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The Efficacy of the Girls on the Run Program to Improve Self-Worth, Body Image, and

Behavioral and Emotional Functioning: A Longitudinal Study

By

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The Efficacy of the Girls on the Run Program to Improve Self-Worth, Body Image, and

Behavioral and Emotional Functioning: A Longitudinal Study

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Abstract

The Efficacy of the Girls on the Run Program to Improve Self-Worth, Body Image, and Behavioral and Emotional Functioning: A Longitudinal Study.

Ames, Morgan M., *Minnesota State University,* Mankato, MN 2013.

Girls on the Run is an after-school program for girls ages 8-13 that is focused on improving physical and mental wellbeing. Previous research has demonstrated some utility in improving mental health, especially as it relates to self-esteem and body image. The current study focused on the longitudinal analysis of girls in this program to determine how long they need to be in this program to gain the most benefits in three key areas of mental wellbeing: body image satisfaction, global self-worth (a facet of self-esteem), and behavioral and emotional functioning. The results indicate that, in this sample from a small Midwestern metropolitan area, girls did not change significantly over time in behavioral and emotional functioning or global self-worth. They displayed healthy levels of functioning throughout the program and there was little room for improvement on these factors. However, changes were found for girls who had participated three or more times when it came to body image with the program actually causing a decrease in body image satisfaction during their second time in the program. Overall, these results differ from other studies that found this program to be beneficial. It appears that, for this particular demographic, Girls on the Run may not have the same utility and may potentially have a negative impact on some girls' body image. Potential reasons for this are discussed. Further research should be done to determine whether girls who are not as stable as this sample might gain more from participating in the program.

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Adolescence is a time of pronounced physical and emotional growth; however, this age group has also been shown to be at a higher risk of developing symptoms of psychopathology. Specifically, this period is associated with the onset of many internalizing disorders such as eating disorders and depression, and girls are at a higher risk of such disorders. Research suggests that women experience a lifetime prevalence rate for eating pathology that ranges between 1 ¾ and 3 times higher than their male counterparts (Hudson, Hiripi, Pope, & Kessler, 2007; Merikangas et al., 2010). This difference may be due, in part, to increased cultural pressure in Western societies for females to be thin. It has also been shown that preadolescent girls who internalize thin-ideal media have higher levels of body dissatisfaction (Blowers, Loxton, Grady-Flesser, Occhipinti, & Dawe, 2003) and that peer pressure was a significant predictor for engaging in behaviors to lose weight in both preadolescent and adolescent girls (Stice, Maxfield, & Wells, 2003; Tremblay & Lariviere, 2009).

Body Image

Age is also an important factor, as more research has begun looking into body dissatisfaction and eating pathology in preadolescents. One study looking at the discrepancy between real and ideal body size found that girls at the age of 6 indicated an ideal larger than their real body size, while at ages 9 and 12, girls reported that their ideal body size would be much smaller than their real size (Gardner, Sorter, & Friedman, 1997). Furthermore, this discrepancy between real and ideal became more pronounced with age. However, studies have also shown a disturbing trend toward younger children, grades 3 through 6, indicating a desire to be thinner and engaging in weight loss

behaviors (Maloney, McGuire, Daniels, & Specker, 1989; Schur, Sanders, & Steiner, 2000). The global self-worth of these young girls can also greatly influence their risk of disordered eating and body image. Hill and Pallin (1998) found that global self-worth was a good negative predictor of dieting awareness in that girls with lower self-worth were more aware of dieting than girls who had higher global self-worth. Because body dissatisfaction is such a strong predictor of subsequent eating pathology, efforts to provide preventative measures for young children may help to reduce the risk of developing full-blown eating disorders, which can have serious health implications including possible death.

Behavioral and Emotional Functioning

Research has also demonstrated that problems of behavioral and emotional functioning are also important, especially due to the link with disorders that often manifest in adolescence. Girls have been found to be more susceptible to internalizing problems such as depression, anxiety, and eating disorders while boys are more susceptible to externalizing problems (Merikangas et al., 2010). Furthermore, research suggests that there is not only a gender difference in depressive symptomology, with girls experiencing higher rates of depression than boys (Galambos, Leadbeater, & Barker, 2004), but that this difference appears to begin in early to mid-adolescence (Angold & Rutter, 1992; Hankin, Abramson, Moffitt, Silva, & McGee, 1998). The tendency to internalize in and of itself may represent a risk for this type of pathology. One study by Horesh, Zalsman, and Apter (2000) found that girls receiving inpatient treatment for anorexia tended to not only internalize feelings more than healthy controls, but they also

had difficulty in expressing negative emotions such as anger. Anger suppression has also

been linked to depression (Cox, Stabb, & Hulgus, 2000). Looking at the emotional

functioning in these youth is incredibly important especially as it relates to their

environment and perceptions of that environment. One study determined that emotional

functioning in middle school is partially predicted by the child's perception of the school

environment (Roeser, Eccles, & Sameroff, 1998). Increasing school perceptions through

positive experiences may be important in combating internalizing pathology.

