BENEFITS OF RECRUITING PARTICIPANTS WITH FRIENDS AND INCREASING SOCIAL SUPPORT FOR WEIGHT LOSS AND MAINTENANCE

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INTRODUCTION

- Standard Behavioral Treatment for weight loss
  - Diet, exercise etc.
- Main problem – long term weight maintenance
- This paper shows an experiment on weight loss and maintenance under social support
- Result
  - Without social support 24% maintained weight loss
  - With social support 66% maintained weight loss
CONTENTS

- Weight loss treatment
- Weight loss experiment
  - Experimental setup
  - Experimental design
  - Participants
  - Social support
  - Result
  - Data analysis
- Discussion
WEIGHT LOSS TREATMENT

- Weight loss treatment – SBT
  - Proven very effective initially
  - Poor in case of long term maintenance
- Limited studies regarding long term weight maintenance
  - Programs treating both overweight children and their parents were more successful than treating the children alone
  - Some social support related studies consider intergroup activities
  - Other consider intragroup activities
- This study tried to cover all these three..
EXPERIMENTAL SETUP

- Participating criteria
  - Generally good health
  - Either alone or with 3 other people (friends, coworker, or family member)
  - Aged 25-55, weighted 15-70 lb over ideal BMI
- Participants
  - Total 166
  - 82 men, 84 women
- Common treatment components
EXPERIMENTAL DESIGN

- Total 16 months
  - 1st 4 months SBT
  - Follow up at 7th, 10th and 16th month
- Weight measure at every month
  - Monitor weight change
  - Possible loss in first 4 months
  - Possible regain/maintenance in follow up months
EXPERIMENTAL DESIGN CONT...

- Weekly group meetings for 16 weeks
  - Led by behavior therapist, a nutritionist or both
  - Participants lecture/discussion
- Participants weighing less than 200 lb
  - instructed to eat no more than 1,000 kcal/day.
- Participants weighing more than 200 lb
  - instructed to eat no more than 1,500 kcal/day.
GROUPS OF PARTICIPANTS

- Group 1
  - Recruited alone and SBT
  - No effort made to increase communication among participants

- Group 2
  - Recruited alone and SBT plus social support
  - Effort was made to try to group people according to living area, working organization, but such efforts
    - Less successful grouping effort

- Group 3
  - Recruited with friends and SBT
  - Similar program aspects as group 1

- Group 4
  - Recruited with friends and SBT plus social support
  - Became a natural team
  - Same social support as G2

- All groups had identical lesson materials
SOCIAL SUPPORT GIVEN TO G2 AND G4

- Intragroup activities
  - Treatment activities during each session
    - Sat together in small table
    - Perform group assessments together
    - Discuss and share their experience with
      - Restaurants and groceries providing good low fat foods,
      - Interesting new locations for walk and other physical exercises
  - Created phone number list
    - Member 1 called member 2, member 2 called member 3
  - Asked to have meal together in every other week
  - Asked to do exercise together outside of the class
INTERGROUP COMPETITION

- Participants
  - Lost weight at least 5lb can join only
- Attractive prizes/jackpots
- Extra award for a team
  - In which all 4 members retained weight loss
- All social support activities ended at month 10
MEASURES

- At months 0, 4, 7, 10 and 16
  - Measured weight
  - Calculated BMI
- Social support calculation
  - Used Sallis Social Support scale
  - Subscores for positive and negative support
  - Questionnaire
    - How frequent one member talked, exercised or ate out with other member/members
      - Score: 1= Never, 2= Occasionally, 3= Frequently
    - How supportive the conversation was
      - Score: 1= Not supportive at all, 5= Very supportive
## DATA ANALYSES

### Participants characteristics

<table>
<thead>
<tr>
<th>Variable</th>
<th>Recruited alone</th>
<th>Recruited with friends</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SBT</td>
<td>SBT + social support</td>
</tr>
<tr>
<td>n (male:female)</td>
<td>38 (18:20)</td>
<td>48 (26:22)</td>
</tr>
<tr>
<td>Age (years)(^a)</td>
<td>41.8 ± 9.2</td>
<td>43.5 ± 7.8</td>
</tr>
<tr>
<td>Weight (kg)(^a)</td>
<td>82.9 ± 11.3</td>
<td>85.1 ± 11.1</td>
</tr>
<tr>
<td>BMI(^a)</td>
<td>30.6 ± 3.7</td>
<td>31.8 ± 3.1</td>
</tr>
<tr>
<td>% with college or graduate degree</td>
<td>40</td>
<td>63</td>
</tr>
<tr>
<td>% employed outside of home</td>
<td>84</td>
<td>88</td>
</tr>
<tr>
<td>% Caucasian</td>
<td>95</td>
<td>96</td>
</tr>
<tr>
<td>% married</td>
<td>58</td>
<td>65</td>
</tr>
<tr>
<td>% never dieted</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>% never in organized weight-loss program</td>
<td>21</td>
<td>19</td>
</tr>
</tbody>
</table>

*Note.* SBT = standard behavioral treatment; BMI = body mass index.

