 ± 7.71
Working year	**1**	**40**	**14.63 ± 7.25**

2.3 Item generation and constructing definition

The opinions of experts were obtained for dyslexia problems that emerged as a result of the literature review. The causes of why dyslexia remains in the background in Turkey were discussed with experts. In line with these opinions, it was revealed that, in Turkey, individuals with dyslexia are not noticed in the family and school environment, the student graduates or quits school without being noticed, teachers feel inadequate on this issue, and they cannot distinguish dyslexic students [2,23-25]. Afterwards, in-depth interviews were held with 20 primary school teachers randomly selected by the schools in the city center. The teachers were asked what they thought of students with learning difficulties and what they knew about dyslexia. The teachers stated that they did not notice students with dyslexia, and they did not at all think whether it could be dyslexia for students with learning problems. Studies have determined that early noticing of dyslexic students is associated with "sensitivity" [23,24,26]. When what the teachers heard about dyslexia was examined, it was found that they thought dyslexic individuals read the opposite way, they have inadequate intelligence, they are inattentive, dyslexia is a disease, dyslexic people have superior intelligence, and dyslexia is a disease that is cured with time. These statements revealed that the teachers had different views on dyslexia, and everyone had their own "perceptions" [23,24,27,28]. In-depth interviews with teachers and expert opinion helped form the theoretical framework of the subscales.

Using this proposed definition and framework, items were then generated based on the empirical literature, relevant theories, consultation with experts and the target population, examination of related instruments, and rational deduction, as recommended by Holmbeck and Devine (**Figure 1**) [29].

2.4 Data collection process and tools

A teacher personal information questionnaire and a dyslexia awareness instrument prepared by the researchers were used to collect the data. The data as answers to questions were collected in 10-20 minutes as they were read and recorded by the teachers.

2.5 Information questionnaire

The teacher personal information questionnaire consisted of a total of 9 questions covering the socio-demographic characteristics of the individuals and their knowledge of dyslexia.

2.6 Dyslexia awareness instrument (DyAwI)

This instrument was developed in the local language to measure the level of dyslexia awareness of

teachers and improve its psychometric properties. The instrument was based on a teacher-oriented approach, but it could be administered in different groups after carrying out construct validity studies. The final version of the instrument consisted of 14 items. Each rating on the scale was between 1 and 5, consisting of 5-point Likert-type items where 1 = Strongly Disagree, 2 = Disagree, 3 = Partly Disagree, 4 = Agree, 5 = Strongly Agree. In scale development, while determining the points of Likert-type items, the sample is considered, and the width of the responses is selected based on the levels of the participants to answer the items in detail. As 5-point Likert-type scoring is prevalently used in the literature [30], it was found suitable for the teachers included in this study who had undergraduate-level education. The scale items were asked of the teachers, and the Likert-type scoring was determined according to their level of answering the questions. One can score a minimum of 14 points and a maximum of 70 points on the instrument. A high score shows a high level of awareness about dyslexia. When the instrument was created, opinions about dyslexia were considered, and the items of the instrument were collected in two factors "perception" and "sensitivity". The naming of these factors was influenced by judgments and attitudes about dyslexia. As a matter of fact, people with dyslexia are underestimated, stigmatized and considered as individuals with disabilities in terms of their values and abilities. Such opinions about dyslexia lead to uncertainties in identifying and evaluating cases [28,31]. It is important to create awareness to establish the right terminology.

"Perception" questions commonly known misconceptions, judgments, myths and speculations related to dyslexia. It consists of 6 items. The items are inversely scored. One can score a minimum of 6 points and a maximum of 30 points in the perception dimension. A high score in this factor suggests that there is a positive perception of dyslexia, and a low score suggests that there is a negative perception. "Sensitivity" refers to the approach to the conscious awareness of and the quest for knowledge on dyslexia. The factor consists of 8 items. One can score a minimum of 8 points and a maximum of 40 points in this factor. A high score in this factor shows a high level of sensitivity to dyslexia, whereas a low score shows a low level of sensitivity.

2.7 Development of the questionnaire

While determining the items of DyAwI, firstly, an item pool consisting of 62 items was created by reviewing the literature [23,31-39]. The pool was meticulously examined by the researchers who carried out the study, and after the necessary modifications were made, 39 of the questions were structured in the form of five-point Likert-type items.

2.8 Content and face validity

The Content Validity Index (CVI)—a validity analysis method—was used to assess the content validity of the items of the draft measurement instrument. Of these draft items, the ones that were appropriate and understandable based on expert opinions were taken into consideration. In this context, expressions with a CVI value of equal to or greater than 0.80 are considered to have good content validity [22]. The face validity and content validity of this instrument were determined by eight experts (three of them in child development, one psychologist, two psychiatric nurses and two public health nurses) by assessing each item. Each of the scale items was presented to the experts for their opinion to be expressed in a four-point Likert-type scale (not suitable, slightly suitable, suitable, very suitable) in order to calculate the content validity and measure understandability [30]. As a result of this measurement analysis, CVI was calculated. The items with a CVI value that was smaller than 0.80 were removed, the instrument finally consisted of 18 items, and the overall CVI value was found to be 0.85 [22]. The final form of the scale was administered to 20 teachers. They were asked to judge and quantify the validity of the items individually and as a set to suggest revisions and identify areas that were missing, as recommended by Lynn [40]. After the understandability of the questions was checked in the pilot study, the

Cronbach's alpha coefficient of the instrument was found to be 0.65.

2.9 Psychometric testing and internal consistency of DyAwI

The scale items were administered to 182 teachers. The psychometric test was first assessed by an exploratory factor analysis and then by a confirmatory factor analysis, and the final version of the instrument consisted of 14 items. Cronbach's alpha, item-total correlation and factor analyses were employed to determine the internal consistency of the instrument. The Cronbach's alpha coefficient shows the internal consistency and homogeneity of the items of a scale, and values greater than 0.60 indicate the suitability of the measurement instrument [41]. Item-total correlation indicates the inclusion of each of the items in the scale, which is a fundamental issue in ensuring internal consistency. This value is desired to be at least 0.15 [42]. While carrying out a factor analysis, which is used to test construct validity, first of all, whether the scale is suitable for conducting this analysis is determined by using Bartlett's and Kaiser Meyer Olkin (KMO) tests. The value of Bartlett's test of sphericity is desired to be $p < 0.05$, while the value of the KMO test is desired to be equal to or greater than 0.60 [30]. The overall Cronbach's alpha value of this instrument was found to be 0.75. The minimum value of the item-total correlation coefficients was found to be 0.20, while the value of the KMO test was found to be 0.77, $p = 0.000$. After suitability for factor analysis was confirmed, the scale dimensions were determined by using the maximum likelihood method with varimax rotation. The items with an eigenvalue equal to or greater than 1 had initially been collected under three factors, but the number of items was limited to two factors to prevent confusion due to the fact that some dimensions had only two items remaining in them. As a matter of fact, Kenny recommended that there should be at least three items in each factor [43]. When the number of factors was reduced to two, the ratio of the total variance explained by the factors decreased from 52.8% to 40.7%. Tavşancıl found it sufficient to have a total variance explanation rate between 40% and 60% in factor analyses [30]. When the items of the instrument were formed, the items with a factor load of 0.40 or greater were taken into account. The items which had a score lower than this were excluded from the scale. The test-retest reliability value was found to be 0.90 in the study.

2.10 Confirmatory factor analysis

In scale development studies, it is recommended that an exploratory factor analysis (EFA) is followed by a confirmatory factor analysis (CFA) [44]. CFA is a type of analysis aiming to assess how factors with multiple variables fit real data. Many fit indices are used in the analysis process. In this study, the Normed Fit Index (NFI), Comparative Fit Index (CFI), Tucher Lewis Index (TLI) and Root Mean Square Error of Approximation (RMSEA), some of the most commonly used indices, were calculated using the formula which was presented in the research article of Gignac. To be able to conduct a confirmatory factor analysis, firstly the Extraction Method: Maximum Likelihood method is selected from exploratory factor analysis in SPSS. By using the chi-squared and df values found as a result of the analysis of the Bartlett's Test of Sphericity and Goodness-of-fit Test in the formula developed by Gignac, the goodness of fit indices were calculated. NFI, CFI, and TLI values that are closer to 1 and an RMSEA value that is smaller than 0.05 represent excellent fit [45]. These findings paralleled the indices used in confirmatory factor analysis.

2.11 Data analysis

The data of the study were analyzed using the IBM SPSS 22 software. The Cronbach's alpha coefficient was used to measure internal consistency. Factor analysis—used to test whether a construct is validated as a model—and fit indices (calculated via a formula in Excel) were used to verify this structure. Regression analysis was employed to determine the effects between variables. For other calculations, frequencies, means and percentages were used.

An instrument's possession of internal consistency or homogeneity indicates that all items in the scale are closely intercorrelated on the desired level. In this study, it was observed that the Cronbach's alpha internal consistency coefficient and the adjusted item-total correlation values of scale items were in the appropriate range. The Cronbach's alpha reliability coefficient is an indicator of the internal consistency and homogeneity of the items in a measurement instrument. The Cronbach's alpha reliability coefficient of the instrument developed in this study was found to be high, indicating that the items contained in the instrument are consistent with each other, and they measure the same properties. A Cronbach's alpha coefficient of at least 0.70 is sufficient for the reliability of a newly developed instrument [41]. Item-total score correlation is a criterion for maintaining internal consistency, expressing whether each item in the instrument has an additive feature in the scale and should be at least 0.15 [42]. DyAwI may be stated to be highly reliable in accordance with the literature. This is because the Cronbach's alpha and item-total correlation values of the scale items used in the reliability analysis obtained from this instrument were above the acceptable values [41,42]. Construct validity, which is associated with the theoretical conceptualization of an instrument, is achieved through a factor analysis which reveals the basic dimensions. In this study, an exploratory factor analysis was applied to the data in order to reveal the subscales. Exploratory factor analysis is known as a type of analysis where the researcher has no information about the number of subscales measured by the measurement tool and tries to obtain information about the nature of the subscales measured with the tool instead of testing a certain hypothesis [30]. For a scale to be acceptable, the ratio of the total variance explained by the factors should be at least 30%, and the factor loads of the scale should be equal to or greater than 0.30 [42]. In line with this information, it was revealed that the total variance explanation rate and factor loading values of DyAwI were in the appropriate range. The findings obtained in the confirmatory factor analysis supported the use of the two-factor model for scoring DyAwI.

2.12 Ethical principles of the study

In order to conduct the study, permissions were obtained from the Ethics Committee (No. 2018/7-21) of Malatya Inonu University and from the Directorate of National Education. Moreover, verbal consent was obtained from the teachers who participated in the study. The study was conducted by considering the principles of the Declaration of Helsinki.

3. Results

Kaiser-Meyer Olkin Measure of Sampling Adequacy test was performed to measure the suitability of the scale items for factor analysis (KMO = 0.77, p = 0.000). It was found that the scale was suitable to undergo exploratory factor analysis. Furthermore, as a result of the confirmatory factor analysis, the following values were obtained: NFI = 0.92, CFI = 0.99, TLI = 0.98, and RMSEA = 0.02.

Two dimensions (perception and sensitivity) emerged as a result of the exploratory and confirmatory factor analyses of the dyslexia awareness scale. As a result, the scale consisted of 14 items, 6 of which were inversely scored.

Table 2 shows the validity and reliability analysis results of the dyslexia awareness scale. It was found that the mean scores of the scale items ranged from 2.95 to 4.17, the corrected item-total correlations ranged from 0.20 to 0.50, the factor loadings ranged from 0.44 to 0.77, and the Cronbach's alpha coefficients ranged from 0.75 to 0.73. The overall internal consistency coefficient of the scale was 0.75, its mean score was 51.6, and its explanation rate of the total variance was 40.7%.

Table 3 shows the characteristics of the teachers and their dyslexia awareness levels through a regression analysis. As seen in this table, the characteristics of the teachers were able to explain 13% of the variability on the Dyslexia Awareness Instrument. The teachers' age, years of experience and education received about dyslexia were significantly related to their dyslexia awareness levels.

Table 2. Maximum likelihood analysis followed by varimax rotation, factor loadings and item-total correlations of the items of the scale (n = 182).

Scale items	Mean (SD)	Corrected item-total correlation	Cronbach's alpha if item deleted	Factor loading	Alpha	Variance
Perception	**23.45(3.33)**				**0.68**	**22.3**
If an individual is able to read something, he or she cannot have dyslexia.*	3.70(0.89)	0.200	0.757	0.599		
Dyslexia is a disease.*	3.52(1.09)	0.274	0.753	0.449		
The intelligence levels of individuals with dyslexia are lower than normal.*	3.97(0.93)	0.377	0.739	0.771		
Dyslexia is an incurable learning difficulty.*	4.17(0.80)	0.387	0.739	0.693		
Individuals with dyslexia are lazy.*	4.07(0.78)	0.267	0.749	0.594		
Successful individuals are not likely to have dyslexia.*	3.89(0.81)	0.391	0.738	0.631		
Sensitivity	**28.16(4.37)**				**0.77**	**18.4**
I know how to approach individuals with dyslexia.	2.95(0.88)	0.262	0.751	0.639		
I am more sensitive to individuals with dyslexia than others.	3.91(0.85)	0.485	0.729	0.571		
Individuals with dyslexia are special.	3.86(0.87)	0.408	0.736	0.495		
I investigate what can be done for individuals with dyslexia.	4.14(0.80)	0.413	0.736	0.456		
When I encounter an individual with dyslexia, I can distinguish them.	3.31(0.90)	0.435	0.733	0.699		
I know the rights of individuals with dyslexia.	2.98(0.96)	0.506	0.725	0.781		
I know where a person with dyslexia should present to in order to be diagnosed.	3.31(0.91)	0.422	0.735	0.743		
There are certain therapeutic methods developed for dyslexia.	3.66(0.84)	0.330	0.735	0.477		
Total	**51.60(6.06)**				**0.75**	**40.7**

*Items that are inversely scored.

Table 4 shows the results of the regression analysis on the characteristics of the teachers and the dimensions of their dyslexia awareness, which were perception and sensitivity. No teacher characteristics were significantly related to the perception subscale. However, teacher characteristics explained 16% of the variability in the teachers' levels of sensitivity—like the overall scale, teachers' age, years of experience and education on dyslexia were significantly and positively related to their levels of sensitivity.

Table 3. Explanation of the characteristics of the teachers with the dyslexia awareness instrument by regression analysis (n = 182).

	Dyslexia awareness instrument				
Model	Unstandardized coefficients		Standardized coefficients		
	B	Std Error	Beta	t	Sig
(Constant)	78.68	7.414		10.613	0.001
Age	0.585	0.202	0.744	2.897	0.004
Gender	0.967	0.910	0.080	1.063	0.289
Working year	0.629	0.211	0.754	2.986	0.003
Information about dyslexia in education	3.551	1.121	0.245	3.167	0.002
Information about dyslexia in postgraduate education	1.187	1.250	0.069	0.950	0.343
Encounter with a dyslexic student	0.152	0.913	0.013	0.166	0.868
Special practice for dyslexia at work	1.390	2.014	0.052	0.690	0.491
Every teacher can diagnose a dyslexic individual	0.637	1.236	0.039	0.516	0.607
R = 0.36 R^2 = 0.13 F = 3.31 p = 0.001					

Table 4. Explanation of the characteristics of the teachers with the perception and sensitivity subscales by regression analysis (n = 182).

	Perception subscale					**Sensitivity subscale**				
Model	Unstandardized coefficients		Standardized coefficients			Unstandardized coefficients		Standardized coefficients		
	B	Std Error	Beta	t	Sig	B	Std Error	Beta	t	Sig
(Constant)	28.75	4.202		6.843	0.001	49.92	5.273		9.469	0.001
Age	0.157	0.114	0.363	1.369	0.173	0.428	0.144	0.754	2.983	0.003
Gender	0.518	0.516	0.078	1.005	0.316	0.449	0.647	0.051	0.694	0.488
Working year	0.110	0.119	0.240	0.922	0.358	0.519	0.150	0.861	3.464	0.001
Information about dyslexia in education	0.691	0.635	0.087	1.088	0.278	2.860	0.797	0.274	3.587	0.000
Information about dyslexia in postgraduate education	0.622	0.708	0.066	0.879	0.381	0.565	0.889	0.045	0.636	0.526
Encounter with a dyslexic student	0.030	0.518	0.005	0.058	0.954	0.122	0.650	0.014	0.187	0.852
Special practice for dyslexia at work	0.156	1.141	0.011	0.136	0.892	1.546	1.432	0.081	1.079	0.282
Every teacher can diagnose a dyslexic individual	1.047	0.700	0.117	1.495	0.137	1.685	0.879	0.143	1.917	0.057
R = 0.28 R^2 = 0.07 F = 1.82 p = 0.076						**R = 0.40 R^2 = 0.16 F = 4.091 p = 0.001**				

4. Discussion

The psychometric characteristics of DyAwI developed according to the findings of this study are promising to demonstrate a valid construct. It is practical to use this instrument. It can quickly collect important information about dyslexia awareness. DyAwI is an original scale and fulfils the statistical requirements desired in methodological research. DyAwI may determine teachers' awareness of their sensitivity and perception dimensions of dyslexia. In the instrument, the item "I know how to approach individuals with dyslexia" was the item with the low-

est score, and it was revealed that the teachers saw themselves as inadequate in approaching students with dyslexia. On the other hand, the item "Dyslexia is a curable learning difficulty" had the highest score, and it was observed that the teachers had positive perceptions towards students with dyslexia. Additionally, this study revealed that the teachers' age, years of study and their knowledge of dyslexia during their education were among the dynamics that increased their levels of dyslexia awareness and sensitivity.

This study defines the design and development of DyAwI, which aims to measure awareness of dyslexia. In this process, scale development and validation studies were carried out [22,30,41-45]. The scale was structured to have Likert-type items, which are commonly used in social sciences. The five-point Likert-type items of the scale provided the participants with the opportunity to respond to items presented as statements [42]. After the pilot study, the instrument development process was completed by carrying out usability testing, factor analysis and descriptive analyses, and the instrument was finalized to have 14 items.

