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Catching waves for social changes and promoted wellbeing?

1 Research question and hypothesis

For better readability, the masculine form is used in this paper in a non-discriminatory manner.

In this research, the question "Can the LSLA adventure education program strengthen the well-being of children and adolescents of increased vulnerability (Vrygrond Community, SA)?" is investigated. The aim of this study is to filter out a possible positive effect of the LSLA's adventure education oriented program on the well-being of children and adolescents through its quantitative part. In addition, the qualitative part of the study serves to identify components to which the participants attribute a particular value. Furthermore, the goal of the LSLA was to map the actual state of mind of its participants and to be able to use the processed data as a basis for future mentoring steps. It is expected that there will be a difference in the level of well-being of participants with increased vulnerability (Vrygrond Community, SA) between the time before the intervention and during the intervention, which will manifest itself in higher scores during the intervention.

2 Study design

This intervention study entitled "Local Surf Lounge Academy - Catching waves for social changes and promoted wellbeing?" is based on the one hand on a questionnaire survey at two points in time and on the other hand on an exploratory approach in the form of four open-ended written questions. This is a study that combines quantitative and qualitative research techniques.

3 Target population

The target population included a total of 14 children and adolescents participating in the LSLA's adventure education-based program. Subjects were recruited through active sampling (see Döring & Bortz, 2016, p. 400) by the founder of LSLA in South Africa. Subjects residing in the Vrygrond Community, SA were included. None of the respondents dropped out of the study during implementation. Subjects for whom complete data sets were not available at both time points were excluded from data analysis. This resulted in a total sample of n=12 (n=1 w, n=11 m) after data exclusion. The age range in the total sample was between 10 and 17 years (M=14, SD=1.89).

4 Procedure

A pre-post design (cf. Döring & Bortz, 2016, p. 209) was chosen for the study. For the pretest, the subjects were asked to recall the time before the start of the intervention and to give their self-assessment by means of the SCWB_A questionnaire. The posttest was to map their self-assessment at the current time, i.e. during the intervention participation, through the questionnaire SCWB_B. All participants worked with paper-pencil questionnaires.

After completing the well-being questionnaires, the exploratory part of the study was connected. For this, each study participant received a task sheet, which was provided with the instruction and the four open guiding questions. The subjects were asked to complete the four topic blocks by using bullet points or short sentences.

Data collection took place on 02/17/2021. Throughout the survey period, LSLA project staff were available to answer comprehension questions from participants.

Prior to the start of data collection, all participants received an informed consent form, which had to be signed by their legal guardians. The anonymity, voluntary nature of participation, and storage of data were pointed out, and the procedure of the study was explained.

5 Survey instruments and measured variables

5.1 Dependent and independent variable

The LSLA adventure education program was chosen as the independent variable (UV). The construct well-being represents the dependent variable (AV).

5.2 Quantitative Method

An adapted version of the Stirling Children's Wellbeing Scale (Liddle & Carter, 2015) was used to assess the well-being of the study participants. The well-being scale was developed by the Stirling Council of Educational Psychology Service in the United

Kingdom to assess the well-being of students aged 8 to 15 years. The completion time is approximately 5 minutes. The SCWBS is based on a positive psychology perspective that measures positive aspects of well-being, as opposed to a deficit-oriented model of mental health. The SCWBS proved to be a reliable (Crombach's alpha: .82-.85) and valid measure of well-being and met benchmark criteria established for measurement validation. While electronic use of the scale provided improved access to children with reading difficulties and younger children, the scale is excellent for paper and pencil testing. Overall, the scale was intended to provide a concise and robust measure of well-being in populations aged 8 to 15 years, as well as an assessment of the effectiveness of projects and interventions (Liddle & Carter, 2015, p. 182).

The version used in this study is adapted from the original SCWB. The scale contains 10 positive statements that participants can rate on a

5-point Likert scale according to the frequency with which the statement is true in their lives. The response categories are "Never," "Not much of the time," "Some of the time," "Quite a lot of the time," "All of the time," and are assigned scores of 1 to 5 in that order. By forming the sum score, a minimum value of 10 and a maximum value of 50 can be achieved. The individual items and the sum score are ordinally scaled. Items #1-5 can be assigned to the Wellbeing subcategory "Positive Outlook". Items #6-10 can be assigned to the Wellbeing subcategory "Positive Emotional State".

5.3 Qualitative method

To capture the program content that is of particular relevance to the participants, a written survey was designed using four open-ended guiding questions. In addition, the written survey served to illustrate the respondents' view of future perspectives. The open-ended guiding questions "The LSLA and me," "What I like best about the LSLA," "What I like least about the LSLA," and "My wishes for my future" were to be answered through bullet points or short sentences. This exploratory method was used to help the LSLA map the current state of mind of its participants and to serve as a basis for future mentoring interventions.

6 Data analysis and data evaluation

6.1 Description of the sample

The target population included a total of 14 children and adolescents. This resulted in a total sample of n=12 (n=1 w, n=11 m) after data exclusion. The age range in the total sample was between 10 and 17 years (M=14, SD=1.89). Table 1 shows the gender and age of each subject as well as the mean and standard deviation (n=12).

Table 1. Gender and age (n=12)

Proband	Geschlecht	Alter
1B	m	15
2C	w	12
3D	m	14
4L	m	17
5M	m	15
6R	m	17
7S	m	13
8Z	m	14
9R	m	10
10S	m	14
11T	m	13
12W	m	15
Mittelwert (M)		**14,08**
Standardabweichung (SD)		**1,89**

6.2 Descriptive analyses

The hypothesis addressed a possible positive change in subjects' well-being over time. According to the hypothesis, the well-being scores during participation in the intervention should be higher than the scores before the start of the intervention. Table 2 provides an overview of the sum scores, means, standard deviations, and differences of variable 1 (before the intervention) and variable 2 (during the intervention) for the total sample n=12.