Self-Esteem and Self-Worth

Internalizing problems, along with eating pathology, has often been tied to low

self-esteem. Self-esteem is a multicomponent concept incorporating facets such as self-

worth, self-evaluation, as well as global self-esteem (Brown & Marshall, 2006). Global

self-esteem is focused on a person's overall picture of himself/herself, self-worth is a

branch of self-esteem where our worth is tied to external events and the emotional

reaction to those events, and lastly self-evaluation focuses on the way a person views

themselves from a multitude of different domains such as academic, athletic, or social.

However, the literature focused on self-esteem often uses these terms interchangeably

and while the current study focuses on self-worth, a background on self-esteem from

multiple conceptualizations is necessary. One study found that self-esteem is an

important factor influencing adolescents and their mental health and that global self-

esteem had a more pronounced effect on depressive symptoms in girls than in their male

counterparts (Bolognini, Plancherel, Bettschart, & Halfon, 1996). Changes in self-esteem

over time have also been analyzed and research shows a decrease in self-esteem over the

course of adolescence that relents in adulthood (Robins, Trzesniewski, Tracy, Gosling, & Potter, 2002). This trend of girls being, on average, lower than boys in terms of self-esteem has been repeatedly documented in other studies (Chubb, Fertman, & Ross, 1997; Israel & Ivanova, 2002; Kling, Hyde, Showers, & Buswell, 1999).

Mental Health Care

As demonstrated by the research above, body image, behavioral and emotional functioning, and global self-worth can influence mental health outcomes, especially the development of internalizing disorders. Due to the increased risk for these mental health problems with the onset of adolescence, it is important that work to combat psychopathology in this population continue. However, there is debate as to the most efficient method of accomplishing this goal. Treatment after the presentation of symptoms already has occurred is most common and many therapies have been shown to be effective in the treatment of depression, anxiety, eating disorders, and other psychopathology in youth. However, mental health interventions are not beneficial in all cases, and so other options must be considered. Waiting until after symptoms become clinically significant may result in unnecessary suffering. Furthermore, many individuals suffering from these disorders do not receive adequate, or in some cases any, treatment due to cost and lack of access to this mode of care. Inpatient care is especially expensive. One study found that inpatient eating disorder patients on average spend 20.74 days in the hospital and accrue an average cost of $12,432 (Striegel-Moore, Leslie, Petrill, Garvin, & Rosenheck, 2000). Even those who were receiving outpatient care in this

study were found to receive less than the standard amount of care recommended.

Disturbingly, only 34% of people with anorexia and 6% of people with bulimia were

found to be receiving mental health care at all (Hoek & van Hoeken, 2003). Similar

trends in not receiving professional treatment have been found for depression and anxiety

(Mojtabai, 2009; Young, Klap, Sherbourne, & Wells, 2001) even for children and

adolescents (Wu et al., 2001). Children and adolescents who are uninsured have

especially high rates of non-treatment (Kataoka, Zhang, & Wells, 2002). Therefore, it

would seem that the use of a triage system in clinical practice may cause extended

suffering and greater economic burden, especially for those of lower socioeconomic

status with limited access to mental health care. Also, the stigma of receiving formal

mental health care is obvious given the lack of individuals who choose to even initiate

treatment for their illness.

Focus on Prevention

Due to this gap between those in need of services and those receiving such

services, it is important to utilize other care options. Universal preventative measures

represent a viable second option in combating mental illness in this age group. This type

of program can reach a larger number of children, including those who would be

susceptible to falling though the cracks of more conventional treatment modalities.

