



# Analysis of group program outcomes of youth with severe complex obesity

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## Introduction

Severe complex obesity in youth has been linked to increased risk for a multitude of serious co-morbidities (including type 2 diabetes, hyperlipidemia, hypertension, sleep apnea and orthopedic complications), psychosocial problems and overall reduced quality of life [1,2]. Developing effective treatment plans to help mitigate some of these serious health concerns for youth with clinical obesity is extremely important.

CHAL works with clinically obese youth in the Ottawa area as a branch of the Children's Hospital for Eastern Ontario. The centre runs group programs with the aim of improving quality of life, eating behaviors and other obesity related issues for these youth and preventing health issues in their future. Two of the groups, labeled Phase I and Phase II (attended in sequence, with youth attending Phase I followed by Phase II) were examined. The working question was: Does attendance to group programs at CHAL impact quality of life of youth who have severe complex obesity? The hypothesis is that quality of life should increase with participation in group.

## Methodology

Measures of health-related quality of life were analyzed using the PedsQL 4.0 (Pediatric Quality of Life Inventory) questionnaire, which is used as a tool for measuring quality of life in children and adolescents ages 2-18. The PedsQL consists of four subscales; physical, social, emotional and school. The physical health summary score is calculated from the physical subscale (8 items), and the psychosocial summary score is calculated from the average of scores of the other three subscales (5 each, for a total of 15 items). The total health summary score is calculated as an average of the four subscale scores. The questionnaires were administered to the youth and their parents at the first and last group sessions, thus providing data for pre and post group. The data was entered into the statistical database SPSS, and analyzed using this database.

The reliability and validity of the PedsQL 4.0 summary scores have been confirmed for applicability to clinical practice and research, and mean summary scores for healthy populations have been identified as follows;

Parent: total=87.61, physical=89.32, psychosocial=86.58

Youth: total=83.00, physical=84.41, psychosocial=82.38 [3]

The ages of the youth attending the groups analyzed were 14-18.