The main reason for developing this instrument was to test its psychometric characteristics and provide a practical and useful measurement instrument in studies of improving dyslexia awareness. In general, dyslexia is a phenomenon that is ignored, unnoticed and delayed in terms of its diagnosis [36]. It is thought that this instrument will contribute to the literature by measuring awareness of dyslexia. In this context, the practical and theoretical contributions of the instrument may be mentioned. Practically, as dyslexia awareness levels will be determined using DyAwI, in-service training about dyslexia may be planned for teachers with low awareness levels, and furthermore, the quality of the training may be determined with final tests to be conducted. These practices can make it easier for students with dyslexia to access useful services. The contributions of the instrument in the theoretical field may include: (1) the results of the instrument may be used as new scientific knowledge and guide researchers in this field, (2) new educational models and projects may be created according to the determined level of dyslexia awareness, (3) with the adaptation of the instrument to other languages, the level of dyslexia awareness of educators in countries where this instrument is used could be determined, so that dyslexia awareness can be compared across cultures, (4) the instrument may be a reference study for measurement tools planned to be created in terms of dyslexia awareness in the future. According to Wadlington et al., there is a lack of awareness about dyslexia and a great misunderstanding among educators [31]. The lack of awareness and misunderstanding of the early signs of dyslexia prevent the diagnosis and timely intervention of this problem [31,32]. In line with this knowledge and the needs in the background of this study, the idea that having a tool that measures the dyslexia awareness levels of educators will facilitate the timely intervention of students with dyslexia has been the driving force for the development of this instrument. As this educator-focused instrument would allow evaluation of dyslexia awareness levels, it is believed that it may provide teachers with the opportunity to have more systematic approaches in terms of not being prejudiced against dyslexic students, allowing them time to learn, considering this situation while scoring their examinations and using techniques to increase their academic success. This way, it may be assumed that the adaptation of the student to society will gain speed. This study showed that this assessment instrument could be used by professional development specialists (both pre- and in-service) to understand the perceptions and knowledge of teachers before they participate in professional development so that the professional development process could be tailored to teachers' current levels of awareness about dyslexia.

"Perception" which is a dimension of DyAwI, questions commonly known beliefs, opinions, judgments, myths and speculations related to dyslexia. The other dimension, "sensitivity" shows the approach to, attitudes towards, conscious awareness of and quest for information on dyslexia. The fact that DyAwI discusses dyslexia with its short and com-

pact extent contributes to the finding that the scale is useful, practical and understandable. In this study, the teachers were found to have good levels of mean scores on the overall DyAwI and its dimensions. Moreover, the teachers were found to have a positive perception of individuals with dyslexia and a high level of sensitivity. This positive finding may have been caused by the possibility that the teachers participating in the study were curious about individuals with dyslexia and were open to improvement.

The age of the teachers, their working experience in years and their status of receiving education on dyslexia during their studies showed a direct effect on their dyslexia awareness levels. Only 22.5% of the teachers involved in the study had received information/training on dyslexia in the process of their higher education, which may have helped the teachers become more sensitive to individuals with dyslexia. Although this percentage of the teachers was consistent with the existing literature in terms of proving that some teachers trained in the Turkish education system have low awareness of dyslexia, it also showed that being sensitive about dyslexia is correlated with previously acquired knowledge or education about dyslexia [2,46,47]. Moreover, the teachers' ages and work experiences in years may have influenced their dyslexia awareness levels by increasing their likelihood of encountering students with dyslexia. According to Lyon and Weiser, as teachers specialize in pedagogic knowledge and get experience, their sensitivity to students increases, they are able to diagnose problems quickly, and their students' achievement levels are improved [39]. Similarly, in this study, the teachers' knowledge and experience were observed as an important factor affecting the subscale of "sensitivity" of DyAwI.

In future studies that will use DyAwI, a cutoff point may be added to specify dyslexia awareness levels. There is a need for studies that will increase the validity and reliability levels of the scale by adding items to the dimensions. Nevertheless, the instrument demonstrated its validity based on its content validity analysis results and psychometric properties.

5. Limitation

Although this study meticulously followed the steps recommended in the literature to develop a psychometrically strong instrument, it had some limitations that need to be addressed. The limitations of this study included that it was applied only in one province, teachers who had an experience of less than a year were not included, and the study was conducted with only teachers of 1st to 3rd grade primary school students. This limits the generalizability of the results for other regions in the world where different languages and dialects are used. Therefore, the psychometric properties of DyAwI should be evaluated in a global context in future studies. Since different results may be obtained in other cultures, the results should be analyzed carefully, and further studies should be carried out.

6. Conclusions

In this study, according to the overall scoring of DyAwI, it was observed that the general dyslexia awareness levels of the teachers who were included in the study were above average, their "Perception" subscale scores were on a good level, and their "Sensitivity" subscale scores were moderate. This scale that was developed in Turkey presented a practical and useful instrument that measures the construct of teachers' dyslexia awareness levels. DyAwI is important for ensuring standardization in measuring dyslexia awareness in Turkish society. DyAwI, which was developed and psychometrically tested, offers statistically acceptable levels of reliability and validity.

Conflict of Interest

No conflict of interest has been declared by the author(s).

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ARTICLE

Translation of Well-being Assessment Instruments in African Contexts: A Mapping Review and Future Directions

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ABSTRACT

A fundamental requirement for proper measurement of well-being in diverse contexts is the appropriate translation of well-being measures into the languages spoken by the specific population. The aim of this paper is to identify measures of well-being that have been translated into African languages up to the year 2019 and make suggestions for researchers who are faced with the challenge of translating well-being instruments into local languages. Online databases were searched to identify published studies reporting the translation of well-being instruments into African languages. Some researchers were further contacted and requested to provide relevant studies. A total of 352 publications were retrieved and 44 translated measures met the inclusion criteria. Findings showed that all the translated African language versions of existing measures were published between 2006 and 2019. Although the published translations were increasingly widespread, the distribution of available studies was uneven, with very low published translation activity in East and North Africa and a preponderance of publications on translated instruments in South Africa. The authors suggest deriving population norms for relevant translations; increasing funding and other resources for translation projects; developing cross-national collaborations on translations; and making the translated versions of well-being instruments more accessible for use by other researchers.

Keywords: Adaptation; Africa; Quality of life; Psychometrics; Translation; Well-being

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1. Introduction

The increasing scientific investigations of well-being and various aspects of positive psychology have resulted in greater demand for measures of the relevant constructs within this important area of research and social policy. Measures of well-being are used in a variety of research, clinical, and public policy arenas, suggesting that positive conceptualizations of health and well-being are becoming highly useful for basic and applied purposes [1-3]. Since most measures of well-being have been developed in English, researchers working in other languages have two options: either to develop a new measure in the language of interest or to adapt/translate an existing measure.

Even though translation of measures appears to be common in most parts of the world, few translations into African languages exist as available versions are mostly in European and Asian languages [4]. Efforts are being made in this direction by some African scholars in recent times; hence, a record of their modest contributions to the translation of well-being measures into African languages is pertinent. The present study reviews existing translations of well-being measures into African languages, with the main aim of identifying the existing African language versions of well-being scales. The identification of such translated measures will provide information about the work that has been done so far, and provide a direction concerning the areas that need to be covered. This endeavour is worthwhile in order to prevent duplication of efforts, save time, and conserve the limited funds available for research.

We begin with a brief conceptual clarification to highlight the scope of well-being measures for the review. We then discuss the relevance of translation and the basic procedures for proper adaptation of the research instruments. The method section presents the procedure adopted in identifying the instruments for review; then the results and discussion show the available translations within the scope of the review and describe the significance of what has been done by researchers. Recommendations and suggestions for greater impact in the assessment of well-being in African languages are made.

1.1 The scope of well-being measures in the present study

Two major conceptualisations of well-being are the hedonic and eudaimonic traditions. The hedonic tradition accentuates constructs such as happiness, high positive affect, low negative affect, and satisfaction with life [5,6]; while the eudaimonic tradition focuses on positive psychological functioning and human development—self-acceptance, autonomy; positive relationships with others; environmental mastery; purpose in life; and self-realisation [7,8]. Ryff's conceptualisation is just one of many other conceptualisations that can be classified under the eudaimonic approach. All the approaches to well-being recognise the positive dimension of human experience and functioning, regardless of differences in the terms used, components of well-being, or the preferred measurement approach. Some schools of thought also uphold that subjective experience of well-being, broadly described, has many dimensions such as life satisfaction, optimal functioning and a good QoL [9]. Considering the multifaceted or multidimensional nature of well-being [10-13] recent research continues to emphasize the consideration of these two approaches for a comprehensive understanding of well-being [14]. The two approaches are not mutually exclusive. They complement each other in the sense that aspects of eudaimonia influence the hedonic outcomes and vice versa. Interestingly, researchers have developed composite measures that were not associated with a specific theoretical approach to well-being and they combined aspects of hedonic and eudaimonic approaches along with aspects of QoL and/or wellness approaches [2,15].

Well-being measures in the present paper encompass the broad assessment of well-being which includes QoL and the positive dimension of human living. QoL is recognised in this paper as an aspect of well-being that consists of objective descriptors and subjective evaluations of physical, material, social, and emotional well-being together with the level of personal development and purposeful ac-

tivity, all weighted by a personal set of values [16]. The construct is used in this paper to refer to the general QoL of individuals who may not have any current illness or physical health challenges, which precludes health-related quality of life (HRQoL) and QoL among special populations. HRQoL refers to the way health is shown to affect QoL and signifies the utility associated with a health state [17], and it is usually applied in reference to patients who are receiving medical care. The present paper seeks to identify African language translations of measures of well-being, QoL, or wellness from a comprehensive perspective that embraces conceptualisations of population well-being.

1.2 Adaptation and translation in the assessment of well-being in the African context

Translation will be useful to determine the extent to which certain conceptualizations of well-being are generalizable across cultures and groups. It will reveal whether there are indigenous dimensions of these constructs not accounted for by Western-based theories or models [18]. In the process, one can reflect the specific understanding of well-being and thereby address the difference between universalism and cultural specificity. If there are no differences in basic and practical outcomes even when the language versions are different, then it means that researchers can more confidently speak in one language about the well-being construct and its measurement. For instance, some problems with the Basic Psychological Needs Scale were identified and such observations could have implications for the validity of the universality assumption of basic psychological needs theory and/or assumptions about denotations or manifestations of the main constructs in various cultural contexts [19]. If in the course of trying to translate and adapt an instrument, it was found that there are contents of the measure that do not have equivalent terms or meanings in a particular language, there may be problems of comprehension for those who speak the native language.

In order to adequately and truly understand well-being in the African context, there is a greater need than before to translate assessment instruments for use in evaluating and describing well-being in the African context. Translations of well-being measuring instruments will stimulate discourse on well-being measurement as a veritable tool for policy evaluation and for effective monitoring and evaluation of psychosocial interventions. There are cross-cultural variations in the meanings of constructs, or some constructs may be unknown to some cultures [20,21], and substantial cultural influences on scale functioning abound [22]. Translations will enhance the denotation of culturally specific connotations of well-being that are not grasped in the original forms, thereby unraveling the fundamental aspects of well-being in the African context. Linguistic and cultural appropriateness is important in the provision of services in a culturally responsible manner [23,24] and in improving access to psychosocial services among African native language speakers.

There is some degree of sample selection bias in most of the studies on well-being in Africa due to the unavailability of local language versions of the questionnaire. Although student populations are readily available and provide an easy pull of participants, having local language versions of the well-being measures would encourage researchers to investigate the constructs among other less-studied populations. Information is needed on the nature of complete psychosocial health and levels of psychosocial well-being in communities, in order to decide when, where, and for whom interventions may be required as part of public health promotion programmes [25]. Even with the rising literacy rates in most parts of the world, the majority of the African population is not literate (even in the local language) [26], and sub-Saharan Africa, where adult literacy rates are below 50%, ranks second in lowest global literacy [27]. The African translations will be more beneficial to those who cannot understand English, and the research assistant(s) can read the items of the translated instrument to respondents.

1.3 Translation of measures

Cultural fit is the congruence of test contents

and the culture of a test-taker, while retaining the meaning and intent of the original items. Two major ways of establishing cultural fit are adaptation and validation. Translation is the first stage of the adaptation process [28], and the most rigorously investigated aspect of cross-cultural measure adaptation and development in education, behavioral sciences and health fields [29]. Translation typically takes cultural, linguistic, contextual, and scientific information into consideration [30,31]. Poorly translated instruments present problems when they are used in subsequent studies. For instance, such poor translations may generate inconsistent or unreliable data, render the findings less valid and detract from practical applications of research outcomes in solving problems. Usually, the researcher only realizes the errors in the process of translation, adaptation, and validation of an instrument during subsequent evaluation and data analysis [28]. Expert recommendations in the translations of measuring instruments into other languages abound [28,29,32-38]. Best practices in the translation of well-being measures involve some basic procedures [28] (see **Figure 1**).

First, is the translation of the instrument from the source language into the target language by at least two translators who are fluent in both languages.

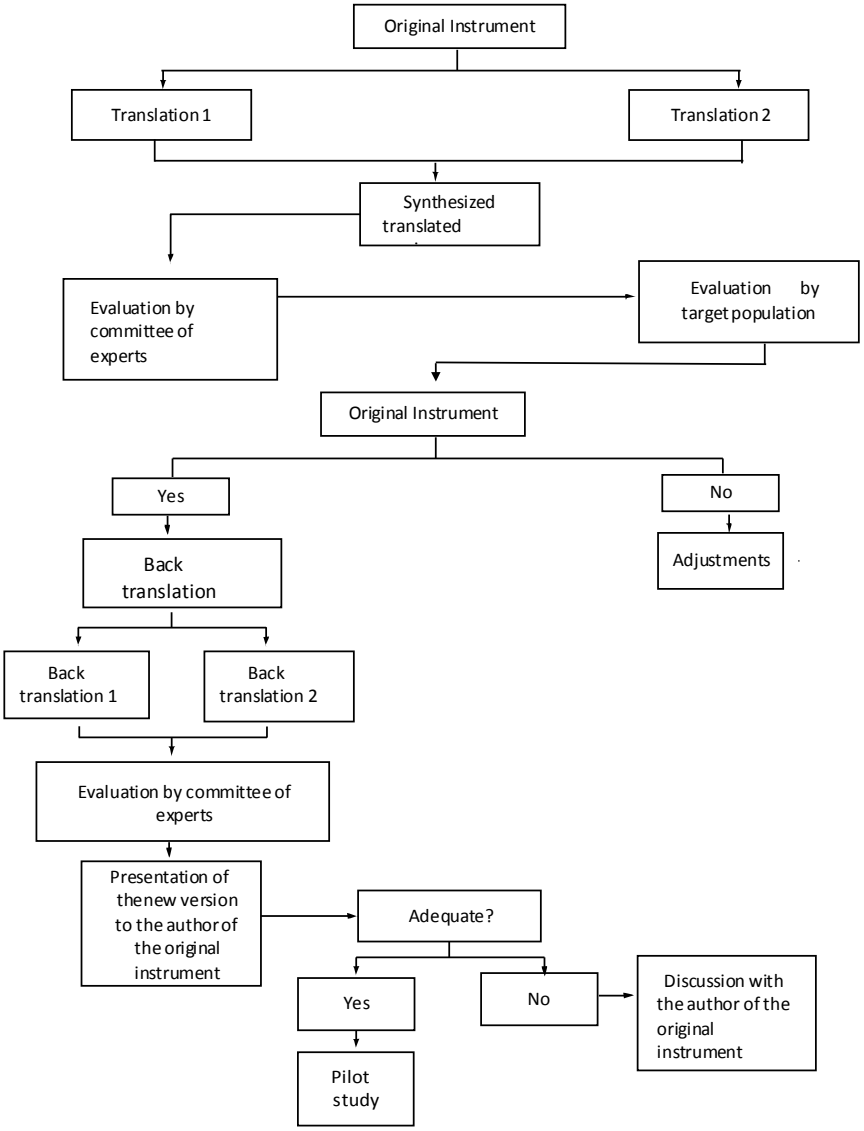

Figure 1. Procedures for cross-cultural adaptation of psychological instruments.

Source: Borsa, J. C., Damásio, B. F., & Bandeira, D. R. (2012). Cross-cultural adaptation and validation of psychological instruments: Some considerations. Paidéia (Ribeirão Preto), 22(53), 423-432.

Such a translator should be an expert in the field of interest, whereas the other translator should be a linguistic expert. Second, a synthesis of the two translations by a committee (translators, judges and authors) in order to derive a consensus version of the questionnaire is done. An agreed translation is arrived at based on considerations of semantic, idiomatic, experiential and conceptual equivalence. Further, the appropriateness of the agreed translation and instrument structure may be evaluated by experts in the field of interest and some members of the target population. We believe that the committee approach should include the translators, judges, experts, researchers, and the target group in agreeing to the translated version in the target language. This suggestion would ensure that all relevant concerns are considered in arriving at the translation.

Third, back-translation of the synthesized version from the target language into the source language is carried out by two independent translators who were not involved in the previous step. The back-translation process helps to identify words that were not clear in the target language and to identify inconsistencies or conceptual errors in the final version. There are also suggestions that the bilingual translators can work in teams where two or three persons will handle the forward-translation, and another two or three expert translators will do the back-ward translation [39]. This option may be adopted when it is important to save time and still achieve the same goal. Fourth, the back-translated versions are sent to judges who make comments on the translations, followed by a committee approach and focused group discussions by the experts, judges, translators and some members of the target population. A sample evaluation form adapted from the Warwick-Edinburgh Mental Well-being Scale (WEMWS) that can be used by the judges for the documentation is shown in Appendix A. When the number of items is more than 10, other rows should be added, and the item statement should be typed in the first column and numbered consecutively. The pre-final version of the instrument is the outcome of the panel discussions. Fifth, pilot testing of the translated version is done using a sample of participants from the target population. The pilot sample completes the translated language version to provide feedback based on item difficulty and clarity. Revisions may be made to the instrument if necessitated by the outcome of the pilot testing. Sixth, a validation study is conducted with a representative sample from the target population in order to establish the reliability and validity of the instrument. In general, there should be a core translation process (forward and back-translations), qualitative evaluation/harmonisation, pilot testing, finalisation, and quantitative validation [40].

2. Method

2.1 Search strategy

The search for translated well-being instruments in Africa was conducted using online databases including PsycINFO, Medline, Google Scholar, Embase, Psychological Abstracts, Social Science and Psychological Abstracts, ADIS, and AJOL with no restrictions on language or time period. The names of the specific measures of well-being and positive psychology constructs were used one after the other in combination with 'translation', cross-cultural, and language to capture all relevant instruments. The measures of interest were chosen from recent reference lists from published reviews of the psychological well-being literature [2,41-44]. Names of instruments that were included in the search are shown in Appendix B. Colleagues and researchers on well-being were also contacted to provide their works or other studies they know to the researchers for inclusion in the study.