Furthermore, this method may prove to be more cost effective and may be viewed in a

more positive way than standard mental health care options. Many prevention programs

have demonstrated success in combating behavioral and emotional problems in children

and adolescents, including the after-school program Girls on the Run/Girls on

Track. This method may be especially influential on girls with behavioral and emotional difficulties because of the importance of the school environment discussed previously (Roeser et al., 1998). If positive experiences and skills can be acquired in the school setting it may influence the potential risk of internalizing symptoms in these girls.

Girls on the Run

Girls on the Run/Girls on Track (GOTR) is a 24 lesson program designed to teach girls healthy living skills and increase self-esteem over the course of 12 weeks. These skills are meant to serve as protective factors and to foster resilience against low self-esteem and mental health problems. The program itself is split into three equal parts (Girls on the Run, 2013). In the first stage of the program (weeks 1-4) there is a focus on the girls' becoming more aware of themselves, their goals and dreams, and their core values. This segment also has lessons focused on teaching the girls how to be emotionally healthy as well as physically healthy. The second phase (weeks 5-8) brings the focus from the girls' internal states, thoughts, and beliefs, and moves outward toward working with others. There is a large focus on teamwork, working well with others, skills training in listening and cooperating, and discussing negative influences and their consequences including topics such as bullying and gossiping. The last stage (weeks 9-12) further expands the focus to include the girls' community as a whole. They engage in a community project, participate in a 5k run, and also learn about greater societal pressures that young girls face, especially media influences and peer pressure.

Research on GOTR has demonstrated that there are significant changes in self-esteem, body image and eating behavior and attitudes over the course of the program

(DeBate & Delmar, 2006; DeBate & Delmar, 2007; DeBate & Thompson, 2005). The Girls on the Run program has also been shown to decrease girls' fears of becoming fat (Martin, Waldron, McCabe, & Choi, 2009). One study found that girls who had not engaged in the program before showed an increase in both body image and physical activity (Pettee Gabriel, DeBate, High, & Racine, 2011). This program's emphasis on cooperative rather than competitive physical activity may also buffer the effects of eating pathology. One study by Smolak, Murnen, & Ruble (2000) found that individuals who participate in non-competitive, non-lean sports (those where leanness is not necessary to be a competitive player) had lower rates of eating pathology than both lean sport athletes and non-athletes.

Preliminary work has been done looking at the efficacy of the Girls on the Run program for promoting healthy self-esteem, body image, and perceived physical appearance. However, studies have failed to demonstrate how long individuals would need to participate in Girls on the Run to derive the most benefit in these facets. It is unclear whether girls who participate multiple times show higher perceived functioning and personal regard in these areas. Furthermore, the same authors have conducted most of the research on the efficacy of Girls on the Run. Further research is therefore necessary to be consistent with the standards set out by Division 12 Section III for empirically supported treatments (APA Presidential Task Force on Evidence-Based Practice, 2006). The present study looks to expand the current knowledge of the efficacy of Girls on the Run through the use of a new sample population and the use of empirically supported measures.

Hypotheses

Research has indicated that girls make gains in their self-worth, body image and behavioral and emotional functioning through participating in GOTR (DeBate & Delmar, 2006; DeBate & Delmar, 2007; DeBate & Thompson, 2005). It is hypothesized that girls will significantly improve on their global self-worth, body image, behavioral and emotional functioning during their first time participating in GOTR. Gains in subsequent years of participation will be significant, but smaller. However, we would expect these effects to eventually plateau and the girls will no longer increase significantly in behavioral emotional functioning, body image, and global self-worth. Nonetheless, it is predicted that girls who have participated many times and are thus necessarily in the older end of the age range will not lose the gains in these facets as is typically seen in girls as they reach the age of puberty (Angold & Rutter, 1992; Gardner, Sorter, & Friedman, 1997).

Methods

Participants

The participants in this study were 228 preadolescent and young adolescent girls ranging in age from 8 to 13. This sample was obtained from a small Midwestern metropolitan area.. There were 154 girls who had only participated in the program through one season, 40 who participated twice, 23 who participated three times, 9 who participated four times, and lastly, 2 who participated five times. Other demographic data was not able to be collected on our participants due to the program staff having concerns

about asking for such information. However, the majority of participants agreed to participate in the study (both parental consent and youth assent were obtained).