## Acknowledgements and Contact Information

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## Results

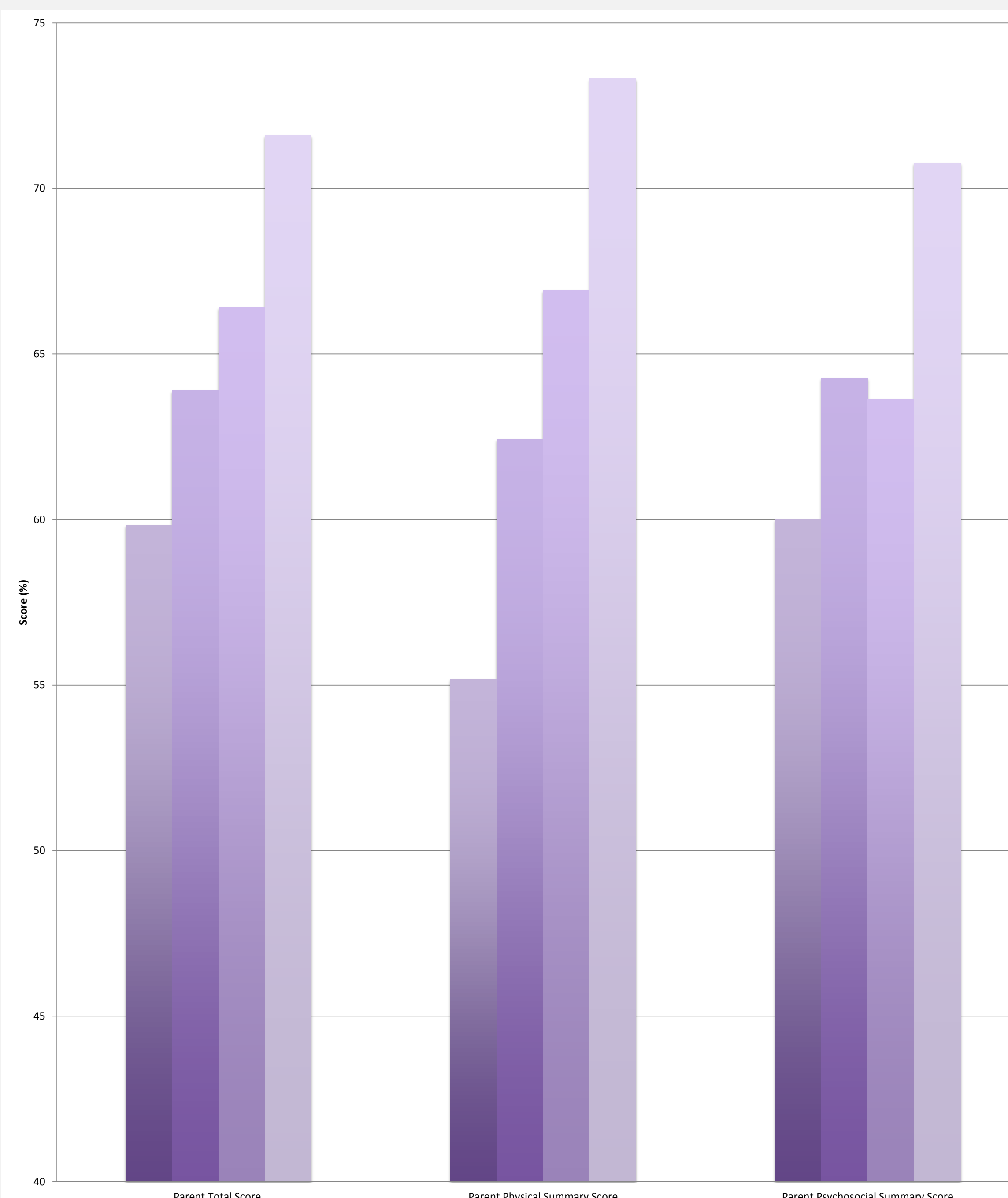


Fig. 1: Mean parent summary scores (%) for pre and post phases I and II

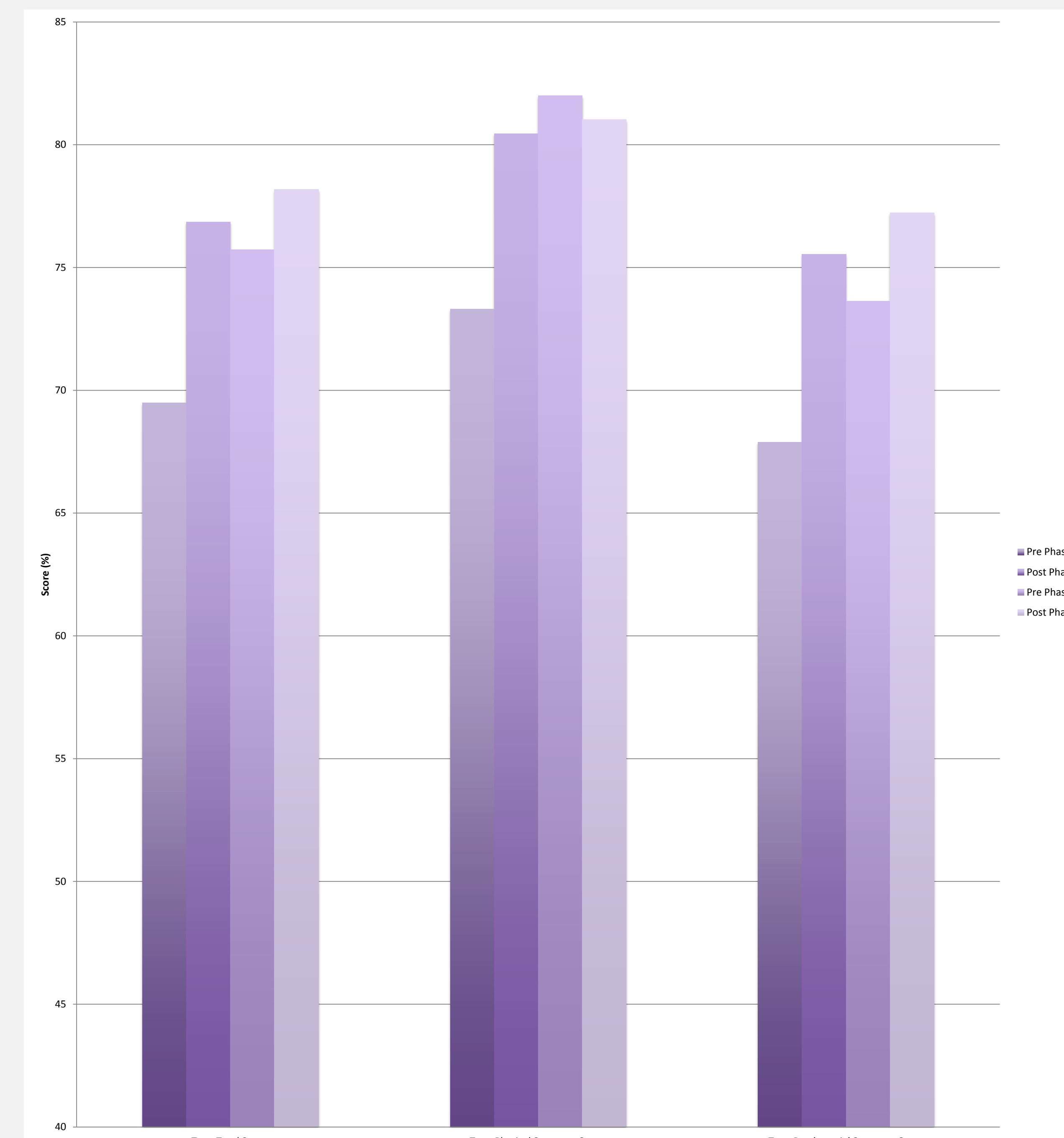


Fig. 2: Mean youth summary scores (%) for pre and post phases I and II

Table 1: Significance and sample size of two-tailed tests for summary scores at three paired time points (statistically significant sample values are in bold, where  $\alpha=0.05$ ) ( $18 \leq n \leq 40$ )

Youth or Parent Measure	Paired Time Point	Significance of 2-Tailed Test and (Sample Size) for Summary Scores		
		Physical	Psychosocial	Total
Youth	Phase I pre vs. Phase I post	<b>0.001</b> (n=39)	<b>0.000</b> (n=40)	<b>0.000</b> (n=39)
	Phase II pre vs. Phase II post	0.737 (n=22)	0.139 (n=22)	0.158 (n=22)
	Phase I pre vs. Phase II post	0.097 (n=27)	<b>0.000</b> (n=27)	<b>0.000</b> (n=27)
Parent	Phase I pre vs. Phase I post	<b>0.011</b> (n=38)	0.074 (n=37)	<b>0.040</b> (n=37)
	Phase II pre vs. Phase II post	0.124 (n=19)	<b>0.044</b> (n=18)	0.196 (n=19)
	Phase I pre vs. Phase II post	<b>0.011</b> (n=24)	<b>0.033</b> (n=24)	<b>0.022</b> (n=24)

Two-tailed t-tests were done on the following data sets for the three summary scores (i.e. physical, psychosocial and total) of the teens and parent measures;

1. Phase I pre vs. Phase I post
2. Phase II pre vs. Phase II post
3. Phase I pre vs. Phase II post

The 2-tailed significance scores for each pair are summarized in Table 1. Based on a significance level of 95% ( $\alpha=0.05$ ), the results indicate the following. For all the summary scores, except for the teen physical score, there was a significant increase in scores between the start of Phase I and end of Phase II, indicating a significant improvement in perceived quality of life among both parents and youth by the end of the group program.

## Conclusion

From the results, we can conclude that there is a significant improvement in the perceived quality of life among parents and teens from the beginning of the program to the end, as well as from the start of phase I and the end. This is true of all scores except for the parent psychosocial summary score ( $\alpha=0.074$ ). Further research needs to be done to see whether these perceived gains are an accurate representation of quality of life among these youth, as well as whether these gains are sustained in the long-term.

## References

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