2.2 Inclusion and exclusion criteria

The well-being assessment instruments were included in the review if they: (1) were designed to be used in population studies or as generic tools across contexts; (2) were designed for assessing well-being, including concepts such as QoL, wellness and any other positive psychology construct; (3) were translated in a native language spoken in Africa; (4)

have more than one item; and (5) presented in a study written in the English language. Instruments were excluded if: (1) the primary focus was disease specific (e.g., HRQoL for patient samples) or context-specific (e.g., pregnancy); (2) were not measures of well-being, quality of life or positive psychology constructs (3) there was no translation into an African language; (4) have a single item (5) they were published in a language that is not English. Single item measures represent a weak solution to the challenge of assessing such complex construct as well-being [45]. Although single item measures are parsimonious in terms of administration time and may have specificity, they are less useful when constructs are unidimensional, and thus, have a bad reputation for lack of content validity, poor internal consistency reliability and less sensitivity [46]. Given the complex and multidimensional nature of well-being, single item measures are unable to truly capture the various components of important well-being constructs.

2.3 Data extraction

The authors extracted the data independently from the full texts of the selected studies that met the inclusion criteria. In order to ensure consistency and accuracy of data extraction, we developed a standardized data extraction form using Microsoft Excel and used it to extract data from each selected full-text article. Any discrepancies in extracted data were resolved by discussions between the two authors. Details extracted included the name of the instrument, its acronym, authorship, date of publication, name of translators and year of publication, target language of translation and country, method(s) of translation, study population, psychometric properties of the translated version in the validation study, other measures included in the study, and any other important information (e.g., modification of the response format in the translated version which differs from the original version).

3. Results and discussion

The present author's search yielded 317 publications, and 36 studies were provided by the contacted author(s) which sums up to a total of 353 publications. After removing duplicate publications from the identified publications, 95 studies were assessed for eligibility, and 51 of these articles that did not meet the inclusion criteria were excluded. For ease of organization, the translated instruments reported in the 44 translated measures identified as meeting the inclusion criteria for this review were grouped into core well-being (**Table 1**), QoL (**Table 2**) and positive psychology (**Table 3**) categories. The grouping was based on the present author's explicit identification of the instrument with one of these groups and it made the Tables wieldy. Quality of life is an indicator of well-being and the present classification does not imply any conceptual separation. Well-being measures were not separated into the theoretical categories of hedonic, eudaimonic, or wellness) because there is a wide disparity in the conceptualization of well-being by most of the existing instruments, even when compared to other measures assumed to be within the same category [2]. Besides, some measures have been shown to incorporate aspects of both approaches, while some do not have any implicit association with any of the approaches [2]. The overarching goal of this paper is to know the translated measures of well-being in African languages.

The researchers did not have any dates for the inclusion of translations and therefore articles were included regardless of when the study was presented. Findings showed that all translated versions were published between 2006 and 2019. However, the majority of the translations (83.33%) were published between 2010 and 2019, indicating that translations of the measures in Africa in published literature have generated a reasonable amount of interest in the last 10 years, and have increasingly gained significant attention since that time. Most of the translations were from English to an African language, except two studies on the adaptation of a French translation in an African French-speaking country [47]. Adaptations of French language measures will be important in Francophone Africa especially when there is a specific dialect of French spoken in the African country.

Table 1. Translated wellbeing measures in African languages.

Instrument	Developer(s)	Translators(s)	Method(s) of translation	Language (Country)	Study population	Reliability	Validity	Other measures included	Remark
Affectometer 2 (AFM-2)	Kammann & Flett (1983)	Wissing et al. (2010)*	FT; BT; Committee	Setswana (South Africa)	Community sample ((≥ 15 years)	PA = 0.68 (α) NA = 0.77 (α)	CFA; Convergent and Discriminant validity	SOC, SwLS	
General Psychological Well-being Scale (GPWS)	Khumalo et al. (2010)	Khumalo et al. (2010)*	FT; BT; Committee; PT	Setswana (South Africa)	Community sample (≥ 18 years)	0.89 (α)	PCA, CFA; Convergent, Divergent, and Criterion validity	CSES, FORQ, GHQ; MHC-SF, PHQ-9, SwLS, SOC	
National Well-being Index	International Well-being Group (2015)	Møller et al. (2018)*	FGD	isiXhosa (South Africa)	Community sample	NA	NA	-	Qualitative study
National Well-being Index	Cummins et al. (2003)	Tiliouine et al. (2006)*	FT; BT; Committee; PT	Arabic/French (Algeria)	Community sample (≥ 18 years)	0.81 (α)	EFA	-	
Perceived Wellness Survey (PWS)	Adams et al. (1997)	Rothmann & Ekkerd (2007)*	FT; BT; Committee	Setswana (South Africa)	Police officers (18 to 60 years)	0.81 (Wellness) 0.74 (Unwellness)	PAF	-	
Personal Well-being Index	Cummins et al. (2003)	Tiliouine et al. (2006)*	FT; BT; Committee; PT	Arabic/French (Algeria)	Community sample (≥ 18 years)	0.85 (α)	EFA	-	
Personal Well-being Index- Adult version	Cummins et al. (2003)	Møller et al (2015)*	NA	IsiXhosa (South Africa)	Community sample	NA	NA	NA	NA
Personal Well-being Index - child-version	Tomyn & Cummins (2011)	Matzdorff (2015)*+	FT; BT; FGD; PT	Afrikaans (South Africa)	School children	0.68 (α)	CFA	SLSS, OLS, CHS	
Questionnaire for Eudaimonic Well-Being (QEWB)	Waterman et al. (2010)	Bolshoff (2012)*+	FT; BT; Committee	Afrikaans (South Africa)	College students (M_{age} = 21.03; *SD* = 4.09)	0.82 (α)	Convergent, Divergent validity and CFA	SWB, MHC-SF, SwLS, MLQ, SOC, PHQ	EFA = 3 factors instead of 6
Questionnaire for Eudaimonic Well-Being (QEWB)	Waterman et al. (2010)	Bolshoff (2012)*+	FT; BT; Committee	Setswana (South Africa)	(M_{age} = 21.85; *SD* = 5.04)	0.72 (α)	Convergent, Divergent validity and CFA	SWBS, MHC-SF, SwLS, MLQ, SOC, PHQ	3 factors instead of 6
Spiritual Well-Being Scale (SWBS)	Paloutzian & Ellison (1982)	Bolshoff (2012)*+	FT; BT; Committee	Afrikaans (South Africa)	College students (M_{age} = 21.03; *SD* = 4.09)	0.93 (RW) 0.79 (SW)	CFA	QEWB, MHC, SwLS, MLQ, SOC, PHQ	

Table 1 continued

Instrument	Developer(s)	Translators(s)	Method(s) of translation	Language (Country)	Study population	Reliability	Validity	Other measures included	Remark
Spiritual Well-Being Scale (SWBS)	Paloutzian & Ellison (1982)	Bolshoff (2012)*+	FT; BT; Committee	Setswana (South Africa)	(M_{age} = 21.85; *SD* = 5.04)	0.91 (RW) 0.61 (SW)	CFA	QEWB, MHC, SwLS, MLQ, SOC, PHQ	
The Mental Health Continuum Short Form (MHC-SF)	Keyes (2006)	Keyes et al. (2008)*	FT; BT; Committee	Setswana (South Africa)	Adults (≥ 30 years)	0.72 (**α,** EWB) 0.77 (**α,** SWB) 0.77 (**α,** PWB) 0.74 (**α,** Total)	Convergent and Discriminant	SOCS, GHQ, AFM, SwLS, GSES, NGSES, CCES, N-COPE	
The Mental Health Continuum Short Form (MHC-SF)	Keyes (2006)	Schutte & Wissing (2017)*	FT; BT; Committee;	Afrikaans (South Africa)	Students (18-67 years)	Ω = 0.90	CFA, Bifactor ESEM	-	
The Mental Health Continuum Short Form (MHC-SF)	Keyes (2006)	Schutte & Wissing (2017)*	FT; BT; Committee	Setswana (South Africa)	Students (17-46 years)	Ω = 0.86	CFA, Bifactor ESEM		
Warwick-Edinburgh Mental Well-being Scale (WEMWS)	Tennant et al. (2007)	Wissing & Temane (2013)	FT; BT; Committee	Setswana (South Africa)	Students and community-dwelling adults ((≥ 18 years	-	Convergent and discriminant validity	AFM-2, SOC, SwLS, GHQ, NGSES, SRS, CSES, FORQ, PHQ-9, GPWS	
Well-Being Manifestation Measure Scale (WMMS)	Masse et al. (1998)	Peppe et al. (2018)[a]	NA	French (Gabon)	Old adults (60 to 98 years)	7 dimensions (**α = 0**.60 to 0.71)	Criterion validity	NEO-PI-R, SPS, CLSCO	

Note: *primary validation of translation; #Translated version included in publication; +Thesis project; [a]Adaptation only; FT = Forward translation; BT = Backward translation; PT = Pilot testing; CFA = Confirmatory Factor Analysis; EFA = Exploratory factor analyses; PAF = Principal Axis Factoring; NA = Negative Affect; PA = Positive Affect; RW = Religious Well-Being; SW = Spiritual Well-Being; CHS = Children's Hope Scale; CCES = Community Collective Efficacy Scale; CSES = Coping Self-Efficacy Scale; EWB = Emotional well-being; FORQ = Fortitude Questionnaire; GHQ = General Health Questionnaire; GSES = Generalized Self-Efficacy Scale; GPWS = General Psychological Well-being Scale; MLQ = Meaning in Life Questionnaire; N-COPE = Coping Strategy Scale; NGSES = New General Self-Efficacy Scale (NGSES); OLS = Overall Life Satisfaction (OLS); PHQ-9 = Patient Health Questionnaire; SwLs = Satisfaction with Life Scale; SRS = Self-Regulation Scale; SOC = Sense of Coherence Scale; SWB = Social Well-Being.

Table 2. Translated measures of positive psychology constructs in African languages.

Instrument	Developer(s)	Translators(s)	Method(s) of translation	Language (Country)	Study population	Reliability (α)	Validity	Other measures included	Remark
Basic Psychological Needs Scale (BPNS)	Deci & Ryan (2000); Gagne´ (2003)	Schutte et al. (2018)*	FT; BT; Committee PT	Afrikaans (South Africa)	Students (M_{age} = 19.78)	0.66(A), 0.69(R), 0.57(C)	CFA	-	7 deleted items
Basic Psychological Needs Scale (BPNS)	Gagne´ (2003)	Schutte et al. (2018)*	FT; BT; Committee, PT	Setswana (South Africa)	Students (M_{age} = 21.61)	0.64 (Overall)	CFA	-	One factor with 5 deleted items
Brief Personal Meaning Profile (PMP-B)	Macdonald et al. (2012)	Chukwuorji et al. (2019)	FT; BT; FGD	Hausa (Nigeria)	809 IDPS 12-96 years	0.87	CFA Convergent	MLQ	Unifactorial instead of 7
Community Collective Efficacy Scale (CCES)	Carroll, Rosson & Zhou (2005)	Van Straten et al. (2010)*	FT; BT; Committee	Setswana (South Africa)	Community sample (≥ 30 years)	0.72	EFA, CFA, Criterion validity	Affectometer 2, GHQ, GSES, NGSES, SOC, SwLS,	
Compassionate Love for Close Others Scale (CLCOS)	Sprecher & Fehr (2005)	Peppe et al. (2018)[a]		French (Garbon)	Old adults (60 to 98 years)	0.94	Predictive and Criterion validity	NEO-PI-R, SPS, WMMS	
Coping Self-Efficacy Scale (CSES)	Chesney, Neilands, Chambers, Taylor, & Folkman, 2006	Khumalo et al. (2010)	FT; BT; Committee, PT	Setswana (South Africa)	Community sample (30-40 years)	0.91(Overall)	Predictive validity	GPWS, FORQ, GHQ; MHC-SF, PHQ-9, SwLS, SOC	
Fortitude Questionnaire (FORQ)	Pretorius (1998)	Khumalo et al. (2010)	FT; BT; Committee, PT	Setswana (South Africa)	Community sample (30-40 years)	0.87	Predictive validity	GPWS	
Generalized Self-Efficacy Scale	Schwarzer & Jerusalem (1993)	Van Straten et al. (2010)	FT; BT; Committee	Setswana (South Africa)	Community sample (≥ 30 years)	0.74	Convergent validity	CCES, NGSES	
Gratitude Questionnaire (GQ-6)	McCullough, Emmons & Tsang (2002)	Olawa & Idemudia (2019)	FT; BT; FGD	Yoruba (Nigeria)	Old adults (≥ 60 years)	α = 0.71	Convergent and CFA	SACA, one item from DUSOCS, 3-item LS	5 items (deleted item 6)
Meaning in Life Questionnaire (MLQ)	Steger et al. (2006)	Boshoff (2012)*+	FT; BT; Committee	Afrikaans (South Africa)	College students (M_{age} = 21.03; *SD* = 4.09)	0.88 (Presence) 0.88 (Search)	CFA	QEWB, SWB, MHC, SwLS, SOC, PHQ	

Table 2 continued

Instrument	Developer(s)	Translators(s)	Method(s) of translation	Language (Country)	Study population	Reliability (α)	Validity	Other measures included	Remark
Meaning in Life Questionnaire (MLQ)	Steger et al. (2006)	Boshoff (2012)*+	FT; BT; Committee	Setswana (South Africa)	(M_{age} = 21.85; *SD* = 5.04)	0.72 (Presence) 0.72 (Search)	CFA	QEWB; SWB, MHC, SwLS, SOC, PHQ	
Meaning in Life Questionnaire (MLQ)	Steger et al., (2006)	Chukwuorji et al. (2019)*	FT; BT; Committee; FGD	Hausa (Nigeria)	809 IDPS 12-96 years	Presence = 0.82 Search = 0.86	CFA, Convergent, Discriminant	PMP	Response format = 4-point
New General Self-Efficacy Scale	Chen et al. (2001)	Van Straten et al. (2010)	FT; BT; Committee	Setswana (South Africa)	Community sample (≥ 30years)	0.66	Convergent validity	CCES, GSES	
Resilience Scale (RS-14)	Wagnild & Young (1993)	Chukwuorji & Ajaero (2014)	FT; BT	Igbo (Nigeria)	Youths (12-24 years)	0.85	CFA, Criterion validity	-	
Rosenberg Self-esteem Scale (RSES) – French version	Rosenberg (1965)	Fromont et al. (2017)*	FT, BT, PT	Kirundi (Burundi)	Health workers (M_{age} = 38.5 years; SD = 10.27)	0.38 to 0.72	CFA	-	4 items were acceptable
Rosenberg Self-esteem Scale (RSES)	Rosenberg (1965)	Ifeagwazi & Chukwuorji (2014)	FT; BT; FGD	Igbo (Nigeria)	Biafran War veterans	0.87	Predictive validity	GHQ	
Satisfaction with adult children's achievements	Olawa & Idemudia (2019)	Olawa & Idemudia (2019)	FT; BT; FGD	Yoruba (Nigeria)	Old adults (≥ 60years)	α = 0.75	CFA	GQ-6, one item from DUSOCS, 3-item LS	NA
Posttraumatic Growth Inventory (PTGI)	Tedeschi & Calhoun 1996	Eze et al. (2019)	FT; BT; Committee, FGD	Tiv (Nigeria)	IDPs (12-90 years)	Five subscales (0.71 to 0.83)	Criterion validity	RumS, CBI	
Satisfaction with Life Scale (SwLS)	Diener et al., 1985	Wissing et al. (2010)*		Setswana (South Africa)	Community sample ((≥ 15 years)	0.67	CFA Convergent and Discriminant	Affectometer-2, SOC	
Sense of Coherence Scale (SOC) (the 29-item version)	Antonovsky (1987; 1993)	Wissing et al. (2010)*	FT; BT; Committee	Setswana (South Africa)	Community sample ((≥ 15 years)	0.70	CFA Convergent and Discriminant	Affectometer-2, SwLS	Low IICs; low loadings -items 5 and 20.
Sense of Coherence Scale (SOC) (the 29-item version)	Antonovsky (1987)	Bolshoff (2012)*+	FT; BT;	Afrikaans (South Africa)	College students (M_{age} = 21.03; *SD* = 4.09)	0.82	CFA		

Table 2 continued

Instrument	Developer(s)	Translators(s)	Method(s) of translation	Language (Country)	Study population	Reliability (α)	Validity	Other measures included	Remark
Social Support Questionnaire (SSQ)	Sarason, et al. (1983)	Ifeagwazi & Chukwuorji (2015)	FT; BT;	Igbo (Nigeria)	War veterans	0.83 (Family) 0.74 (Friends) 0.79 (Government)	Predictive	PTSD Checklist-Military Version (PCL-M)	Nigerian adaptation by Asogwa (2010)
Successful Ageing Inventory	Flood (2008)	Chukwuorji et al. (2016)*	FT; BT; FGD	Igbo (Nigeria)	Community-dwelling adults (≥ 45 years)	0.88	PCA, Criterion validity	LEI, FS	

Note: *primary validation of translation; #Translated version included in publication; +Thesis project; aAdaptation only; FT = Forward translation; BT = Backward translation; PT = Pilot testing; CFA = Confirmatory Factor Analysis; EFA = Exploratory factor analyses; IIC = Inter-item correlations; PAF = Principal Axis Factoring; A = Autonomy; R = Relatedness; C = Competence; CBI = Core Beliefs Inventory; CCES = Community Collective Efficacy Scale; Duke Social Support and Stress Scale = DUSOCS; FS = Family support; GHQ = General Health Questionnaire; GSES = Generalized Self-Efficacy Scale; LEI = Life Events Inventory; LS = Loneliness Scale; NEO-PI-R = NEO Personality Inventory-Revised; NGSES = New General Self-Efficacy Scale (NGSES); PHQ-9 = Patient Health Questionnaire; PSC = Problem-solving Coping; RumS = Rumination Scale; SACA = Satisfaction with adult children's achievements; SwLs = Satisfaction with Life Scale; SOC = Sense of Coherence Scale; SWB = Social Well-Being; SUE: Stop unpleasant emotions; QEWB = Questionnaire for Eudaimonic Well-Being.

Table 3. Translated measures of Quality of Life (QoL) in African languages.