Measures

The Self-Perception Profile for Children. (SPPC; Harter, 1985) contains 36 questions broken up equally into six different domains. This scale was developed to assess six facets of self-perception including physical appearance, behavioral conduct, social acceptance, scholastic competence, athletic competence, and global self-worth. However, for the purposes of this study only global self-worth will be analyzed. Each question on this measure consists of two statements and the participant must decide which statement is more like her. When the child has determined which statement is truer, she then must determine whether it is "sort of true" or "very true" for her. Thus each question can be rated on a scale of 1 to 4 with a score of 4 indicating greater perceived competence and a score of 1 indicating low perceived competence. Research by Muris, Meesters, & Fijen (2003) has demonstrated that the SPPC has satisfactory scores on internal consistency ($\alpha = 0.73$ to 0.81) with the global self-worth facet being toward the high end of that range ($\alpha = .80$) and also has adequate test-retest reliability (0.84 to 0.90) across a one-month period using interclass correlation coefficients.

Behavioral and Emotional Screening System for Children. The Behavioral and Emotional Screening System (BESS; Kamphaus & Reynolds, 2007) was developed to measure both children's competencies and weaknesses in behavioral and emotional functioning. For the purpose of this research, the student self-report form of the BESS

was used as a measure of behavioral and emotional functioning. This questionnaire was

designed for use in children and adolescents in grades 3 through 12. The BESS is made

up of 30 questions and the results are translated to one global score. Summing the raw

scores on all of the items derives this single T score that represents that individuals' risk

for behavioral and emotional deficits. A Spearman-Brown split-half reliability of .90

indicates strong internal consistency for this self-report measure (King, Reschly, &

Appleton, 2012). According to Kamphaus and Reynolds (2007), the BESS student form

also is consistent with other measures of behavioral and emotional functioning including

the BASC-2 SRP ($r = .86$), which may be due to overlap with 26 of the items on the

BESS also being on the BASC-2 SRP. The BESS student report form is consistent with

the Achenbach System of Empirically Based Assessment Youth Self Report ($r = .81$,

adjusted $r = .77$). It also was moderately correlated with the Children's Depression

Inventory ($r = .48$, adjusted $r = .51$) and the Revised Children's Manifest Anxiety Scale

($r = .53$, adjusted $r = .55$). It is important to note that not all subjects received the BESS

in this study.

Children's Body Image Scale. The Children's Body Image Scale (CBIS; Truby

& Paxton, 2002) was chosen as a simple and efficient way of assessing body image in the

present sample. This measure contains 7 pictures of a girl, with each picture depicting a

different body mass index (BMI), the first picture being the thinnest, the middle

representing a healthy BMI, and the seventh picture showing an overweight girl. Two of

these scales were used. The first asked the question "Which picture do you think most

looks like you?" while the second scale asked the participant, "Which picture would you

most like to look like?" For each scale participants circle the answer they determined was most accurate. The difference between their perceived real figure and their ideal figure is the body image score. The greater the difference between the two scales, the worse their perceived body image satisfaction. Though this measure was developed on a sample of Australian girls, research has demonstrated its utility in research on girls in the United States (Sifers & Hamilton, 2012). The test-retest reliability of the perceived to ideal difference scores for girls was found to be .68 (Truby & Paxton, 2008). Furthermore, the perceived to ideal difference scores were found to be correlated with other measures of body image including the Body Esteem Scale ($r = -.37$) and the Dutch Eating Behavior Questionnaire Dietary Restraint scale ($r = .22$), both of which were significant (Truby & Paxton, 2002).

Procedure

Informed consent was obtained from a parent of each participant at the time of enrollment in the program and assent from the girls' was obtained prior to administering the questionnaires. Directions were given by trained research assistants, then each participant filled out a packet of questionnaires that included the Self Perception Profile, the Behavioral and Emotional Screening System and the Children's Body Image Scale as well as a measure of attitudes toward physical activity not pertaining to this study. This study includes data from spring of 2009 through fall of 2012 and was collected from multiple community sites where the GOTR program was hosted.

Results

The participants in this study ranged in age from 8 to 13 with a mean age of 9.52.
A time series of repeated measures ANCOVAs were utilized for each measure and were
used to look at changes over time and to best deal with the dropout rate over time. The
pre- and post-test data from each time the girls participated was used in these analyses.
The means and standard deviations for each pretest and posttest for each of the three
measures can be found in Table 1. Each girl had pre- and post-test scores for each time
she participated and girls could have participated anywhere between 1 and 5 times. Age
was analyzed as a covariate, since girls who had been in the program multiple times were
necessarily older and age out since the age range of this program is restrictive to girls
ages 8-13.