Table 2. ∑, M, SD, and difference in well-being scores before (variable 1) and during the intervention (variable 2) for n=12.

Proband	A=Before Variable 1	B=Nowadays Variable 2	Differenz
1B	40	38	-2
2C	33	35	2
3D	25	27	2
4L	35	38	3
5M	31	34	3
6R	31	37	6
7S	27	44	17
8Z	31	35	4
9R	32	39	7
10S	35	38	3
11T	43	40	-3
12W	40	39	-1
∑	**403**	**444**	**41**
M	**33,58**	**37,00**	**3,42**
SD	**5,12**	**3,94**	**4,99**

The difference in the sum scores on well-being between the two time points A (before the intervention) and B (during the intervention) is 41 (M=3.42, SD=4.99). The mean well-being scores are 33.58 at time point A and 37.00 at time point B.

6.3 Hypothesis test

In the hypothesis, a positive trend was expected regarding the well-being variable due to the intervention. The dependent samples t-test was used to test the hypothesis.

Table 3 shows the results of the two-sample t-test for dependent samples, which was conducted using Microsoft Excel version 2016.

Table 3. MS Excel output two-sample t-test for dependent samples (n=12).

Zweistichproben t-Test bei abhängigen Stichproben (Paarvergleichstest)		
	Variable 1	*Variable 2*
Mittelwert	33,583	37,000
Varianz	28,629	16,909
Beobachtungen	12,000	12,000
Pearson Korrelation	0,417	
Hypothetische Differenz der Mittelwerte	0,000	
Freiheitsgrade (df)	11,000	
t-Statistik	**-2,270**	
P(T<=t) einseitig	**0,022**	
Kritischer t-Wert bei einseitigem t-Test	**1,796**	
P(T<=t) zweiseitig	0,044	
Kritischer t-Wert bei zweiseitigem t-Test	2,201	

By determining the exact p-value ("P(T<=t) one-sided"), this can be compared with the pre-specified α. Since the p-value (p=0.022) is smaller than the significance level alpha (α=0.05), it can be assumed that there is a statistically significant difference regarding the means between the samples (cf. Janczyk & Pfister, 2015).

In addition, the corresponding critical t-value, which depends on α, can be contrasted with the empirical t-value. The magnitude of the t-statistic (2.270) is above the critical t-value for one-sided t-test (1.796) and thus allows the hypothesis to be accepted (cf. Janczyk & Pfister, 2015).

To assess the significance of the results, the effect size is calculated using Microsoft Excel version 2016 and assessed according to Cohen (1988) (cf. Janczyk & Pfister, 2015):

- d = 0.20 corresponds to a small effect
- d = 0.50 corresponds to a medium effect
- d = 0.80 corresponds to a large effect

The calculation of the effect size yields a value of d=0.655. According to Cohen (1988), this represents a medium effect.

6.4 Qualitative data

For the preparation of the qualitative data of the study participants, the qualitative content analysis according to Mayring (2015) was used. After forming categories, the assigned categories were counted. Tables 4-7 provide an overview of the categories formed and their number.

Table 4. categories and number for leading question 1 (n=12)

Frage	Kategorie	Anzahl
1	win surfing competition	1
	help kids	3
	surfing	2
	cleaning	1
	surfing competition	1
	good times	4
	future perspective	1
	training	1
	time with kids	1
	lead kids	1
	learning	1
	respect	1

Table 5. categories and number for leading question 2 (n=12)

Frage	Kategorie	Anzahl
2	good times	1
	moving	1
	water	1
	win surfing competition	1
	surfing	8
	food	1
	future perspective	1
	rules	1
	sponsoring	1
	cleaning	1
	learning	1
	games	1
	teamwork	1

Table 6. categories and number for leading question 3 (n=12)

Frage	Kategorie	Anzahl
3	wetsuit cleaning	1
	beach clean up	1
	lose surfing competition	1
	cleaning	3
	unruly behaviour	5
	irregular transport	2
	workload advanced boys	1

Table 7. categories and number for guiding question 4 (n=12)

Frage	Kategorie	Anzahl
4	be sponsored	1
	become famous	1
	become pro surfer	4
	improve surfing	1
	help people	1
	lifelong surfing	1
	surfing	1
	graduation	2
	college/university	1
	specific job wishes	5
	money	1
	success	1
	support parents	1

Subsequently, we proceeded to the visual analysis of the text documents by displaying the categories through the Word Cloud visualization technique via the website https://wordart.com/create. Using Word Clouds, as a descriptive visual method, an initial overview of the "what", i.e. insights into frequency distributions, can be obtained after filtering (Böck, Köbler, Anderl & Le, 2016, p. 329). The more frequently a term appears in the examined data set, the larger and more central it is represented in a Word Cloud (Böck, Köbler, Anderl & Le, 2016, p. 328). The following figures 1-4 show the Word Clouds formed for the guiding questions 1-4 for n=12.

Figure 1. Word Cloud for Guiding Question 1 "The LSLA and me" (n=12).

Figure 2. Word cloud for leading question 2, "What I like best about the LSLA" (n=12).

Figure 3. Word cloud for leading question 3, "What I like least about LSLA" (n=12).

Figure 4. Word cloud for guiding question 4 "My wishes for my future" (n=12).

7 Methodological limitations

The methodological limitations of this study include, first, the age of two subjects (17 years n=2), which is above the recommended age of the SCWBS tool (8-15 years). Secondly, there was a risk that it would be difficult for the study participants to remember in detail their time before participating in the LSLA. This could have an impact on and distort the well-being scores at the time before the intervention.

8 Bibliography

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