Instrument	Developer(s)	Translators(s)	Method(s) of translation	Language (Country)	Study population	Reliability (α)	Validity	Other measures included	Remark
Global Person Generated Index (GPGI)	Camfiled & Ruta (2007)	Camfiled & Ruta (2007)*	FT; BT; FGVC	Amharic, Oromiffa (Ethiopia)	Community sample (M_{age} = 61.48 years)	NA	Construct, Criterion	Health, Family, SwLS	
Paediatric Quality of Life Inventory™ Version 4.0 Generic Core Scales (PedsQL™)	Varni et al. (1999)	Atilola & Stevanović (2014)*	FT; BT; PT; Committee	Yoruba (Nigeria)	Adolescents (M_{age} = 14.98 years, *SD* = 1.26)	EF = 0.71 SF = 0.79 SCF = 0.73 PhyH = 0.87 PsyH = 0.91	Convergent validity, SEM	SDQ	
WHOQoL-BREF	The WHOQOL Group (1998)	Redko et al. (2015)*	FT; BT; Committee	Somali (Somali refugees -USA)	Refugees (15-93 years)	Four subscales (0.65 to 0.82)	PCA, Predictive validity	Health satisfaction	
WHOQoL-BREF	The WHOQOL Group (1998)	Akinpelu et al. (2006)*	FT; BT;	Yoruba (Nigeria)	Stroke survivors (M_{age} = 55.0 years, *SD* = 10.7)	-	-	-	Wilcoxon test and Spearman Rho reported

Note: *Primary validation of translation; #Translated version included in publication; +Thesis project; aAdaptation only; FT = Forward translation; BT = Backward translation; EF = Emotional Functioning; PhyH = Physical Health; PsyH = Psychosocial Health; PT = Pilot testing; SCF = School Functioning; SF = Social Functioning; SwLS = Satisfaction with Life Scale; SDQ = Strengths and Difficulties Questionnaire; WHOQoL = World Health Organisation Quality of Life.

It is possible that authors who translated some measures from English to French or some languages in French-speaking African countries may publish their papers in French language journals. Those papers were not accessed.

Setswana language dominated the translated measures (38.63%), followed Afrikaans (15.91%), French (9.09%), Igbo (9.09%), Yoruba (9.09%), Hausa (4.56%), and IsiXhosa (4.55%), with 2.27% for and Amharic/Oromiffa, Somali, Kirundi, and Tiv. (10.53%). The Mental Health Continuum-Short Form (MHC-SF) has three publications but its translations were in two languages (Afrikaans and Setswana). National Well-being Index (NWI), Questionnaire for Eudaimonic Well-being (QEWB) and Spiritual well-being Scale (SWBS) also had two translations (Afrikaans and Setswana). Languages spoken in South Africa were the majority in translations of the well-being instruments. The other countries that had translations of core well-being measures were Algeria (Arabic/French), Burundi, Ethiopia, Gabon (French), and Nigeria. The Meaning in Life Questionnaire (MLQ) also had a reasonable number of translations while each of the Sense of Coherence Scale (SOC), Rosenberg Self-Esteem Scale (RSES), and Basic Psychological Needs Scale (BPNS) were also translated. The samples for the validation studies were relatively large. For instance, some studies had over one thousand participants [15,48,49].

Although the published translations were found to be increasingly widespread, the distribution of available studies was uneven, with a very low published translation activity in East and North Africa and a preponderance of publications on translated instruments in South Africa. There are diversities in political, economic, social and religious influences on psychological testing practices across Africa. This reality has been noted in the case of South Africa where their political, economic, and social history, has led to pressure on test developers and test users to develop and use culturally appropriate assessment instruments and practices [50]. The availability of resources for research is also comparatively more accessible in South Africa than in some other countries. Even as other African countries do not have the South African experience, it does not de-emphasize the relevance of culturally appropriate tools for psychological assessments.

One study [51] did not report any reliability or validity. All the other studies that provided internal consistency reliability information reported Cronbach's alpha (α) as evidence of reliability, except a study that reported McDonald's omega (Ω) values for the translations of MHC-SF [19]. The Ω is promoted as a practical alternative to α in estimating measurement reliability computation with good performance in real life research conditions [51]. Recently, the OMEGA macro which produces Ω estimates that are nearly identical to when using CFA-based estimates of item loadings and error variances was developed [52]. This development makes it easier for researchers to obtain Ω coefficients without running Structural Equation Modelling. Authors are encouraged to use the Ω instead of the popular but not more valuable α coefficients [53].

The amount and types of valid evidence presented concerning the African translations of the instruments varied considerably. The authors reported factorial, convergent, discriminant, predictive, and content validity. Although most of the translated measures replicated the original factor structures reported by the developers, there are a few notable exceptions that did not get the same factors exactly. For instance, the fit of the intended three-factor model for the MHC-SF was good for the Afrikaans version but poor for the Setswana version and the subscales had low reliability coefficients. As a result, the reliability of the total scale was preferred [19]. The reliability indices for some of the measures were also below the conventionally acceptable standards of 0.70 [54].

Reliability and validity for combinations of French and Arabic versions of National Well-being Index (NWI) and PWI Personal Well-being Index (PWI) exist [55]. Both languages are spoken in the same country, but all persons cannot be equally fluent in the two languages. There should be separate reliability and validity for every language version of

an instrument. None of the studies reported test-retest reliability for the African language versions of the instruments. There are also recent indications of differences in obtained scores when the same sample of participants complete both the English language and native language versions of a questionnaire, especially when emotional responses and cultural orientations are triggered [56]. The present researchers did not identify any sample in the translated measures where both English language and African language versions were tested in the same study. A modification of the 7-point response format of MLQ to a 4-point response format (1 = not at all true to 4 = completely true) has been reported [57]. This change was informed by the earlier observation that the relatively low levels of education in the developing world and differential perceptions of linearity with equidistant intervals of such scales in such contexts may necessitate a reduced set of options with labels attached to each interval [58]. When authors modify either the items or response anchors of a measure, there is a need to report what was done [59].

Some studies included in this paper translated the measures for use in studies, although the focus was not necessarily on scale validation. The measures were translated for use in such studies because the target participants have little or no English language literacy and/or proficiency. Information on challenges in achieving conceptual and linguistic equivalence in translation was often limited, minimal or partially reported. Even if the length of a manuscript would be affected by the inclusion of information on the translation of the measures, enough information to enable other researchers to replicate the study should have been included. We did not identify any study that derived a norm (cut-off) score for epidemiological purposes. Test norms represent the typical characteristics or behaviors in a given population derived from the standard scores or average scores of a sample that has taken the test sometimes, the norming sample may not be representative of the population for whom the test is intended to be used and when they are applied as a benchmark to make decisions about the general population, their use becomes counterproductive. The dynamic nature of human behavior also means that cultural factors, socio-demographic characteristics and technological advancements may influence the results obtained from measures of well-being. Although the concept of 'norming' is becoming less popular in psychological research, it is still important to derive such norms whenever population data is collected. Normative data are necessary for both within- and between-country comparisons [60].

4. General recommendations/suggestions

4.1 Translations in multi-linguistic groups

Considerations such as the preference of the researchers, the population for the study, accessibility and availability of translators, indigenous groups of the researchers, etc., may have contributed to decisions about the choices made in the language of the translations. With over 100 languages and dialects in Africa [61], there are major and minor languages in the African context, and it may be challenging to accommodate all languages. For instance, South Africa has 11 official languages [62]. Nigeria (with over 250 ethno-linguistic groups) claims to have three major indigenous languages (Igbo, Hausa, and Yoruba), but the other languages are increasingly gaining prominence. In Nigerian schools, students are required to select one of the three 'approved' languages (Igbo, Hausa, and Yoruba) in their choice of subjects to study for the Senior School Certificate Examination, but most parents who speak other native languages resist the imposition. There are no academic repercussions for Nigerian students who decide not to study any of the approved languages. Further translations into other minor languages are necessary because in a country with two (or more) linguistic groups, translating questionnaires into minority languages prevents non-response bias [63]. In a multi-linguistic country, there should be translations commensurate with the need to make the instrument available for use in each specific population.

A step towards addressing disparities in transla-

tion activity across regions of Africa is to identify and acknowledge that these differences exist. There should be intentional engagement with relevant partners and opportunities for freelance translators in those regions to build local capacity for translation. Researchers from these areas need to be engaged from the start and outcomes are disseminated in the local languages as much as possible by leaders who are known in the region. This process should incorporate regular training sessions and continued assistance to guide researchers and relevant stakeholders in those regions. In this way, it is easier to reduce disparities in translation efforts and introduce translation programs that are likely to be sustained because the native people are actively engaged in it.

4.2 Increased funding for well-being research

Translations are costly in terms of money, time and other resources. For instance, translators, experts and members of the Focused Group Discussions (FGD) need to be paid. The fees charged by translators and experts are too high. The need to ensure enough funding in order to hire good translators is emphasized in survey translation guidelines because the cost of inappropriate versions or mistakes in translations of instruments can be enormous for measurement, research and practice [64]. All these costs add more burden to the researcher beyond what it would take the average person to collect data using the original language versions of the instruments. A lack of funding is often a barrier to the translation of measures. Many researchers will be encouraged to venture into translations if there is financial support to do the work. As it applies to all research activities, it is better to spend more money and get the right outcome than to spend less and obtain the wrong information.

4.3 Contact with original developer(s) of the target instrument

Contact with the developer(s) of the target instrument to be translated is recommended for several reasons. It makes the developer(s) aware of what is being done and they may provide advice and support for the translation. When developer(s) are informed of the results obtained from translated versions of the measure, such developer(s) may assist by adding the translated version on their websites and blogs. If data collected by the scale in the source language are available, comparative analyses of the scale should be tested. There can be some complexities in representing the same psychometric measures of well-being in different languages. For instance, some English words cannot necessarily be directly translated into some languages, and the same goes for some of the concepts covered in the most frequently used scales [45]. In such situations, it is more convenient to find the word in the target language which more closely represents the English word. Where no such word exists and the meaning of the item may be lost or changed when translated into the target language, it is advisable to contact the developer(s) of the original instrument. When such contacts are made, the ensuing discussions between the translators and the developer(s) may help to resolve the issue. The developer(s) may compile such words as 'frequent issues in translation' of such scales which may be useful in improving the instrument. For instance, questions regarding difficulties encountered in translating the WEMWBS into other languages made the developers prepare some notes addressing frequent issues in translation which researchers may find helpfu. (see https://warwick.ac.uk/fac/sci/med/research/platform/wemwbs/using/translations/).

4.4 Decisions relating to awkward questions

Some questions in a measuring instrument may be awkward to ask in certain cultures. The integrity of the questionnaire may be compromised if the meanings of such items are altered or items are deleted. Author(s) should not be quick to delete such items from original versions of instruments during translations. For instance, translating such items in the WHO Quality of Life-BREF (WHOQOL-BREF) into Somali language [64], retained the meaning of such items focusing on bodily appearance, relationships and sex life. When such items are retained, respondents can skip such items if they are not comfortable with an-

swering them. Surprisingly, all respondents did not skip the items [64]. Even when the goal is to derive a shorter version of the translated measure, there should be established criteria for making decisions about items that should be dropped.

4.5 Uniformity in translation processes

The translation processes of the well-being measures reviewed in this paper are not uniform. The adoption of a uniform process of translation such as the steps outlined in the earlier part of this paper will ensure uniform guidelines in the translation of well-being measures in the African context. A working group on translation and adaptation of the widely used measures of well-being into African languages is important. The group can work together to produce various language versions of their chosen instruments. In addition, African well-being research review committees and clearing houses are important in order to maintain standards in international well-being assessment. For instance, the Medical Outcomes Trust in Boston United States, only approves measures for international use after they have been translated, tested, and normed, following the standard procedures [65]. Such a body may be important for the African continent, or at least for the respective African regions (South, North, East, West Africa-English and West Africa-French). It is already noted that both text and context are important in ensuring the equivalence of translated measures. The context may entail some modifications of the original measures and subsequent refinement using relevant statistical procedures. It is essential to transparently report any modifications that author(s) made to the original measures during the translation process. Apart from helping future researchers determine whether the adaptations are worthwhile, this can help ensure that the translated instruments are psychometrically sound.

4.6 Test-retest reliability of translated measures

Future studies aimed at establishing the psychometric properties of translated measures should include test-retest reliability assessments when comparing English and native language versions of questionnaires. If the same sample completes the same measure twice and gets very different results the second time, this could provide insights into potential response variations. However, if the second administration of the test yields similar results as the first, there is assurance that the outcomes are reflective of more than just random error.

4.7 Inclusion of translated African language versions in publications

Authors who originally translated measures of well-being and used them for publication are encouraged to include such measures in their publication as an appendix. The inclusion of the translated versions will increase their accessibility to other researchers who may consider the translated versions for their own research. Some argue that interested persons contact them if they need the translated versions, but some persons may not wish to go to such lengths to get the translated version. Interested authors may also reach out but communication is affected by aspects such as temporary unavailability of developers, contact information that changed, or death of the developer, etc. When the author(s) who intend to use the measure do not have much time to spare in waiting, the option is to English language versions or do a translation. Perhaps, some journals do not request translated versions of instruments, unless the aim of the manuscript is psychometric evaluation of the translation. The essential step is for authors to include such translations in their original submission and journal editors should request for the inclusion of translated versions if the submitted study is first to embark on the translation into the language. There may be good reasons for keeping translations away from the publication such as awareness of the proposed uses of the translation, approving those uses, advising the prospective user appropriately, and receiving feedback on the performance of the measure in the prospective user's study. This however can limit the use of such measures when the author(s) have passed on.

5. Limitations of the study and future directions

Several African language translations of instruments that were designed to measure various aspects of well-being have been identified in this review. However, some notable limitations exist. First, the authors made extensive efforts to include all well-being measures translated into African languages, but it is possible that some instruments were not found in the search and may not be known to the experts who provided some of the published literature. Second, the functionality (conceptual, item, semantic, measurement, and operational equivalence) of the translated measures was not examined in the current study. The equivalence of versions of well-being instruments and their application is an indispensable condition for use in cross-cultural research. CFA has been advanced as one of the methods of establishing measurement equivalence, specifically the configural, metric and scalar invariance of translated measures [66]. As equivalence was not a major goal in this paper, the authors did not evaluate the quality of the CFAs reported in some of the studies. There is also more to equivalence than what CFA can offer. It is valuable to check for Differential Item Functioning (DIF) in the translated measures. As observed by Petersen et al. (2003), DIF is a useful way to further validate the questionnaire translations because it is an additional technique to show whether translations of items in the multi-item scales are accurate and equivalent to the original. For the unidimensional measures, Rasch Analysis is very pertinent due to its advantages in the evaluation of sensitivity across the different levels of the underlying construct, appropriate use of response categories, local independence of the items, and extent of differential item functioning across demographic groups [67,68].

Third, the authors reviewed only self-report questionnaire measures. Other means of communication may be explored to represent the cultural nuances of experiences of well-being (e.g., interviews, pictures, colours, etc.). Some of these later cases may warrant general adaptation. Future reviews should also cover instruments measuring HRQoL and tools developed for narrowly defined populations who share a characteristic or experience.

6. Conclusions

The contribution of this paper is that one needs to know what is available in order to move forward. Therefore, the modest effort in this paper can be assumed to be foundational in identifying published African language translations of well-being measures on a continuum. Due to the diverse nature of most African countries and the continent itself, translation of well-being measures into indigenous languages will provide a deeper understanding of the uniqueness of the African people and their culture. By bridging the gap in the exchange of ideas, information, and experiences, the translations can promote more collaboration and cooperation. As a result, trust can be increased and community bonds can become stronger. The African continent has a colonial past and some people may feel that languages such as English, French, German and Portuguese were imposed on them. The promotion of cultural variety and the preservation of the history of many groups can both benefit greatly from the translation of the measures that we use to assess their well-being. People may express their thoughts, feelings, and worldviews more clearly when they can speak in their own language, which can aid in fostering a greater awareness of their being. HIV/AIDS is one area of health in which the assessment of well-being has been very prominent, and it would be interesting to see greater utility of translated measures in this regard. Almost all of the well-being indicators are derived based on western individualistic culture, therefore it is very beneficial to also include the perspective from African culture. Social indicators of well-being may be more salient in the African context. Researchers may consider developing measures of indigenous constructs such as *ubuntu* (humanity) and *Omoluwabi* (a person of good character) which can be translated into other African languages to see how applicable they are across contexts and situations.

The authors hope that as research accumulates on the use of these African language versions and

more translations are conducted/published, further efforts can be made regarding detailed, fine-grained, domain-specific conceptual equivalence and psychometric analysis of the translated measures. Translations and applications of culturally appropriate measures of well-being should be a priority area in psychological, psychoeducational, health and social policy research in Africa. This direction will boost well-being research in Africa and stimulate discourse on well-being measurement as a veritable tool for assessment, effective monitoring and evaluation of well-being interventions in the continent. There are enormous challenges in translations of well-being instruments in African context, but several unique opportunities abound for researchers who decide to move in this direction. Some of the challenges are limited funding for research and multiple languages within the same country. Opportunities abound in the area of diversities of measures that have not been translated into most of the African languages.

Nearly one decade ago, the idea of exploring psychosocial well-being in national surveys, such as the US General Social Survey and the European Social Survey, was highlighted as a way of measuring sociodemographic contexts and prevalence differentials in Africa [69]. Significant progress has been made nationally in South Africa, and the Algerian Well-being Research Project aims at monitoring the population's satisfaction with a diverse range of life domains at given time periods [70]. If there is going to be increasing application of positive psychology interventions in diverse African contexts, the adaptation of positive psychological resource material and the translation of established psychometric tools into native languages is needed. The overall effect will be a better capacity for researchers in Africa to impact more on global well-being research, policy and practice.

Author Contributions

JCC conceived the idea, designed the study and carried out the search for articles. JC and OMO analysed the findings, prepared the results and wrote the manuscript.

Conflict of Interest

There is no conflict of interest.

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ARTICLE

Attitudes of the Host Population towards Syrian Refugees: A New Theoretical Perspective

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ABSTRACT

This study delves into the nuanced attitudes of the host community in Izmir, Turkey, towards Syrian refugees, employing a robust threat and benefit theoretical model. It scrutinizes the multifaceted factors contributing to perceived threats and benefits, elucidates the reasons behind the variation in these attitudes, identifies the individuals responsible for holding these perspectives, pinpoints the specific contexts in which they manifest, examines the temporal dimension of these attitudes, and dissects the profound impact they have on mutual adaptation processes and the formulation of migration policies. A diverse group of 34 participants from the host community actively engaged in semi-structured interviews, comprising 16 females and 18 males across an age spectrum spanning 19 to 64 years. Thematic analysis methodically uncovered that economic and demographic considerations prominently constitute the bedrock of perceived threats, while conversely, the study illuminated financial contributions as pivotal benefits. The in-depth understanding garnered from this study holds significant promise for fostering enduring mutual adaptation between the host and refugee communities, thereby cultivating a more harmonious coexistence. Additionally, this nuanced insight informs the strategic development of immigration policies, ensuring they align with the evolving dynamics of this complex relationship.