The one-way repeated measures ANCOVAs were used to analyze changes in
global self-worth. The first ANCOVA was run using the pre and post data for time one
and this analysis included 157 participants. Age was found to be a significant covariate
($F(1, 155) = 4.330, p = .039$); however, global self-worth did not significantly improve
($F(1, 155) = .059, p = .809$). When time two was added the number of participants
dropped to 44. Age was not a significant covariate in this case ($F(1, 42) = .787, p =
.380$). Due to violations of sphericity ($\chi^2(5) = 21.326, p = .001$) a Greenhouse-Geisser
correction was used for this analysis. The results indicate that there was no significant
change over these time periods ($F(2.29, 96.28) = 1.250, p = .294$). When time three is
added to the analysis there are 15 participants. Age was not significant ($F(1, 13) = .071,
p = .794$); however, Mauchly's test of sphericity was significant and so a Greenhouse-

Geisser analysis was used ($\chi^2(14) = 31.051$, $p = .006$). There was no significant change

in global self-worth ($F(2.061, 26.79) = .786$, $p = .469$). Similar results were found when

time four was added ($N = 3$) as age was not a significant covariate and the results

remained insignificant ($F(7,7) = 3.201$, $p = .074$). Time five analyses could not be

conducted due to there being no complete cases at this point.   Figure 1 illustrates the

global self-worth of these girls over time and demonstrates that a ceiling effect may be a

factor due to such high scores amongst these girls as a whole.

Behavioral and emotional functioning was also analyzed using the same time

series design. An ANCOVA of the pre and post data for time one was run ($N = 76$) and

age was found to not be a significant covariate ($F(1, 74) = .311$, $p = .579$). Behavioral

and emotional functioning did not significantly improve at time one ($F(1, 74) = .027$, $p =$

.871). Time two was added to the analysis and 20 participants were retained. Age was

not significant ($F(1, 18) = 2.116$, $p = .163$) nor was the main effect ($F(3, 54) = 2.532$, $p =$

.067). With the addition of time three the number of participants dropped to 5. Once

again, age ($F(1, 3) = 1.194$, $p = .354$) and the change in behavioral and emotional

functioning ($F(5, 15) = 1.927$, $p = .149$) were not significant. Also, there were not

enough cases in times four or five and they were excluded from analysis. Figure 2

depicts the means over time, illustrating that the stability in behavioral and emotional

functioning over time, within a normal range of function.

The last time series analysis was conducted on body image satisfaction scores.

Looking at time one ($N = 191$) age was found to not be a significant covariate ($F(1, 189)$

$= .559$, $p = .455$) and the results was not significant ($F(1, 189) = .085$, $p = .771$). Similar

results were found when time two was added ($N = 54$) with no significant covariate ($F(1,$
52) = 1.76, $p = .190$) or main effect ($F(3, 156) = 1.364, p = .256$). With the addition of
time three ($N = 22$), age was still not a significant covariate ($F(1, 20) = .833, p = .372$);
however, using a Greenhouse-Geisser to correct for violations of sphericity ($\chi^2(14) =$
37.117, $p = .001$) a significant change in body image satisfaction was found ($F(2.72,$
54.43) = 3.351, $p = .029$). A repeated contrast was used to determine the nature of this
effect. The results (Table 2) indicate that there was a significant difference between the
post measure for time one and the pre measure for time two, the pre measure for time two
and the post measure for time two, and the post measure for time two and the pre measure
for time three. Time four was added to the analysis and the retention rate was 9
participants. Age was not a significant covariate ($F(1, 7) = 2.227, p = .179$); however,
violations of sphericity were found and so a Greenhouse-Geisser correction was used
($\chi^2(27) = 44.920, p = .05$). The results of this analysis was not significant ($F(3.39, 23.75)$
= 1.025, $p = .406$). Time five could not be analyzed due to there being no cases at this
level. Figure 3 depicts the changes over time and demonstrates that there is a change
with a drop between the post-test for time two and the pre-test for time three and that they
again display greater discrepancies between real and ideal during the next Girls on the
Run, and then after that season they drop back down to being more satisfied (closer to
zero).

 Effect sizes for all three of these measures can be found in Table 3, which shows
a range of effects sizes from small to large. Interestingly, the significant findings for
body image for those who had participated at least three times corresponded with a

relatively small effect size. The one larger effect size for body image in times 1-4 may be heavily influenced by a small sample size in that particular group ($N = 9$).