\(^{a}\) M ± SD. \(^{b}\) Contrast between participants recruited alone versus participants recruited with friends was significant.
RESULTS

Experimental manipulation of social support
+ “Significant” effect of recruitment strategy
+ “Significant” social support intervention
+ Perceived social support decreased over time

Fig 1: Ratings of social support from other in group
INITIAL WEIGHT LOSS

- 4 months test completion rate 90%
  - Recruited alone no social support – 79%
  - Recruited with friends and received social support – 98%

Table 2
Study Completion and Weight Loss (in Kilograms) at Months 4 and 10

<table>
<thead>
<tr>
<th>Treatment</th>
<th>n</th>
<th>%</th>
<th>M</th>
<th>SD</th>
<th>n</th>
<th>%</th>
<th>M</th>
<th>SD</th>
<th>n</th>
<th>%</th>
<th>M</th>
<th>SD</th>
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</thead>
<tbody>
<tr>
<td>Baseline to Month 4</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SBT</td>
<td>30</td>
<td>79</td>
<td>-7.0</td>
<td>3.8</td>
<td>29</td>
<td>76</td>
<td>-5.3</td>
<td>6.8</td>
<td>29</td>
<td>76</td>
<td>1.6</td>
<td>4.0</td>
</tr>
<tr>
<td>SBT + SS</td>
<td>44</td>
<td>92</td>
<td>-6.9</td>
<td>3.5</td>
<td>36</td>
<td>75</td>
<td>-6.1</td>
<td>4.7</td>
<td>36</td>
<td>75</td>
<td>0.8</td>
<td>2.6</td>
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<tr>
<td>Baseline to Month 10</td>
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<tr>
<td>Recruited alone</td>
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<td>SBT</td>
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<td>90</td>
<td>-8.6</td>
<td>4.3</td>
<td>33</td>
<td>83</td>
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Note. N = 166. SBT = standard behavioral treatment; SS = social support.  
* Adjusted for baseline weight.
OVERALL WEIGHT LOSS

- Overall test completion rate
  - Recruited alone no social support – 76%
  - Recruited with friends and received social support – 95%

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*Adjusted for baseline weight.
Overview of weight loss maintenance...

- Weight gained in the follow-up period
  - Recruited alone no social support – 1.6 kg on avg
  - Recruited with friends and received social support – 0.5 kg on avg

Other considered variables had no effect on weight loss
- Gender, baseline weight, employment, prior experience in weight loss program etc.

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<tr>
<td></td>
<td><strong>Weight loss</strong></td>
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<td></td>
</tr>
<tr>
<td></td>
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*Adjusted for baseline weight.*
MAINTENANCE OF WEIGHT LOSS

- Participants recruited alone and received SBT
  - 24% maintained their weight loss in full
- Participants recruited with friends and received social support intervention
  - 66% maintained their weight loss in full
- Over the 6 month follow up:
  - 8 participants of G2 and G4 remained exactly same weight
  - 0 participants of G1 and G3 remained exactly same weight
PERCENTAGE OF MAINTAINING WEIGHT LOSS

Fig 2: Percentage of participants who maintained their weight loss in full from Months 4 to 10.
Alone = recruited alone; SBT = standard behavioral treatment.
16 MONTH FOLLOW UP

- Only 90 of the initial 166 (54%) participated in the 16-month assessment
- Drop out rates were high for participants recruited alone
- Attendance varied in different groups
  - Better attendance for participants recruited with friends – 65%
  - Poor attendance for participants recruited alone – 44%
DISCUSSION

- Overall weight losses from Months 0 to 16 ranged from 6.2 kg to 7.9 kg
- Recruiting participants with friends and treating them with a strong social support intervention
  - Decreased the number of dropouts
  - Increased the percentage of maintaining weight loss
- Even after the test period the social support intervention was still in effect!
Questions?