Keywords: Attitude; Prejudice; Syrians; Social identity; Threat-benefit model

1. Introduction

The escalating phenomenon of human mobility in today's world has led to the coexistence of diverse groups with distinct social backgrounds and characteristics. These groups, whether labelled as migrants,

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refugees, asylum seekers, or protected individuals within a country, are shaped by many circumstances. The United Nations High Commissioner for Refugees (UNHCR) reports a staggering 35.3 million refugees globally who have been compelled to flee their homelands due to the harrowing forces of violence, conflict, and persecution [1]. Among these displaced souls, approximately 6 million are Syrians, and Turkey hosts a substantial 3.7 million Syrian refugees [2]. Previous scholarly investigations [3,4] have illuminated Syrian refugees' strong inclination to remain within Turkey's borders. Consequently, this mounting presence has cast a prominent spotlight on the Syrian community within Turkish society. Given the rapid surge in refugee numbers within Turkey, this study seeks to delve into the intricate fabric of attitudes towards refugees. In human cognition, individuals inherently hierarchically structure their thought processes, with attitudes reflecting their preferences toward specific circumstances or particular social entities [5]. The evaluation of newcomers by the host community holds significant importance. Yet, previous research has predominantly focused on the perception of refugees as a threat by the local population, inadvertently neglecting the examination of the positive aspects of migration [4,6-8]. Initially, attitudes toward Syrian refugees in Turkey were positively imbued during the initial years of the Syrian migration. However, as the Syrian population swelled and their presence extended over time, negative attitudes towards these refugees became increasingly conspicuous. Understanding the factors that underlie these negative attitudes and behaviours, encompassing aspects such as social identity, prejudice, perceived threats, and opportunities, becomes essential. Such insights will undoubtedly pave the way for developing policies to enhance the well-being of all parties involved. In this study, the attitudes of the host community towards Syrians have been examined within the framework of the threat and benefit model. İzmir, located in the westernmost part of Turkey, is a city where migration has reshaped the demographic and sociocultural landscape. Due to its geographical location, İzmir is one of the primary routes for refugees heading towards Europe. As of July 2023, 133,687 registered Syrians live in İzmir. Despite having a multicultural sociodemographic structure, various studies (e.g., [6]) have observed a high perception of threat towards Syrians in İzmir.

Understanding the peaceful integration of groups within society requires more information and effort concerning the parties involved. The relationships between newcomer groups and the host community are evaluated in the acculturation process, where the mutual interaction of different cultural groups is central [7]. Social identity and threat theories are believed to help understand the process. Social identity is shaped by the interactions between individuals and the groups to which they belong [8]. Attitudes and policies regarding newcomers are also shaped by social identities. According to social identity theory, individuals become more sensitive to intergroup differences and evaluate others based on their group memberships as they identify with a group. This leads to the perception of external groups as a threat to their social identity and the formation of prejudice.

Understanding the psychological processes related to threat perception is vital in achieving social peace, as refugees may become the target of prejudice based on ethnic, cultural, and religious differences when they settle in host countries. The perception of threats and prejudices can create division and conflict between refugees and the host community, supporting exclusionary behaviours and social policies towards refugees.

Most previous studies have focused on the host community perceiving various groups as threats, with the Intergroup Threat Theory being the most well-known theory explaining the perception of refugees as threats. However, this theory has been criticized for largely ignoring the positive aspects of migration and for its inadequacy in defining the precursors of threats. Threat-Benefit Model (TBM) based on the Integrated Threat Theory [9] and the Value Theory [10] to address this gap was developed. According to the model, the host community can perceive different immigrant and refugee groups as

both threatening and beneficial, categorizing threats and benefits the host community perceives concerning refugees comprehensively.

The perception of threat towards Syrian refugees in Turkey has been examined in various studies, which have observed that Syrian refugees pose both realistic and symbolic threats regarding cultural, economic, and security issues. However, attitudes towards refugees can simultaneously be positive and negative, and it is considered rational to evaluate refugee groups in terms of threat and benefit. Furthermore, there has yet to be a systematic study examining the host community's members' perceptions of threats and benefits related to refugees to date.

In conclusion, this study evaluates the attitudes of the host community towards Syrian refugees within the threat and benefit model framework. Additionally, this study can contribute to examining concepts such as social identity, prejudice, and threat perception, understanding intergroup contact, and developing policies and practices that promote social equality and inclusivity.

2. Methodology

The study employed a qualitative research design with an interpretative constructivist perspective to examine the attitudes of host community members living in Izmir towards Syrian refugees.

2.1 Sampling

Participants for this research were selected using the snowball sampling method [11]. The research sample consisted of host community members in Izmir who had no prior migration experience. **Table 1** provides details about the sample characteristics. Participants were informed about the research's subject and purpose. We safeguarded the participants' identities when presenting the study's findings. Participants (e.g., P1) were assigned to them. Participants were chosen from areas in Izmir, specifically Konak, Karabağlar, Bornova, Buca, and Bayraklı, where Syrian refugees predominantly reside.

2.2 Data collection

Data for this research was gathered through semi-structured interviews. The interview questions were designed to be flexible, allowing for the inclusion of new issues as they emerged, based on a literature review [12]. Subsequently, two experts in the field reviewed the study questions to ensure their content validity. The research questions were as follows:

1) Do you encounter Syrian refugees in your daily life or workplace?

2) What are your thoughts about Syrian refugees living in your city?

3) In your opinion, can Syrian refugees pose a threat? a) If you think they pose a threat, in which areas?

4) In your opinion, do Syrian refugees provide benefits? a) If you think they provide benefits, in which areas?

In adherence to ethical guidelines, this study prioritized participant consent, privacy, and confidentiality. Before conducting interviews, each participant was fully informed about the research objectives, and their voluntary participation consent was obtained. Data collection occurred between June and July 2022. Furthermore, ethical approval for this study (Ethics Committee Number: 2023/14-11, Date: 30.05.2023) was obtained from the Yuzuncu Yil University Social and Human Sciences Ethics Committee before commencing the research. All interviews were conducted at designated, suitable locations and times, ensuring the privacy and comfort of the participants. Each interview had an average duration of 45 to 90 minutes. The researcher continued conducting interviews until data saturation was achieved, safeguarding the participants' privacy and confidentiality throughout the research process.

2.3 Data analysis

Research data were analyzed using thematic analysis. Thematic themes were generated using an inductive approach, which connects data and themes holistically by defining themes, supporting the mean-

Table 1. Sample characteristics.

Participant	Gender	Age	Marital status	Professional status	District of residence
1	Female	34	Married	Employed	Konak
2	Female	25	Separate	Employed	Konak
3	Female	44	Married	Housewife	Konak
4	Female	19	Single	Student	Karabağlar
5	Female	32	Single	Employed	Karabağlar
6	Female	57	Married	Retired	Karabağlar
7	Female	34	Married	Employed	Bornova
8	Female	29	Single	Employed	Bornova
9	Female	46	Married	Retired	Bornova
10	Female	23	Single	Student	Buca
11	Female	54	Married	Employed	Buca
12	Female	61	Separate	Retired	Buca
13	Female	58	Married	Housewife	Bayraklı
14	Female	31	Separate	Employed	Bayraklı
15	Female	20	Single	Student	Bayraklı
16	Female	36	Married	Housewife	Bayraklı
17	Male	19	Single	Student	Konak
18	Male	22	Single	Student	Bayraklı
19	Male	64	Married	Retired	Bayraklı
20	Male	53	Married	Employed	Bayraklı
21	Male	49	Married	Retired	Konak
22	Male	45	Married	Employed	Bayraklı
23	Male	22	Single	Student	Bornova
24	Male	37	Married	Employed	Bornova
25	Male	32	Married	Employed	Bornova
26	Male	48	Separate	Employed	Karabağlar
27	Male	30	Single	Employed	Karabağlar
28	Male	20	Single	Student	Karabağlar
29	Male	34	Married	Employed	Karabağlar
30	Male	41	Single	Employed	Buca
31	Male	36	Separate	Employed	Buca
32	Male	29	Single	Employed	Buca
33	Male	33	Married	Employed	Konak
34	Male	40	Married	Employed	Bornova

ingfulness of the data coded under each theme, and strengthening the consistency of the themes [13]. Data analysis followed a six-stage process. First, the data were noted and carefully re-read. Then, initial codes were created. The generated codes were grouped under themes. Themes were reviewed, ensuring consistency with the coded data content and the entire dataset, resulting in a thematic "map". Subsequently, themes were defined and named. In the final stage, findings were logically reported [14].

3. Findings

Participants shared their thoughts and experiences regarding Syrian refugees. The interview data were analyzed using thematic analysis, identifying

two main themes, each comprising subthemes as shown in **Figure 1**. These are "Challenges of Living Together" and "Opportunities of Living Together". Subthemes of the main theme, "Challenges of Living Together", include uncertainty, economic threats, security threats, and threats related to social life. The main theme, "Opportunities of Living Together", encompasses economic opportunities and cultural diversity.

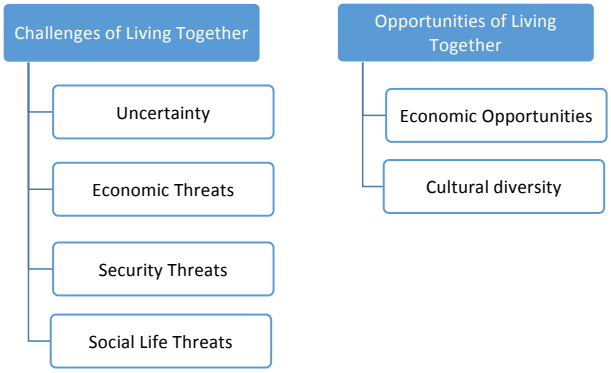

Figure 1. Main themes one and two.

3.1 Challenges of living together

Participants shared their experiences and perceptions of their difficulties coexisting with Syrian refugees. This theme encompasses subthemes such as uncertainty, economic threats, security threats, and threats related to social life.

Uncertainty subtheme

Participants expressed experiencing uncertainty regarding Syrian refugees. They voiced concerns about knowing how long the refugees would stay, their exact numbers, and what the future holds for them. There was particular emphasis on the uncertainty surrounding the refugees' permanence and their growing numbers.

"They have more children than us. They are reproducing rapidly, and then they will become Turkish citizens... Their numbers have exceeded ours in the southeastern cities of Kilis and Hatay. What will happen?" (P13)

"How long they stay is not even questioned anymore. There is no problem for them, but what we will do and how we will bear this burden is unclear. 'There is no standard practice regarding refugees in the country'." (P25)

"We do not know how many refugees there are, where they live, what their children do, whether they have regular records, what their illness history is. But they live with us." (P34)

Participants generally expressed discomfort with the uncertainties surrounding the refugees' length of stay, the number of children, the potential for infectious diseases, and their registration status.

Economic threats subtheme

Participants frequently described Syrian refugees as posing an economic threat. Many noted that refugees were causing unease in the host population by competing for jobs.

"When they first came here, they had nothing, but they opened a shop, and now their business is better than ours. They do not pay taxes here either. They also affect our business." (P33)

"They engage in free trade here. For example, they are preferred because they work for less than our air conditioners. They also affect prices. But there is no taxation." (P24)

"I am a construction master. Syrians have been preferred for a long time because they work for less. If we do not lower our prices, we will not be able to do business." (P27)

Participants expressed discomfort with allocating national resources, especially the assistance provided. The prioritization of refugees in services like health and education negatively affects the host community's perception of equality.

"We have our poor people, but no one sees them. They receive constant aid. The money that should be spent on the country goes to them. From whom is it collected, from us?" (P12)

Participants also mentioned that Syrians benefit from many resources, such as education and healthcare expenses, without paying taxes.

"In economic terms, they are like a swarm of locusts. Their numbers have increased rapidly. They take everything like a bottomless pit. Aid, support, child assistance, aid for women. How will this end?

We are not in a good situation either." (P9)

"The number of students in classes has risen. Classes were already overcrowded." (P16)

"Hospitals are full of them. We are waiting in line because of them. Everything is free for them. It is as if they are citizens of the country, and we are foreigners." (P19)

Security threats subtheme

Participants commonly expressed their perception of refugees as individuals with the potential to engage in criminal activities. They also mentioned that refugees were seen as physically threatening due to residing in economically disadvantaged areas. The arrival of refugees in their communities was regarded as a security threat because the unauthorized entry of Syrian refugees into living spaces compromised the sense of security within the host society.

"They have a tailor shop in the neighborhood. Their friends come over, different types, but nothing is done. We get anxious from time to time." (P4)

"I worked in a textile workshop where someone from their group was employed. It turned out that he was stealing, and then he disappeared. Not all of them are like that, but such incidents happen." (P7)

"They are often in large groups and sometimes engage in criminal activities when they have nothing else to do, I haven't seen them around my area, but this makes people uneasy." (P20)

"They typically make money by collecting paper, but when young people return from work, they move around in groups, which makes people uncomfortable." (P28)

Social life threats subtheme

Participants frequently noted the differences in Syrian refugees' lives, worldviews, cultures, family structures, and relationships. Participants described how Syrians often had large families with many children, making them challenging to manage (P1, 3, 6, 5, 16, 28, 33). Some participants also mentioned that Syrians practiced polygamy, which they disapproved of (P1, 13, 29).

"They do not pay much attention to their children. Girls look after their younger siblings." (P16)

"Their perspective on life differs from ours. Their cultures, lifestyles, and everything is distinct. Is it enough to share the same religion?" (P22)

"They have been here for years, but they still maintain their traditions. They tend to socialize within their community." (P12)

3.2 Opportunities of coexistence—Opportunities of living together main theme

Participants also mentioned the opportunities related to Syrian refugees. This theme encompasses subthemes: economic opportunities and cultural diversity.

Economic opportunities

Participants frequently described how refugees were willing to take on jobs that the host population was not inclined to do. They believed they contributed to the economy by working longer hours for lower wages.

"Syrians are willing to work longer hours and for lower wages than Turks. This contributes to the local economy." (P20)

"In the past, people from the eastern regions used to do tasks like paper collection, but now Syrians have taken on these roles." (P19)

"They have started running businesses from their homes here. Some of our neighbours also work with them from home." (P14)

"They engage in electrical repair work, both individually and by providing employment to others. The quality of their work is also good." (P29)

"Where I work, there are people employed as domestic helpers, but they also assist patients as caregivers. They handle their assigned tasks quietly." (P14)

"We can say that Syrians buying goods from businesses similar to ours boost our local economy." (P34)

Cultural diversity

Participants explained that having different cultural groups in society provided diversity. They emphasized that cultural diversity was seen as a socially

beneficial and enriching community experience.

"People came from Bulgaria before, and they were different from us. They had a hard time adjusting, but we worked together. I learned many new things. People are not all Turks nowadays, but we can still learn from them." (P12)

"We are witnessing intermarriages now. At the beginning of the summer, our neighbors' daughter married a Syrian boy. They are good people, although they have different customs." (P16)

"Although there are negative aspects, having children from different cultures in the classroom is educational. Kids are curious about them." (P1)

"My son's math and English teacher is Syrian. He gets along well with the children. They are caring and selfless. They introduce a new culture. It is an opportunity to learn about cultures we might not otherwise encounter." (P22)

"They have different cultures and customs. As we get to know each other, we learn. It seems foreign to us, but we occasionally shop from them. We find it affordable, and the products are good. We also learn new things." (P13)

Participants mentioned that they significantly interacted with refugee merchants in their areas.

4. Conclusions

This study examined the attitudes of the host community towards Syrian refugees within the framework of the threat-benefit model. It is well-known that host communities need to uniformly perceive and evaluate refugee groups [15]. In Turkey, a country with the largest population of Syrian refugees, this research adopted a multidimensional perspective by utilizing the threat/benefit model to assess the host community's attitudes towards Syrian refugees. The study's findings revealed that the host community evaluates Syrian refugees from both a threat and a benefit perspective.

In the study, it was found that the host community perceived uncertainties about Syrian refugees as threats. Participants expressed concerns about sharing inadequate information on topics such as the number of refugees in the country, birth rates, duration of stay, expenditures on them, and contagious diseases. Similar to Karataş [16], this study also revealed that the host community is concerned about the increasing Syrian population. It is believed that these concerns can be alleviated through regulations and explanations provided by policymakers.

The study also found that the host community perceived Syrian refugees as an economic threat. Participants believed that refugees received more support than the host community regarding rights, social assistance, free access to healthcare, and work permits. As a result, refugees were generally perceived as competitors for jobs and social welfare services. This perception can potentially undermine social equality and social peace. Additionally, it can contribute to the reinforcement of prejudices and the delineation of intergroup boundaries. Thus, refugees threaten the host community's control over resources, economic security, and stability [15,17,18]. For example, in a study by Tartakovsky and Walsh [15], refugees were perceived as more economically threatening than other migrant groups. Therefore, the evaluation of refugees by the host group in Israel was generally negative.

Israeli scientists developed the threat-benefit model to reveal the host society's attitudes towards different immigrant and refugee groups. Since the model is relatively new, supporting it empirically in other cultures contributes to the literature. It provides a different perspective on the issue, as the host society evaluates refugees not only as a threat but also in terms of their benefits. Furthermore, it was observed that Israelis considered refugees the most economically threatening group, despite their willingness to work in jobs that the host community did not prefer (such as restaurant cleaning) and receiving limited support. Similarly, in various studies conducted in Turkey, Syrian refugees have been seen as an economic threat and a threat to resource usage [19,20]. However, as observed in Woods and Kayalı [21] and Erdoğan [4] studies, host community members do not necessarily blame Syrian refugees for economic problems but believe that they exacerbate the situation.

Host participants also perceived security threats from Syrian refugees. Participants generally believed that Syrian refugees were more involved in criminal activities, contributing to security concerns. Studies conducted in Turkey have also confirmed that Syrian refugees are perceived as a security threat [19,20]. In Israel, different studies have shown that the host community perceives refugees as threatening their bodies and property [17,18]. The intervention of a new group in the existing social order within a society can disrupt it and undermine feelings of stability and security among the local population [22]. Therefore, it can be argued that a large Syrian refugee population is seen as a security threat from the perspective of the host community, especially in areas where participants reside, such as Izmir, which Syrian refugees prefer due to its lower socioeconomic structure, and this threat might be more pronounced.

In the study, it has been observed that within the theme of social threats, the host community perceives Syrians as a threat to their way of life, culture, and worldviews. Furthermore, this finding is consistent with research findings from different countries (e.g., [23,24]), indicating that refugees are often perceived as threatening social life and order due to bringing their traditions and behavioural norms. In Turkey, one of the reasons for widespread prejudice and discrimination against Syrians is the perception that Syrians threaten the social structure and cultural values [19,20]. In summary, the study's results align with findings from other studies conducted in Turkey [4,21], highlighting the negative attitudes of the host community towards Syrian refugees and their perception of them as a threat. However, examining the social psychological processes underlying these negative attitudes and threat perceptions is believed to contribute to promoting social justice and peace. It is crucial to achieve social integration in intergroup relations without the host community members feeling exploited, without self-other alienation, and exclusion.