Discussion

The results indicate that the Girls on the Run/Girls on Track program does not provide significant positive improvement over the course of multiple semesters for behavioral and emotional functioning or global self-worth. This is contrary to the hypothesis that girls would show improvement through the first couple of times in the program before the positive change would become insignificant. However, it is worth noting that the relatively stable self-worth is not what would be expected in a typical girl approaching adolescence. Research on self-worth indicates that most girls tend to decrease as they approach and go through adolescence. However, our data indicate that the girls in this program did not show this decline and, therefore, while they did not increase in self-worth, the program may have proven effective in preventing any decline. Research comparing girls engaging in the Girls on the Run program to other girls in the community would be needed to determine if this is truly the case.

Furthermore, these results may be confounded by the presence of ceiling effects for one of the measures. Because there was so little room for improvement in self-worth in these girls, it is not surprising that the results were insignificant. This can be seen in the results in Figure 1. These girls are already incredibly high on global self-worth. Therefore, in this particular population it does not seem that GOTR would be necessary in targeting that particular facet in most girls. It is possible that girls who repeatedly participate are the girls who need it the least. However, if would be interesting to take

girls from this demographic who express much lower self-worth than the average and determine whether the program might benefit them more than the other girls compared to similarly functioning girls in a control group.

There was also no significant change in behavioral and emotional functioning over time and girls, on average, stayed within the normal range demonstrating that this population is relative stable on this facet. Other researchers have found significant positive changes on these facets (DeBate & Delmar, 2006; DeBate & Delmar, 2007; DeBate & Thompson, 2005) and it may be due, in part, to differences within the demographic populations studied. The fact that these girls come into the program already relatively well adjusted and do not significantly decline in many of these facets is notable in itself. Therefore the GOTR program may not provide the same benefits to these girls as it might to other demographics, such as girls who are already struggling with some of these issues. Another potential explanation is that the measures being implemented in this study had robust psychometric properties as described above, while the measures utilized in previous research may not be as psychometrically sound. This could influence the quality of the results. Further analysis using psychometrically sound measures in future research would be necessary to determine if this is the case.

There was a significant change in body image scores over time. The closer the score comes to zero the more a girl's real and ideal body image match, thus demonstrating greater body satisfaction. The results indicated that between the post measure for time one and the pre measure for time two girls actually got closer to this zero mark, but then during the second round of GOTR, the difference between those

scores actually increased significantly. When they finished their second time at GOTR their difference scores once again decreased toward zero. This is the opposite of what would be expected and indicates that something within the program may actually be causing an increase in body image dissatisfaction (with the ideal being smaller than the real) during the second time of doing this program. This effect was only found when looking at girls who had been in the program at least three times. It may be that there is something different about these girls than those who chose to be in the program fewer than three times or more than three times. Some possible reasons why these results might be occurring could be because this is a program that focuses on health and running for which physical fitness and relative leanness is beneficial. Training for the 5k might actually reinforce negative beliefs about body athletic ability in some girls, especially those who are not in prime physical condition. Girls in this program when confronted with the curriculum about body image may not have been worrying about it before, but since the program focuses highly on it, it may make them think they should worry about their body. It could also be that they are overselling their message, which may be causing the girls to become resistant to it or that the program may be focusing excessively on weight.

It should be noted that there were some girls who displayed a discrepancy in the opposite direction of the significant results. Future analyses could determine whether this small minority of girls who actually want to increase their BMI may differ from the girls looking to lower their BMI and whether Girls on the Run is more or less beneficial to

them, and whether or not they differ on measures of global self-worth or behavioral and emotional functioning.

There are many limitations to this study that should be addressed in future research. We were unable to attain many demographic characteristics such as race, ethnicity, socioeconomic status, and actual Body Mass Index for these participants, which would have been helpful. Body Mass Index in particular would have been especially interesting to assess to determine whether their real Body Mass Index was correlated with the Body Mass Index chosen on the Body Image Scale to evaluate the accuracy of their perceptions about weight. Because many girls with negative body image characteristics tend to overestimate their size, it would be interesting to assess for that influence on our results.

A second limitation was the small sample size for times four and five that prevented analysis on those time periods for most of the measures. This problem could be alleviated through further analysis of participants in coming semesters of this program. It would also be beneficial to have a comparison group. Unfortunately, no programs in the area were interested in participating in data analysis and being compared to the GOTR program. This would have allowed us to see if the stability seen in the girls within this program is due to programmatic factors or due to other external factors. If girls within another program did not show the same stability and declined in these facets, as research suggests, then GOTR could be deemed a beneficial prevention program.