As a result, numerous studies conducted in Turkey [4,25,26] have shown that Turkish society exhibits certain negative attitudes and behavioural tendencies towards Syrians. It is well-known that in Turkey, there are serious concerns regarding Syrians related to economic, cultural, and security issues [27]. For instance, Genç and Özdemirkıran's [28] research revealed that Syrian refugees were perceived as threatening social harmony, order, and the economy. In other cities (e.g., Gaziantep and Ankara), it is known that citizens hold strong beliefs that Syrians cause economic damage, pose security risks, and cannot adapt to the local society due to cultural differences [4,29,30]. Taşdemir [30] found that items measuring both realistic and symbolic threats from Syrians were grouped under the same factor among psychology students, with most students reporting high threat perception. A study in Izmir observed a significantly increased threat perception despite positive attitudes towards Syrians based on shared religious or humanitarian concerns [6]. Most studies have primarily focused on negative attitudes and threats towards Syrian refugees. However, it is rare for attitudes to be solely positive or negative. Therefore, presenting positive attitudes towards Syrian refugees is believed to align with the course of life.

Increasing awareness about attitudes towards Syrian refugees can also open new avenues for policymakers to achieve social justice and peace. For example, in a study by Tartakosky and Walsh [17], social work professionals in Israel assessed their attitudes towards various immigrant groups. The study revealed that immigrants could be perceived as both a threat and a benefit. Similarly, this study identified certain benefits associated with Syrian refugees. Participants indicated that Syrian refugees were willing to perform jobs that the host community did not want to do. This situation provides insights into the social and hierarchical structure of the host community. Refugees often work in undesirable jobs (referred to as "3D" jobs in the literature; dirty, challenging, and dangerous jobs) and at lower wages [31]. In the study, participants viewed Syrian refugees working in undesirable jobs for extended periods at lower wages as a benefit. Additionally, similar to Borjas's [32] study, it was found that refugees consuming local goods and services contributed to the local economy, creating

vitality.

It is well-established that the coexistence of different groups in society increases cultural diversity and brings dynamism. It has been observed that host community members perceive refugees' cultural elements, such as food and clothing, as enriching cultural aspects. The idea that newcomers to society bring diversity has been highlighted in many studies [17,18,33,34]. Furthermore, intergroup marriages have been reported as the duration of living together in a society increases. This can also be considered an indicator of society's acceptance of newcomer groups.

In the last decade, Turkish society has begun to live together with millions of Syrians. Especially at the beginning of the process, acceptance and solidarity towards Syrians were evident, linked to the reasons for their arrival. However, over time, for various reasons, this situation has evolved towards discomfort and anxiety within Turkish society. Nevertheless, it can still be said that the level of social acceptance of Syrian refugees by Turkish society remains relatively high [35].

Studies conducted in Turkey emphasise negative attitudes towards Syrian refugees [4,36]. While studies generally focus on attitudes toward migration (e.g., [37]), it is known that attitudes of the host group vary according to the characteristics of newcomers (nationality, religion, status in the country) [38]. Intergroup relations shape people's attitudes toward others. Furthermore, these attitudes can psychologically, socially, and culturally affect newcomers [39,40]. Intergroup relations are fundamentally based on the concept of social identity. Social identity can increase inequalities in intergroup relations in daily life, leading to adverse outcomes for both parties. Therefore, social identity is an essential theoretical framework in intergroup relations research. As individuals interact more with a group, they see themselves as typical members. They assume they share standard norms, values, behaviours, and culture with their group. As individuals identify with their group, they become more sensitive to differences with other groups and evaluate others based on their group membership. In daily life, individuals compare their group to other groups. Individuals feel better about themselves to the extent that they perceive their group as superior to others. However, when individuals perceive a threat in this process, intergroup relations lead to anxiety and nurture prejudice and stereotypes [9]. This process becomes pronounced, especially when different groups start living together in post-migration society. It is often used to explain negative attitudes toward newcomers. However, although studies generally focus on negative attitudes towards refugees, it is also assumed that positive attitudes exist.

The evaluations of the host community regarding refugees are a complex process; therefore, more than a single theoretical perspective may be required [17,18]. Attitudes towards refugees can rarely be purely positive or negative. Therefore, a comprehensive perspective considering threats and benefits will provide a more detailed understanding of the process. The most significant contribution of this study is to demonstrate that Syrian refugees in Turkey are perceived not only as a threat but also as a benefit. Tartakovsky and Walsh [17,18] have shown in their studies in Israel that threats and benefits can coexist for different immigrant and refugee groups and are not mutually exclusive. When the host community perceives refugees as a social, economic, or cultural threat, it supports exclusionary behaviour and social policies [41]. Therefore, understanding the psychological processes contributing to the perception of refugees as a threat is essential for developing policies and practices.

The study has several limitations. This study is qualitative. There is a need for quantitative research to establish the concepts related to the threat and benefit model and to establish causality between variables. Additionally, there are limitations in the selection and inclusion of research participants. The study included volunteers living in Izmir, a metropolitan city in the westernmost part of Turkey, which is culturally and economically developed. The study focused on attitudes toward a specific refugee group (Syrians) within a specific cultural and social context. Therefore, more research is needed to examine the proposed threat and benefit model in different cities and with other groups. Working with immigrant

groups with different characteristics is believed to increase awareness of the subject and uncover new socio-psychological issues.

The findings of this study, which examines the attitudes of the host community towards Syrian refugees in Turkey through the threat-benefit model, have important policy implications. The research sheds light on the multifaceted perceptions of Syrian refugees within the host community, encompassing threats and benefits. These findings can inform policymaking regarding Syrian refugees in Turkey in several key areas:

Information Dissemination: The study highlights that the host community perceives uncertainties about Syrian refugees as threats. Concerns about the number of refugees, birth rates, duration of stay, expenditures on them, and contagious diseases contribute to these uncertainties. Policymakers should address these concerns by providing transparent and accurate information to the host community. Regular updates and clear communication can help alleviate fears and misconceptions.

Economic Integration: The study reveals that Syrian refugees are seen as economic threats, as they are perceived to receive more support than the host community in terms of rights, social assistance, healthcare, and work permits. Policymakers should focus on policies that facilitate the economic integration of refugees to promote social equality and harmony, including creating job opportunities, ensuring fair access to social services, and developing support programs to ease competition in the job market.

Security Concerns: Security concerns related to Syrian refugees are prevalent among the host community. Policymakers should prioritize security measures to address these concerns. This may involve enhancing law enforcement efforts, fostering community policing initiatives, and promoting social cohesion to minimize the perception of security threats.

Cultural Integration: The study underscores that the host community sees Syrian refugees as threatening their way of life, culture, and worldviews. Cultural integration programs should be developed to facilitate the coexistence of different cultural elements. Policies can encourage cultural exchange and mutual appreciation, thereby reducing fears related to cultural differences.

Economic Contributions: The research identifies certain benefits associated with Syrian refugees, particularly their willingness to work in jobs that the host community may find less desirable. Policymakers should acknowledge and promote the contributions of refugees to the local economy. Highlighting the positive aspects of their participation in the job market can counterbalance negative perceptions and promote social acceptance.

Cultural Enrichment: The study emphasizes that host community members perceive refugees' cultural elements, such as food and clothing, as enriching cultural aspects. Policies that support cultural diversity and appreciation should be encouraged. This can include initiatives that promote cultural exchange and understanding.

Research and Data Collection: Given the study's limitations and the need for quantitative research, policymakers should consider investing in further studies to validate the threat-benefit model and establish causality between variables quantitatively. These studies should encompass various cities and refugee groups to understand attitudes toward refugees in different contexts comprehensively.

Social Integration and Psychological Support: Policymakers should recognize the importance of social integration and provide psychological support resources for refugees and the host community. These efforts can help mitigate negative attitudes and promote social cohesion.

Education and Awareness Campaigns: Public awareness campaigns and educational initiatives can play a vital role in changing perceptions and attitudes. These campaigns should emphasize the shared benefits of hosting refugees and promote empathy and understanding.

In conclusion, the study's insights into the attitudes of the host community towards Syrian refugees in Turkey provide a valuable foundation for policymaking. Policies should address the concerns

and perceptions highlighted in the study, focusing on promoting social integration, economic inclusion, cultural diversity, and a more accurate understanding of refugees' role in the host society. By addressing these issues, policymakers can contribute to social justice, peace, and harmonious coexistence between Turkey's host community and Syrian refugees.

While studies reflect attitudes towards refugees [4,6,19,20,30], this study systematically examined a new model, the TFM, comprehensively. This study examines the attitudes of the host community toward Syrian refugees from the perspective of threats and opportunities. Quantitative studies in Turkey examine the attitudes of the host community towards Syrian refugees [30,42-45]. However, it is observed that there is a limited number of qualitative studies that provide in-depth information on this topic in the literature (e.g., [46]), and there is no study that examines attitudes towards Syrian refugees using the TFM. Therefore, the study is believed to provide detailed information to the literature and contribute to practitioners and policymakers. In addition, the study may contribute to developing social psychology as a discipline related to society and creating effective policies and intervention programs.

Conflict of Interest

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ARTICLE

More than Meets the Eye: A Qualitative Investigation of the Complex Weight History Constructions of Brazilian Women Who Underwent Bariatric Surgery

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ABSTRACT

Most studies on bariatric surgery identify personal factors such as "non-compliance" to lifestyle changes as the cause of weight gain and subsequent inability to lose weight. Prior qualitative studies suggest that weight loss patients have complicated relationships with both self and weight, with significant emotional and psychological implications. But how do patients themselves understand the trajectories of their weight gain as related to intrinsic versus extrinsic factors? A qualitative analysis examined the aspects involved in the construction of higher body weight from the perspectives and life experiences of Brazilian women who underwent bariatric surgery, considering that Brazil has previously been reported as a highly anti-fat society. Individual, semi-structured interviews were conducted with thirty women (15 aged 33-59 and 15 aged 63-72). Data were analyzed identifying the regular, expressive, and meaningful significance units identified through the interviews. Although it was expected that different life events were reported as crucial to the perceived aetiology of individual weight gain stories, the participants reported that the emotional aspects had more impact. The extremely high value attached to having a particular body weight negatively influenced the participants' concept of identity and harmed their interactions and understanding of what it meant to be fully loved and accepted. Most of the participants underscored the importance of food in women's lived experiences and explanations of weight gain. Despite this somatic response being dysfunctionally directed to food, this mechanism seemed to be vital to keeping them alive and engaged in the world. Finally, the participants faced layered vulnerabilities, which decreased their opportunities to access resources aimed at better body weight management. Broad approaches that consider emotional and physical care strategies must be proposed to this population.

Keywords: Mental health; Bariatric surgery; Obesity; Body weight; Stigma; Brazil; Qualitative investigation

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1. Introduction

Ethnographic accounts and body image surveys suggest that the social capital embedded in thin bodies is particularly relevant in Brazil, where slim-waisted ideals are currently hegemonic (e.g., [1,2]). In Brazil today, thinness is seen as a vehicle for social ascension and better socioeconomic opportunities, particularly among certain segments of the urban middle class, where the ideal for women is a thin waist, a large chest, and large (but cellulite-free) buttocks and the ideal for men is physical strength, power, and virility [1,2]. Body dissatisfaction is very high, especially among urban, middle-class women [3]. Bodies are, however, also seen as "fixable" by many Brazilians through medical interventions like surgery. In such a context, one that connects personal and social moral failing to an individual's inability to lose weight, the consequences of not being able to achieve an ideal, thin body can be psychologically and emotionally devastating [4].

One of the most effective means for losing substantial excessive weight—at least at the individual level—is bariatric surgery, a type of procedure that induces severe weight-loss through the surgical modification of the stomach and/or intestines [5]. Bariatric procedures have been available at no cost to patients through the Brazilian Unified Health System since 1999 [6]. From a clinical perspective, bariatric surgery can be a useful tool for helping patients with severe type 2 diabetes and other diseases commonly associated with weight deemed medically excessive [7]. Patients, however, rarely present for surgery without a complexity of related psychological issues and socially-situated anxieties stemming from negative, weight-related experiences prior to surgery [7].

Qualitative studies allow us to understand the meanings of this procedure to the candidates [7-11], to comprehend how these meanings affect the surgery outcomes [12], and to clarify the expectations, perceptions, and beliefs about obesity surgery among would-be bariatric patients [7,11]. It is important to highlight that "obesity" designates fatness as pathological. This word choice was used in this article when referring to or reflecting the articulated attitudes of organizations or when dialoguing with other clinically-oriented researchers. Otherwise, words such as "high body weight" and "large body" were used [13]. Most bariatric programs—and the research that flows from them—still attempt to understand the lived experiences of bariatric surgery and its attendant weight loss through a focus on the moral individual: Individuals classified with obesity "fail" to make effective lifestyle changes before and even after the surgery, reinforcing the sociocultural view of people with higher body weight as "undisciplined", "without willpower" and responsible for their condition [7-11]. Less is understood about how weight loss and surgery are placed by patients in the context of their specific life trajectories; that is, how they come to understand the broader processes in which their own weight was and remains embedded.

It is understood that people who will have or have already had this surgery rely on complex, multi-layered etiological models regarding how their large bodies were constructed before the surgical intervention. This understanding is the departure point for the arguments put forth in this paper. The aim is to advance knowledge on the multi-causality of this perceived condition (i.e., high body weight) from the perspective of patients' lived experiences, based on a qualitative research project conducted in Brazil.

Relying on the stories of women who had undergone bariatric surgery, the aim of this article is to qualitatively investigate the interplay between intimate, personal vs. broad, structural factors as explanations for women's higher body weights pre-surgery, with particular interest in the emotional, economic, and social dimensions of these articulated explanations. More specifically, the research questions are: how do patients themselves understand the trajectories of their weight gain as related to intrinsic versus extrinsic factors? With particular interest, do they refer to emotional aspects to talk about the changes in their weight? Does other aspects, such as economic and social dimensions, are also articulated in their narratives? Do these aspects interact with each other? Qualitative interviewing is especially important and useful here, because it not only extracts

culturally-situated stories that can be analyzed, but also the act of the interview itself can help patients develop and order those stories. With this qualitative investigation, the expectation is to shed light on nuances related to the construction of a higher body weight that has not yet been explored. For example, one key prediction was that women's details of their lifetime trajectories related to weight would identify multiple external influences, a position that provides a counter narrative to core sociocultural assumptions that weight gain is always due to personal failings. Another prediction, however, was that the idea of personal failure would still be embedded in women's telling of their stories, and that it would be associated with emotional costs like distress.

2. Methods

2.1 Setting

The Ethics Committee at the School of Public Health of the University of São Paulo and the Hospital das Clínicas of the School of Medicine of the University of São Paulo (HCFMUSP) approved this study (Approvals 4.031.373 and 4.143.745, respectively). Participants provided both digitally recorded oral consent and digitally recorded informed consent, and both processes were also approved by the Ethics Committee. All research procedures adhered to the regulations in the Declaration of Helsinki as revised in 2008.

This research was carried out at Hospital das Clínicas of the School of Medicine, University of São Paulo (HCFMUSP). This institution is a tertiary, referral-based teaching hospital located in the most populated city in Brazil, São Paulo. Before the onset of the COVID-19 pandemic, women who underwent bariatric surgery were recruited by the researchers, by visiting the clinic and interacting with patients between November 2019 and March 2020. Interested participants provided Author 1 with their names and contact information. During the pandemic (June-August 2020), patients being followed by the Bariatric Surgery Out-patient Clinics of HCFMUSP were recruited by the authors via a list of eligible participants that was provided by the clinic. The participants who fit the proposed profile (i.e., adult women who had undergone surgery at HCFMUSP) were invited to participate. The potential participants were contacted via a WhatsApp message from Author 1. In this contact, Author 1 introduced herself, explained why she was contacting them, the purpose of the research, and clarified that if they agreed to participate, the participation would be voluntary.

2.2 Study design and population

This study is part of a more extensive qualitative research project that investigates the perceptions of adult women who have undergone bariatric surgery. The methodological framework of the present study focuses on two distinct age categories, but the information is presented to provide contextualization, not comparison. The sample consisted of 30 women who were categorized as "adult" (aged 33-59) or "older" (aged 63-72) at the time they underwent bariatric surgery. Sample sizes for adult and older groups are suitable for theme identification in qualitative research [14]. To qualify for this study, the participants must have undergone the surgical procedure one to five years prior and had the surgery at HCFMUSP.

2.3 Data collection

Author 1 conducted two semi-structured interviews with each woman who consented to be in the study [15]. These conversations sought to comprehensively understand how women's bodies were constructed throughout their lives. The interviews were conducted over two encounters within a short period of time (e.g., in the same or consecutive weeks). Because of the social isolation imposed by the pandemic, the interviews were conducted remotely via WhatsApp video calls, which were audio-recorded and then transcribed verbatim. The interview transcription was conducted by a specialized service, which ensured confidentiality. Non-verbal behavior such as gestures was observed and recorded in separate handwritten notes by Author 1. The average time of each of the two encounters was one hour

and a half. This two-encounter approach proved to be quite effective in obtaining data and resulted in higher adherence to study protocols because it fits women's schedules. Notably, the time gap between the first and second interviews led to increased reflexivity among the participants and the researcher, who reviewed the recording of the first encounter to note gaps that needed to be covered in the second. Author 1 has extensive experience with semi-structured interviews, having conducted this type of research during her M.A. and Ph.D. work. The interview protocol that guided the interviews is presented in Supplementary Material.

2.4 Data analysis

Participants' life stories and narratives were assembled from the data collected in the interviews so that it was possible to investigate the ways that interviewees understood how their bodies gained a higher weight. First, an initial reading of the transcripts was conducted by Author 1, in which the researcher noted the most salient aspects of the data [15]. Following Braun and Clarke [16], thematic analysis comprised a series of phases. Initially, Author 1 familiarized herself with the data set by reading and rereading the transcripts and noting down initial analytical observations. Then, Author 1 coded the transcripts, systematically identifying and labelling relevant features of the data in relation to the research questions and grouping together similar data segments. Afterwards, the development of themes was conducted and in this stage of the process, Author 1 worked closely with the other authors, and discussed the process until the final consensus. As Braun and Clarke [16] highlight, themes are not simply sitting in the data waiting to be uncovered. Rather, Author 1 clustered together codes to create a plausible mapping of key patterns in the data. The themes were then named, categorized, and organized and the final product then provided a road map for the write-up. Finally, Author 1 presented the analytic narrative with vivid and compelling data extracts. The theoretical frameworks that guided the analysis included the frameworks of the fat studies [17] psychodrama [18,19], intersectionality, and social markers of difference [20].

3. Results

Thirty women (N = 15 aged 33-59 years and N = 15 aged 63-72 years) participated in the study. Their general characteristics are presented in **Table 1**. All the women's bariatric surgeries were performed between 2016 and 2019, before the onset of the COVID-19 pandemic.

Four adults and one older woman reported they had had a higher body weight since they were children. At that time, some of them were not medically classified as obese but were "*cute little chubby kids*", as one of them remembered. The other eleven adults and fourteen older women reported that they were thin kids. Of these twenty-five, three (two adults and one elderly woman) maintained this thin body until their adolescence, when they started gaining weight. The remaining nine adult and thirteen older participants maintained a thin body until adulthood.

During this time, all the women said that they remembered being satisfied with their body, classifying it as "beautiful" and "marvellous," and usually described themselves as having proportional measures and in particular, a narrow waist. For three adults and one older woman, having a thin body opened job opportunities. Sonia (an adult), for example, said that she maintained her "good" appearance (i.e., a lean body) to have better job positions, which in turn allowed her to be independent and able to help her family financially.

When asked when they started gaining weight, distinct aspects were mentioned by them, including life changes, health problems, and dieting and using weight-loss drugs, which are detailed below. For most participants, although these aspects are presented separately, they interact with one another to produce multi-layered stories of suffering and struggle.

3.1 Life course changes

Some participants mentioned life changes that modified their eating behaviors, which, in turn, contributed to their weight gain. For example, Catia (an

Table 1. General characteristics of women participating in the study.

	Adults (N = 15)	**Older (N = 15)**
Current age (year), mean (SD)	45 (8.7)	67 (2.4)
Age at surgery (year), mean (SD)	43 (8.7)	64 (2.4)
Anthropometry		
Current body mass index (kg/m^2), mean (SD)	31.2 (4.7)	33.9 (4.0)
Body mass index (kg/m^2) at surgery, mean (SD)	44.9 (6.9)	44.8 (4.7)
Highest body mass index (kg/m^2) pre-surgery, mean (SD)	51.9 (10.5)	51.9 (7.8)
Lowest body mass index (kg/m^2) post-surgery, mean (SD)	29.5 (4.5)	31.5 (5.1)
Self-reported skin color, n (%)		
White	4 (26)	11 (74)
Black	1 (7)	2 (13)
Brown	10 (67)	2 (13)
Relationship status, n (%)		
Single	3 (20)	1 (7)
Married	8 (53)	6 (40)
Common-law marriage	1 (7)	1 (7)
Divorced	2 (13)	3 (20)
Widowed	1 (7)	4 (26)
Education, n (%)		
Graduated from elementary school	2 (13)	2 (13)
Incomplete elementary school graduation	0 (0)	5 (33)
Graduated from high school	5 (33)	4 (27)
Incomplete high school graduation	1 (7)	1 (7)
Graduated from college	6 (40)	1 (7)
Incomplete college graduation	0 (0)	2 (13)
Postgraduate-level studies	1 (7)	0 (0)
Household conformation, n (%)		
Lives alone	2 (13)	4 (27)
Lives with only one family member	2 (13)	7 (46)
Lives with two family members	5 (33)	4 (27)
Lives with three or more family members	6 (41)	0 (0)
Monthly family income (value in U.S. Dollars), n (%)		
≤ 397.00	6 (40)	8 (54)
397.01-794.00	4 (27)	6 (40)
794.01-,986.00	4 (27)	1 (6)
1,986.01-3,972.00	1 (6)	0 (0)

adult) lived in a rural area and moved to an urban area. This resulted in changes in what she ate, particularly the inclusion of ultra-processed foods. For others, getting married and improving their financial condition also impacted their diet and therefore, their weight, as Marcia and Vivian (both adults), remembered. According to Marcia, her younger self had thought "*Now that I am married, it is my life, I go to the market, I buy what I want: yoghurt, Coca-Cola®, chocolate. I am not buying rice, beans...*".

Other participants also shared changing aspects of their lifestyles that they felt contributed to their weight gain. Myrian (an adult) believed that the reasons she gained weight were complex, related to her sedentarism and the unbalanced diet of her family when she was younger but also to other factors. She remembered that there was a lot of "*junk food, ice cream, packaged snacks*" that everyone in her house ate, but she also acknowledged that her father's family had people with high body weight, so she felt there was a genetic component as well. Rita (older) reported that she had a very "bohemian" life for several years during her adulthood: she enjoyed dancing with friends all night long, an activity that was accompanied by alcohol and smoking. Then, when she was 57 years old, she stopped it all for religious reasons, and that was when she started to gain weight.

Modern, urban employment was also mentioned frequently as a contributing factor. Arlete and Maddalena (both older) mentioned their excessive workload as a barrier to a healthier lifestyle, contributing to their weight gain. Maddalena said, "*I was working in two services, I was on duty at the emergency room at night and after I went straight to the health center. It was eight hours of work, I came home at 5 p.m. sleepy, tired, and only then I would make something for dinner, so I just got fat.*" Joana (an adult) said that she woke up early, took her children to daycare, came back home after working the entire day, and as a result, ended up eating ready-to-eat foods. For Maddalena, this workload was combined with the stress and fear of living with an abusive husband, and, to her, being able to stay outside her house was a much-needed protective measure, but also reduced her ability to cook homemade foods.

Most of the participants mentioned their pregnancies as an aspect that influenced their weight gain, but not expressively. It was different from Teresa (older), who believed that the anesthesia needed for her cesarian triggered her weight gain. Rosana (an adult) also had a distinct experience after she gave birth. She was having difficulty breastfeeding her child and heard that *canjica* (a Brazilian sweet dish composed of grated corn, sugar, and coconut milk) would stimulate milk production, so she ate large quantities of it to help her breastfeed and gain weight with it (she used to wear a Brazilian mannequin size 38 and started wearing a 42, equivalent to the 6-10 U.S. numeration, respectively). Finally, Arlete (older) had a risky pregnancy and had to stay in bed. She remembered eating all the time and gaining weight as a result. Although these cases were unusual, women commonly reported that they gained weight during pregnancy and had difficulty losing it all after giving birth.

3.2 Struggling with health issues

For some participants, health problems were slightly or highly relevant to their weight gain because of the side effects of certain drugs used to control a condition or pain. Rosana (an adult), for example, had toxoplasmosis, and she took numerous medicines to treat it. She reported that this was when her weight increased more significantly. Other health problems that were noted as contributing to weight gain included myomas, resulting in the removal of the uterus, and cancers. Illustratively, Carmen (older) was diagnosed with cancer when she was 48 years old. She had the tumor removed surgically and then did chemotherapy, gaining weight afterwards. She said that after chemotherapy "*was when I completely lost control [of my weight].*" When she was pronounced free from cancer three years later, her weight was extremely high, but when she asked about weight loss strategies her doctor advised: "*It is no use dieting now, wait because your body will start to reduce the corticoids by itself; then you can do whatever you want [to lose weight].*"

Health issues often combined with other factors and were attributed to weight gain by participants in their narratives. For example, Laís (an adult) was diagnosed with polycystic ovarian syndrome when she was twelve years old, and because of that, she remembered putting on 20 kg per year throughout her late teens. At this age, she also found a lump in her salivary gland, which later evolved into cancer, and she had to have it removed surgically. She identified that these health problems contributed to her weight increase. Another aspect that contributed to it, however, was related to changes in her routine. In her early teens, she moved to São Paulo with her father, a couple of years later, when she was fourteen years old, she started working for wages and spent the entire day outside the home. She started working because she wanted to have an occupation and independence. She recalls that at fourteen, she had the habit of skipping breakfast, and often forgetting to have lunch as well, because she was involved with her activities. Then, she would eat a large amount of food when she got home at night. These eating habits combined with a sedentary life resulting from this intense routine and a lack of motivation to exercise: "*After I moved to São Paulo, I became very sedentary. I stopped physical activity [because I did not feel like doing it], I just went to work. I came home, and I ate. I did not do anything. And then I got fatter, fatter, fatter.*" As Laís' narrative demonstrates, it was not simply the health conditions nor the change in routine but rather these acted together to produce a situation of eating with subsequent weight gain.

3.3 Dieting and using weight-loss drugs

All participants reported trying a combination of restrictive diets and/or medications for weight reduction prior to trying bariatric surgery. Weight-loss medications containing amphetamines were often prescribed by pharmacies or clinics to individuals experiencing weight gain, as Tania (an adult) remembered. She weighed about 10 kg more than her usual weight when physicians prescribed her weight-loss drugs. All the participants reported experiencing side effects and weight regain with the drugs. Patricia (an adult) said she regretted taking weight-loss drugs and believed that she was "morbidly obese" (her words) because of those drugs. She told us, "*I would have been chubby my whole life, but I would not have gotten where I got without the medication.*" Cristina (an adult) also stressed how negatively she was affected because of the use of prescription weight-loss medications, saying, "*When I was losing weight [with the help of drugs], I was without spirit and… I sat on the sofa in the living room, and I did not feel like turning on the television. I looked at the floor, and I looked at the ceiling. I just wanted to cry, and I could not sleep.*" Then she discontinued the use and subsequently gained weight. Increased anxiety and lack of sleep were common side effects reported by the participants, and all of them reported regaining weight after discontinuing the use of the medications.

Regarding restrictive diets, the majority tried different strategies, usually on their own rather than as part of a program (and sometimes guided by diet plans they found online, on the television, or in magazines), but these diets were not sustainable. Some of them were given some guidance by a health professional but were nonetheless unsuccessful in their attempts to lose weight. For example, Myrian (an adult), who reported that she had been medically classified as obese since an early age, had been visiting an endocrinologist since her childhood. This professional repeatedly gave her restrictive diets to reduce weight, but Myrian said they were difficult to follow because her family was not engaged in the process with her. Myrian said, "*I did the diet, and the rest of the house did not. So, it was really bad because I broke the diet.*" She added that while she was eating a plate full of vegetables, her brother was eating a slice of pizza.

3.4 Emotional health and suffering

As it is possible to see from the preceding sections, women talked about a variety of lifestyle changes and health issues that they felt led to increased weight. For most of the participants, however, more significant weight gain was related to emotional health. At the same time, downturns in

emotional health were intertwined with downturns in social, physical, and economic circumstances.

Gaining weight because of depression, tragedy, and isolation

In this section, all the self-isolation experiences took place years before the pandemic. Some women associated their weight gain with depression. Sonia (an adult) said that the "good" and "beautiful" body (i.e., her previously thin body) had not led to more meaningful relationships for her and she had never felt that she "deserved" her body. When she was thin, she remembered feeling "*terrific, but I also didn't want people to see only that in me.*" Therefore, she voiced a will to change that: "*Deep down, I wanted to let it happen [gain weight], I let me get ugly to see if I got ugly, things [relationships] would improve, which in reality did not happen.*" She remembered believing that happiness was not for her. She said, "*I said, 'Look, it was a father who didn't want me, who mistreated me, a mother who abandoned me, a husband who said that he would take care of me and didn't, a daughter who offended, humiliated me, so I don't think I'm good for anything, and I do not deserve anything, so I have to find a way to disappear.' However, I never dared to commit suicide.*" At this time, food comforted her, and gaining weight was her way of disappearing and managing her emotional state.

Benedita (older) used amphetamines, prescribed by health professionals, to control her weight for ten years, but the drugs were prohibited after that. While she stopped being prescribed the amphetamines, she quit smoking (she had previously smoked two packs of cigarettes per day) and quit her job, because she was exhausted. Around this same time, her husband cheated on her ultimately leading to divorce. Therefore, she became profoundly depressed. She explained that food was her comfort during this difficult time, but the emotional and weight-related consequences were substantial: "*I didn't go out, I was afraid of everything, I stayed [in my house] for about a year or so like this... Then I exploded, I weighed 136 kilos.*" Vivian (an adult) remembered that she started gaining "real" weight when she had depression. When the interviewer tried to explore how she believed the weight gain connected to her depression, she responded that she suspected that might have to do with weight-loss medications she was also taking at this time, but the connection is also blurred in her memory. She said, "*I took a lot of [weight-loss] drugs. The drugs started to mess with my psyche a lot. That is why I say it is a blank. Some things I try to relate to, but others I cannot. When you ask, 'What originated this?' I don't know. It is a mix of many other things.*" This exchange again highlights the fact that although these results are being reported in seemingly distinct sub-sections, the reality of women's lives (and weight trajectories) was much messier and more complex. Vivian drew attention to depression when describing her weight gain, but weight-loss medications also appeared to play a part.

Similarly, Luana (an adult) had a regularly active life until she was in a severe car accident, which left her with important physical limitations, and unable to continue her activities. Consequently, she was depressed and attempted suicide. The abrupt change in her ability to move her body in combination with the sudden onset of acute depression resulted in a significant weight gain. Physical and emotional health again intertwine in this narrative.

Experiencing losses also triggered depression. Laís (an adult) attributed her weight increase to her parents' divorce, which affected her greatly. A year before her bariatric surgery, she got depressed. She reported, "*The year before the surgery was the worst year that I have ever lived. I was not working, and I was only inside my house. I just ate, ate, and ate. Then depression hit me. It looked like things did not work out for me.*" In this instance, the loss was a severed relationship within her family. Other losses were also reported by participants. Celia (older) lost her son, and reported getting depressed and anxious as a result. She said that when she was anxious, she ate, and her weight greatly increased. Similarly, Eugenia and Simone (both older) attributed their weight increase to their grief after their fathers passed away.

Some of the reported losses were multi-layered

in their narratives and the resulting tragedy. Bruna (an adult) started gaining weight after her boyfriend drowned. She was with him when it happened, and she blamed herself for years for his death, saying, "*I did not think it was fair that I lived… I survived and he did not.*" After he died, she narrated that "*all my traumas, the pain that I felt, I was taking it out on food... but compulsively.*" She remembered staying indoors, being depressed, and not interacting much with others. Amanda (an adult) was pregnant with twin girls and tragically lost her babies in a miscarriage after her husband hurt her. She told us, "*I was four days away from having these kids, and he literally... I do not know what happened to him, he went nuts... And he ended up killing my two daughters.*" After that, she could not become pregnant anymore, developed a hormonal dysfunction, and then was operated on for a fibroid. She said that eventually, she just gave up: "*I was surrendering myself. And it was certain: the depression came [...] And then I gained weight, gained weight. My emotional life was totally unstructured.*"

Gaining weight because of broader emotional aspects and negative life events

Other participants did not classify their emotional state as "depression" per se but mentioned the emotional consequences of certain events. Patricia (an adult) was sexually abused when she was five years old. She reported, "*From that moment on, I started getting fat, getting fat, and then I was obese.*" Years later, she realized that eating had to do with trying to hide, not attracting admiring eyes, and wishing not to be wanted. A similar perception of trying not to attract attention was shared by Cristina (an adult). She had a traumatic experience with a boyfriend, in which her family discovered their sexual involvement and were very condemning of it, and this exposure felt very invasive to her. She relates this emotional mark in her life as something that affected her weight gain: "*These things contributed more for me to gain weight, to be in this malaise, in this thing of not feeling good about anything.*" Monica (older) told us that she discovered her husband cheated on her, and this made her extremely frustrated and upset. She believed that her more significant weight gain was related to her frustration and unhappiness from the discovered infidelity.

Giovana (an adult) also talked about her emotional state contributing to her weight gain, but focused on how this was affected by her relationship with her mother. Giovana said that she was only twelve years old when her mother started working, and she had to take care of her three siblings and assume the household activities. She told us, "*That was when I started gaining weight.*" She remembered fearing her mother's reaction if things at home were not as she expected when she arrived: "*If my mother came home and the kids were not bathed, and I did not have ready-made food I was beaten up.*" She believes that living under that tension resulted in anxiety, and she ended up eating to compensate for that anxiety. She said, "*From 15 to 16 years old I started to eat compulsively. So, I ate a lot. Everything was about eating.*" She also had polycystic ovarian syndrome, but she could not tell if that also contributed to her weight gain.

For two participants, their emotional health was impacted by experiencing weight stigma. As a child, Myrian (an adult) remembered facing bullying episodes at school related to weight stigma, making her feel anxious and causing her to eat as a result. She said, "*It [weight stigma] affects your esteem, your psychology. So, I think one way to improve this was to eat what I enjoyed eating.*" She remembered that in her adolescence, weight stigma increased. It was a period in which she had to wear men's clothes because they fit her body better, affecting her even more: "*You get more depressed, more frustrated, you do not want to go out so much, your friendships dilute, all because of your appearance.*" Simone (elderly) also remembered being bullied because of her weight, and that the bullying made her feel sad and anxious. She said, "*It was [comments like] 'beached whale', it was... everything they [friends and family] put a fault on. I cried a lot because of it... not in front of them, but I felt very sad.*" Like Myrian, Simone also remembered eating more out of sadness caused by her experiences around weight stigma.

Financial stress causes emotional stress

To others, a stressful state of mind was related to financial struggles. Catia (an adult) remembered that when she had a more significant change in her weight, she had just had her first son and was constantly worried and anxious about being able to give him the best possible life. She reported, "*You have that worry about you wanting to give the best to your child and you see that the conditions are tight because you must pay the rent, you must eat. I worried about that.*" She said that her worry about her financial condition made her feel anxious, and she ended up eating to calm herself. Rosana (an adult) also linked poor mental health to financial difficulties. During a time when she had to move out from her house, her marriage was facing difficulties, and she had to increase her workload to help the family finances, she said she became depressed. She remembered, "*I did not even have time to go to a gym. I did not even have money because everything we earned was for our needs. And I did not have... Will either. You know when you are already down in life, and you do not want anything else?*" Again, we see the link to previous sections about depression but here, the emphasis was on financial precarity—which then caused depression and weight gain.

Marcia (an adult) had a similar narrative, remembering when she had to work to help her husband, take care of her daughters, and do the housework. As a result, she remembered being highly anxious. She worked as a seamstress and it was highly stressful work, in which she repeatedly had to stay up all night to deliver the service. She had insomnia for several years, and the combination of the lack of sleep with work and financial anxiety had consequences. She said, "*This anxiety, this lack of sleep, this concern, I took it all out on food—'I am going to eat.' I used to eat at odd hours because I worked until midnight, and I did not stop to make food. Then I ate bread, drank coffee, ate crackers, ate pizza, and another day an esfiha [an Arab dish consisting of flatbread cooked with a minced meat or cheese topping], but always working, working, working, like, Saturday, Sunday, day, and night. For many years I lived like that.*" Some of this resonates with the section on life course changes that made it difficult for women to adopt habits they deemed to be healthy. Marcia also mentioned a theme found in Rosana's narrative: She did not have time to worry about her health because other things were more important, such as paying the bills, and taking care of her children. Finally, Marcia discovered she had a thyroid problem, but it was only later that she had the time and money to deal with it.