The method of recruitment may be another area to consider for future research. Most of the girls in this population were already well-adjusted. It would be worth

rethinking our recruitment net to target the small subpopulation that is not as well adjusted as the average girl from this small Midwestern metropolitan area. It may be that these girls would have the potential to gain more from the program and that results might be closer to those found in other research (DeBate & Delmar, 2006; DeBate & Delmar, 2007; DeBate & Thompson, 2005).

One final limitation that merits discussion is the choice of measures and protocols used with the participants. Many participants in this study chose at one time or another not to complete one or more of the measures. This could have been due, in part, to the fact that data collection was done during the course of a session in which they had to sit out of fun activities to complete the questionnaire. Due to ethical requirements that they could stop at anytime if they did not want to finish the packet of questionnaires, many girls did so. Secondly, the Self-Perception Profile for Children is a more complicated measure that many girls did not complete correctly. Rather than marking one box on one side of the measure they would mark a box on both sides. It would be worth considering either modifying directions to be more understandable to the younger participants, or choosing another measure of self-worth in future research with this population.

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Appendix A: Tables

Table 1. Means and standard deviations for Behavioral and Emotional Functioning, Global Self-Worth, and Body Image

	Behavioral/Emotional Functioning		Global Self-Worth		Body Image	
	Mean	SD	Mean	SD	Mean	SD
Pretest 1	46.57	8.79	3.41	0.59	0.85	1.34
Posttest 1	46.58	9.60	3.44	0.67	0.61	1.15
Pretest 2	45.20	8.77	3.52	0.59	0.61	1.26
Posttest 2	45.00	8.55	3.68	0.42	0.59	0.90
Pretest 3	44.58	7.69	3.54	0.57	0.38	1.02
Posttest 3	43.00	5.33	3.58	0.41	0.58	1.34
Pretest 4	38.33	9.45	3.87	0.22	0.20	0.92
Posttest 4	36.50	4.95	3.81	0.24	0.45	0.82

Note: The Behavioral and Emotional Functioning means are based off of T-scores in which less than a score of 60 indicates normal risk while higher would indicate elevated risk. Global Self-Worth is on a scale of 1-4 with four being high self-worth. Body Image Satisfaction is on a scale of -6 to 6 with 0 indicating the best body image satisfaction, positive results indicating a thinner ideal than real and negative results indicating a thinner real than ideal.

Table 2. Repeated Contrasts for Body Image Satisfaction.

|	F	Significance
Pre Test 1 to Post Test 1	2.408	.136
Post Test 1 to Pre Test 2	9.861	.005
Pre Test 2 to Post Test 2	5.410	.031
Post Test 2 To Pre Test 3	16.697	.001
Pre Test 3 to Post Test 3	.195	.663

Table 3. Effect Sizes for Analyses Among the Three Measures

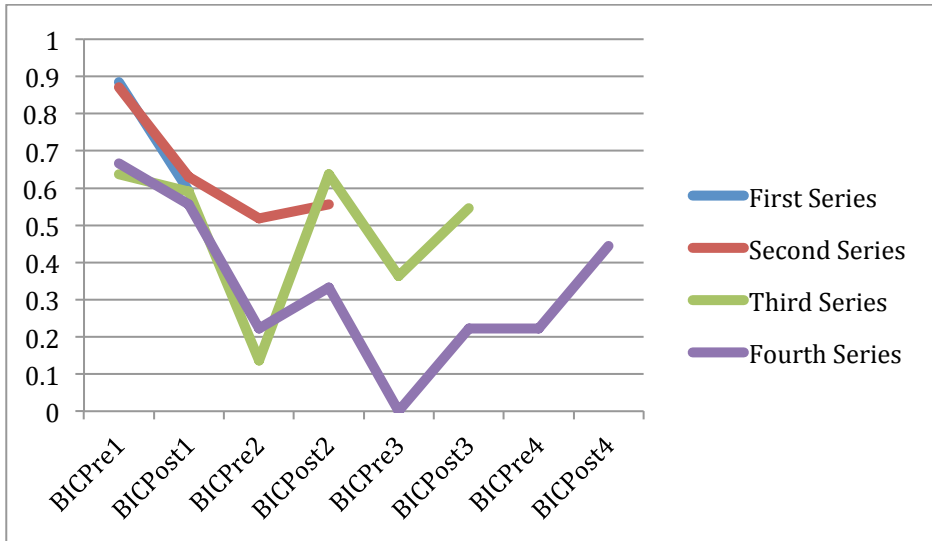|	Behavioral Emotional Functioning	Body Image Satisfaction	Global Self-Worth
Time 1	.000	.000	.000
Times 1 & 2	.084	.023	.021
Times 1, 2 & 3	.376	.046	.121
Times 1, 2, 3 & 4	--	.673	.108