Joana (an adult) also acknowledged that she was anxious because of financial difficulties. She wanted to help her grandparents, but she could not. She said, "*I thought I had an obligation to help them [financially], but I could not, and I think it messed with me?*" Finally, Eugenia (elderly) also recognized that her preoccupation with her finances affected her weight. She told us, "*The financial situation, I believe, once difficult, it will affect every step of our life, right?*." And she added: "*You must work so you can pay the rent, buy food, pay for the hospital, for the medicines. Then you no longer know what you do for a living, right? It is very complicated.*"

All in all, our participants stressed that distinct aspects contributed to their weight gain, including, initially, life changes, health problems, changes in their eating and using weight-loss drugs. Nonetheless, a more significant weight gain was related to their emotional health, which involved having depression, losing significant others, living in isolation, having abusive experiences (e.g., sexual, verbal, physical, because of weight stigma, among others), and facing financial struggles.

4. Discussion

In this article, the aim was to qualitatively investigate the multiple aspects involved in constructions of causality around a higher body weight from the perspectives and life experiences of Brazilian women who had undergone bariatric surgery. The findings present deeply contextualized data on how emotional, economic, and social dimensions of women's lives all contribute to their narratives of how they ended up with a higher body weight. In these narra-

tives, women toggled between identifying multiple external influences and the idea of personal failure. In both perspectives, however, multi-layered types of suffering emerged as an important feedback loop: The suffering caused weight gain and was the result of weight gain.

While initial body change was related to modifications in the participants' diets, lifestyle changes and health issues, their narratives implied that other episodes had a more significant impact on changing their bodies, namely the adverse long-term effects of weight-loss drugs, health problems, and an array of intertwined tragic life events and negative emotional responses. Emotionally demanding life events ranged from losing significant others to suffering weight stigma to being in abusive relationships. Financial precarity amplified emotional stress, not only jeopardizing women's opportunities to plan and think more carefully about their eating, but also by leading to increased psychosocial stress, which, in turn, affected their weight.

In Brazil, previous research clearly indicates having a thin body is an important vehicle for social and economic advancement, especially for urban, middle-class women (e.g., [1,2]). Our study showed that this was the reality for some participants when they were younger: because of their thin bodies, they had unique job opportunities, such as modeling, which otherwise would not have been possible. This was not always viewed positively by participants, however. For Sonia, being considered a "symbolic object"—precisely because of her thin body—put enormous pressure on her. Despite the social advantages that this hegemonic ideal body brought her, including allowing her to be financially independent, the symbolism that she attached to it (i.e., that people only valued her because of her thin, socially desirable body) resulted in a mismatch between the beliefs and truths that she held about herself versus her perception of what others thought about her, affecting the concept of her own identity [18]. In this instance, this mismatch resulted in Sonia attempting to be as detached as possible from her thin body in a movement to reclaim her identity, resulting in a higher body weight. As she explained to us, however, a higher body weight came with its own symbolism, much of it negative.

It was evident in our participants' narratives that they suffered numerous and tragic losses. These losses included losing significant others, experiencing profoundly unhappy childhoods (because of sexual and/or physical abuse within the family, having to assume disproportional responsibilities from an early age, and experiencing weight stigma), losing relationships (because of infidelity and intimate partner violence), or losing physical capacity (because of accidents). Dias et al. [19] indicate that common psychological responses to such traumatic events include feelings of abandonment, lack of protection, impotence, anguish and the activation of psychological defences, which help an individual to feel "distanced" from their actual conflict. These responses seem to resonate with the narratives of our participants, coupled with an expressed reliance on certain types of foods and eating practices as coping mechanisms.

Another aspect that some of the participants seemed to have lost was the ability to easily interact with the external world, as many women reported the experience of being isolated indoors, with minimal interactions with other people and with little possibility of having any social life. Most participants linked this self-isolation to an internalized, fragile emotional state, which reduced their willingness to be outdoors. Nonetheless, these women also faced experiences that informed them that their fat bodies were not welcomed in Brazilian society. The experiences of weight stigma that the participants mentioned illustrate that exclusion. It is known that weight stigma has negative consequences [21]. In a national context like Brazil, where bodies are seen as "fixable" and as sites that individuals should strive to perfect [2], the moral implications of a fat body are particularly significant. This, in turn, amplifies felt weight stigma. Our study shows the lived experiences of women who were subjected to weight stigma, highlighting how it affected their self-esteem and emotional health, as well as hindering their opportunities to belong, make connections with their peers,

and have any genuine social life and support.

For example, some participants did routinely leave the house (many had to, for employment) but at the same time did not engage socially, cutting off friendships and romantic relationships. Others reported even greater isolation, in which they were locked up and isolated at home (and this was before the pandemic). Isolation at home put life in a state of suspension, in which there was no one to help them process their various anxieties. Food in this symbolic bunker played a vital role for many of the women. This self-isolation did not seem to be related to recent urban possibilities, such as certain types of employment, but to their higher body weight and their emotional state; in short, self-imposed isolation. These interpretations open the way for new studies on the entanglement between weight gain, isolation, stigma, and emotional issues, something that must have gained momentum during the COVID-19 pandemic.

Being isolated puts people with a higher body weight at higher risk for adverse health outcomes. Studies have demonstrated that socially isolated individuals are at increased risk for the development of cardiovascular disease, infectious illness, cognitive deterioration, and heightened inflammatory and metabolic responses to stress, such as elevated c-reactive protein [22]. These studies were conducted with elderly populations, pointing to the need for future studies focusing on people with a higher body weight. Nonetheless, it is significant that some health problems that are automatically associated with higher body weight are also associated with social isolation. That poses the question: Does the higher body weight *per se* generate these health problems, or does the social isolation that many people with higher body weights face contribute to them (see also, [23])? Ultimately, the findings of the present study suggest that if health professionals are indeed interested in identifying whether people with higher body weight are at risk for certain adverse health outcomes, asking simply about their chronic diseases seems insufficient. Finding out more about an individual's social support—or lack thereof—appears to add a critical and independent perspective on their risk for adverse health outcomes.

In the Brazilian case study, one further aspect that negatively impacted participants' physical and emotional health was weight-loss drugs. The use of these medications, which are widely used and normalized despite their known risks, was an expressed motivation to reduce their weight. Paradoxically, it seemed that medications worsened their physical health and emotional status and caused them to gain even more weight than before. Indeed, a national focus on weight loss, typically through food restriction and weight-loss drugs, to deal with the "epidemic of obesity" identified as taking place in Brazil currently, may be worsening the situation. Nonetheless, it is recognized that there are novel categories of drugs, which are demonstrated to be potent and safe for the treatment of severe obesity [24]. However, long-term safety and efficacy are yet to be investigated. Evidence suggests that weight loss is not vital to health improvements. For example, increasing physical activity and associated improvements in cardiorespiratory fitness are related to profound reductions in several cardiometabolic risk factors independent of weight [25]. Also, waist circumference and visceral fat, two strong predictors of morbidity and mortality, can be reduced with increased physical activity, but with minimal or no accompanying overall weight loss [26]. Interventions that focus on lifestyle changes (e.g., the Health at Every Size® movement) result in more comprehensive health changes, improvements in the participants' emotional health, and more sustainable weight loss than the strategies that strictly focus on weight loss [27-29]. Healthcare professionals should consider the mental/emotional "side effects" for those individuals who "fail" to achieve substantial weight loss, including frustration, self-blame, and lack of adherence to long-term programs.

Women in this research mentioned that economic insecurity was detrimental to their emotional and physical health. Their narratives stressed that these situations forced them to accept extensive hours of work, which, in turn, affected their quality of life. For example, women reported that extensive work

hours resulted in a diet characterized by items that required little or no preparation, usually ultra-processed foods. The combination of these aspects mitigated their ability to be mindful of their eating and their health. Consequently, women said their weight increased in such situations. Persistent financial hardship is well-documented to have an impact on weight gain (e.g., [30]).

In most of the women's narratives, food assumed a primal role in their lives. It is possible to assume that, for most of them, their psychism used food as a mechanism to alleviate the tension of these negative experiences. This mechanism seemed fundamental to the participants' articulated ability to function and survive in the world while coping with feelings of rejection, abandonment, indignation, anger, despair, and loneliness when facing a myriad of negative experiences. In the end, this mechanism likely prevented some from committing suicide, and, paradoxically, food played a role in their survival. For most participants, these aspects were intertwined with other life events in different degrees of intensity and importance. Therefore, it was challenging for this study to "fragment" their experiences because their lives were not static. Following Brewis [31,32], it is possible to discuss layered vulnerabilities in ways that acknowledge the synergistic relationship between inequalities rooted in lived hierarchical experiences—including, in Latin America, social inequalities that emerge from the capitalist system [33]. The present study suggests that a variety of inequalities—including financial and familial hardship, as well as severe changes in life circumstances—seem to have made the participants more vulnerable to weight gain, within the overarching capitalist system. They had fewer opportunities to access the comprehensive resources that might have helped them manage their body weight, such as emotional and financial stability, social support, and opportunities to care for their health.

By observing the prerogative that sustains most of the strategies to reduce body weight, which focuses on promoting a negative energy balance, usually under the motto "eat less and move more", they, at least, seem fragile, vague, and very unlikely to address the many inequalities that several people repeatedly face. It is also arguable that this exclusive focus on body weight adds another layer to the inequalities that were presented: Usually, the "blame" for the higher body weight is put on the person, who is seen as "undisciplined", with a "lack of willpower", and "lazy". One can wonder, however, how could these women, who worked extensive hours to take care of their family and pay the expenses on the day, be called "lazy" or "undisciplined"? It seems unfair to demand these people to "eat less and move more" when other worries were much more fundamental to them. The excessive focus on body weight also impacts the recommendations on mental care. Some practice guidelines for managing a higher body weight encourage a behavior therapy program because it facilitates meeting goals for energy intake and expenditure [34,35]. Although there are benefits of these strategies to some people (see [36]), they should be applied with caution because they seem to reaffirm the focus on individual responsibility (e.g., the aim is to "solve" someone's "lack of control" while eating). Given the complexity and density of the emotional aspects that the participants presented, the support to these matters must focus on strategies beyond behavioral change, understanding the psychodynamics involved in the emotional aspects that might surround this population. Thus, if broader strategies that address social inequalities, social support, and inclusive health and mental care are not seriously considered, the management of the "obesity epidemic" will continue to be palliative, insufficient, and weak, focusing on the wrong target (i.e., on individual responsibility).

5. Conclusions

While different life events were reported to have played a role in weight gain histories, their narratives highlighted that emotional aspects also played a vital role and, taken together, must be understood to have aggregated effects. The participants also stressed that the negative value attached to a larger body jeopardized their opportunities to connect with other people

and negatively interfered with their understanding of what it meant to be fully loved and accepted. These experiences are likely to have triggered psychological mechanisms (i.e., a defence mechanism evolved to minimize the potentially debilitating effects of threatening or suffering situations [18,19]), and although the somatic response used by the psychism was dysfunctionally directed to food, it is understood that this strategy was healthy because it maintained their functioning (or being alive) in the world. Finally, it was clear that the participants faced layered vulnerabilities (i.e., emotional, social, and financial dimensions that related to a myriad of experiences, including violence, abuse, trauma, depression, isolation, and weight stigma), having diminished opportunities to access the comprehensive resources to manage their body weight better. Strategies addressing people with a higher body weight must consider these inequalities to propose meaningful and feasible care options. For example, health professionals should include in their anamnesis the life history of their patients. By providing a safe space for patients to verbalize their trajectories, health professionals can access vulnerabilities and propose goal-oriented aims. For example, knowing that a person has faced weight stigma is important not only to acknowledge this as a relevant event with direct health consequences but also to help the person know how to protect himself/herself if the experience repeats. Understanding bodies' trajectories can help to shed light on discussions that focus on personal responsibility, on the management of obesity and can possibly help to reframe the priorities addressed to the treatment and prevention of this condition.

Author Contributions

Mariana Dimitrov Ulian contributed to the conceptualization, data analysis and writing of the original draft. Ramiro Fernandez Unsain contributed to the data analysis and approved the final version of the manuscript. Ruth Rocha Franco provided institutional access to the participants and approved the final version of the manuscript. Marco Aurélio Santo provided institutional access to the participants and approved the final version of the manuscript. Alexandra Brewis contributed to the article writing and approved the final version of the manuscript. Sarah Trainer contributed to the article writing and approved the final version of the manuscript. Cindi SturtzSreetharan contributed to the article writing and approved the final version of the manuscript. Amber Wutich contributed to the article writing and approved the final version of the manuscript. Bruno Gualano contributed to the article writing and approved the final version of the manuscript. Fernanda Baeza Scagliusi provided funding acquisition, contributed to the article writing and approved the final version of the manuscript.

Conflict of Interest

There is no conflict of interest.

Data Availability Statement

Our data set is available in a public repository from FigShare, available from: https://figshare.com/articles/dataset/Semi-structed_interviews/23556324

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Supplementary Material

In this supporting material we present the script that guided the semi-structured interviews". This statement is not presented in this preview. If you find it relevant, please include, as well as the suplementary material that was sent to you.

In this Supplementary material we present the script that guided the semi-structured interviews. Initially, Author 1 presented herself, explained the objectives of the interview and asked in the participant consented with the recording of the interview. After consent, the interview initiated with sociographic information, and then followed to questions that were relevant to the research.

Sociodemographic information

- Please, can you tell me your full name?
- Please, can you tell me your age?
- Please, can you tell me the date of bariatric surgery?
- Please, can you tell me your height and current weight?
- Please, can you tell me what is your occupation?
- Please, can you tell me what is your schooling?
- Please, can you tell me which gender do you identify with?
- Please, can you tell me what is your sexual orientation?
- Please, can you tell me what is your marital status:
- Please, can you tell me how do you classify your skin color?
- Please, can you tell me with whom you live?
- Please, can you tell me your individual and family income? Who contributes the most to the family income?
- Please, can you tell me if you have children?

Script of questions

1. I would like to invite you to take a trip back in time. What are your childhood memories?
2. Do you remember what your body was like at that time? What was it like to deal with that body?
3. What about your eating habits, how were them like? Do you remember any food smells that you liked?
4. Do you remember having any health problems during this period? Did you look for a health professional (doctor, nutritionist, psychologist...) to follow up? How was this follow-up?
5. What were your childhood friendships like? Did you feel accepted in your group of friends?
6. Do you remember being bullied at this time? How was that?
7. Let's move on to your adolescence, what memories do you have?
8. What was your body like as you grew up? If there were changes, what do you think led to them?
9. Was your eating habits similar in adolescence as it was in childhood or were there any changes? If yes, which ones?
10. Have your friendships stayed the same or changed? What were those friendships like? Did you feel accepted in your group of friends?
11. Do you remember being bullied at this time?
12. Did you have any romantic relationships as a teenager? Can you tell me how it went? If you didn't have any relationship, did you have a reason for that?
13. Did you have any new health problems when you were a teenager? Did you look for a health professional (doctor, nutritionist, psychologist...) to follow up? How was this follow-up?
14. What do you like to do for fun? What are your interests? Was this like this before bariatric surgery?
15. Have your relationships changed as an adult? If yes, why?
16. What do you like most about your body and why? Was this like this before bariatric surgery?
17. What do you like least about your body and why? Was this like this before bariatric surgery?
18. Do you have any special care for your body? Was this like this before bariatric surgery?
19. How do you feel about your body these days? Are you happy or not with your current body? Why?

20. If you could change anything about your body before bariatric surgery, what would it be? And now?
21. How was the bariatric surgery process? That is, how was the decision to perform the procedure, how was the medical follow-up before the bariatric surgery? How did you feel in these accompaniments?
22. Was there any explanation about the bariatric surgery procedure? For example, did they explain the technique that would be used, what would be done, how the cut would be, etc.? How did you feel listening to these explanations?
23. What was your age and weight when you had bariatric surgery? What type of surgery was performed (sleeve, gastric bypass)?
24. What was the reaction of family and friends when they found out you were going to have the surgery? Did they participate in the decision or process in any way?
25. While waiting for bariatric surgery, did you prepare in any way or make any changes to your lifestyle? If yes, which ones? If not, what made you make that decision?
26. What is it like to be a person who has had bariatric surgery?
27. What do people tell you when you tell them you've had bariatric surgery?
28. Do you know other people who have had bariatric surgery? What do you think of the result they had with the surgery?
29. What does it mean to you to be "successful" in bariatric surgery? What do you think makes some people "successful" with surgery and others not? Do you consider your outcome a "success"?
30. In your opinion, do people who have had bariatric surgery eat differently from those who haven't? If so, what's the difference? There's no right answer, I just want to know your opinion.
31. According to you, is someone who has had bariatric surgery viewed differently from someone who hasn't? If yes, what's the difference? Again, there is no right answer, I would just like to hear your opinion.
32. Did people have an opinion about your body and your diet before the surgery? And now? How is it for you?
33. Did your body hinder you in any way before the surgery? And now?
34. Have you ever done anything to change your body before bariatric surgery, such as going on a diet, starting some physical activity, taking any medication, other types of surgeries, even if they are not for weight loss? Did you make these attempts on your own or with professional supervision (and which professionals - doctors, nutritionists, psychologists, physical educators)? What and how were these experiences?
35. How do you deal with your food today? What do you think of it? For example, who cooks, how is food organized in your house, who does the shopping (before and after the pandemic)?
36. About the post-operative food, who made the food for you? Was there any care with this food?
37. Do you do physical activity nowadays? Has it always been like this?
38. What is more difficult and what changes the most after bariatric surgery?
39. Do you think the changes in your body were related to changes in your life (such as changes in work, friendships, relationships)?
40. Did you have complications after bariatric surgery? How was that?
41. After having the bariatric procedure, did you continue to have any health problems you had before? Have any new health problems popped up?
42. Do you follow up with health professionals (doctors, nutritionists, psychologists, physical educators, etc.) after bariatric surgery? Do you notice differences in this service before and after bariatric surgery?
43. Do you have any fears these days?
44. What does it mean to gain weight for those who have had bariatric surgery?
45. Would you recommend the surgery to others?
46. Do you think the pandemic affected you? Did it affect the outcome of your surgery? As?
47. Is there anything you would like to add, is there anything I didn't ask you that you would like to talk about?

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