Appendix B: Figures
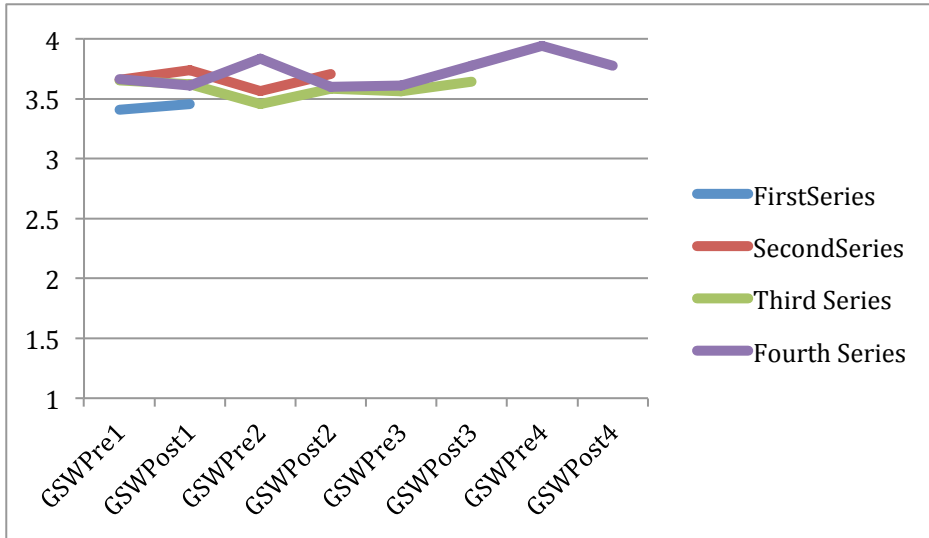
Figure 1. Means for Global Self-Worth Over Time
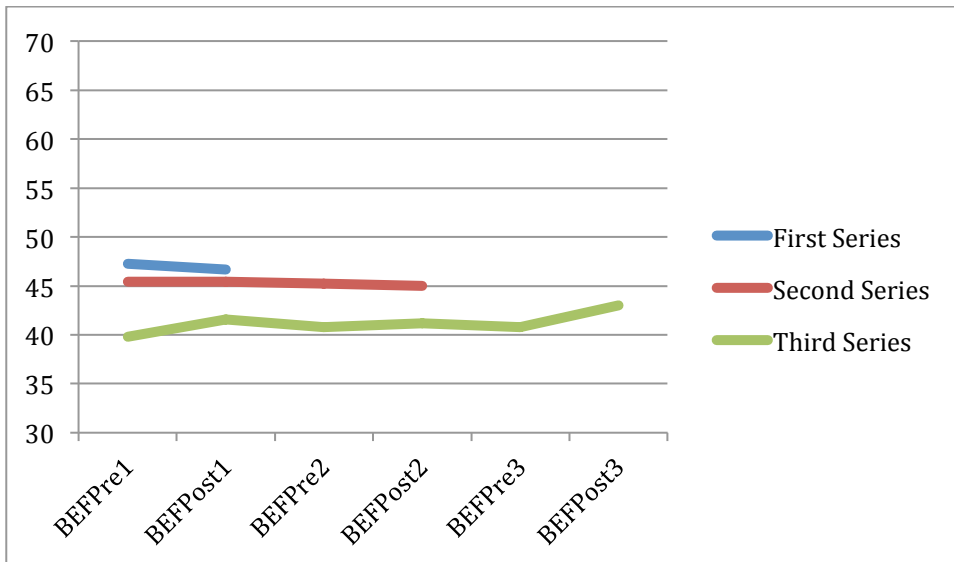
Figure 2. Means for Behavioral and Emotional Functioning Over Time

Figure 3. Means for Body Image Satisfaction Over Time