Guided Goal Setting: A Behavior Change Strategy Adapted to the Needs of Low-Income Parents of Young Children Participating in Cooperative Extension Programs

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Abstract

Given the alarming obesity rates among preschoolers, families need parental education to facilitate family environmental and behavioral changes. Our purpose was to adapt guided goal setting (GGS) for use with low-income, low-literate parents of young children participating in Cooperative Extension nutrition education programs. Parents identified three goal motivators during parent interviews (n=10): child health, parenting skills, and parent health. Parent preferences for goal phrasing focused on meal planning and child involvement in food selection. Parents indicated the preference for more choices in the goal selection process. GGS materials were rated grade 3.8 for readability. Formative evaluation guided the tailoring of the GGS companion curriculum.

Keywords

goal setting, obesity prevention, low-income parents, literacy
Introduction

To impact the increases in obesity rates among preschoolers, parental education is needed to facilitate family behavioral and environmental changes (Centers for Disease Control and Prevention 2009; Ogden, Carroll, and Flegal 2008). Guided goal setting (GGS) has been shown to be an effective behavior change strategy for promoting healthful dietary and physical activity behaviors among low-income, ethnically diverse middle-school students in Cooperative Extension programs (Shilts, Horowitz, and Townsend 2009). The strategy was developed as an alternative to self-set, prescribed, and collaborative goal setting types (Shilts, Townsend, and Horowitz 2004a). Research results do not provide clear evidence to suggest that one goal type is more effective (Locke and Latham 2002) although it is logical that many factors (setting, age, readiness to change, type of behavior being targeted, respect for the educator) can influence appropriateness of goal type in health behavior interventions. In a Cooperative Extension setting where group classes are the norm, one educator usually does not have the luxury of time to collaboratively set a goal with each individual in the class. Self-set goals require participants to be able to understand and apply goal setting techniques (proximity, specificity, attainability) and assigned goal setting may limit autonomy and decrease goal commitment. GGS gives choices from a collection of practitioner-developed major and minor goals with attributes necessary for optimal goal effectiveness: specificity, proximity, difficulty, and attainability (Locke and Latham 2002; Shilts, Townsend, and Horowitz 2004a). Each broad major goal is coupled with a collection of minor goals that are specific in terms of what, when, where, and how often. An example of a major goal is “Buy fewer sugared drinks” and a minor goal, “Choose water, unsweetened tea, diet soda, or milk two times when eating out this week.” The participant makes an independent decision in selecting the major and minor goals based on a personal assessment, a key element in this strategy. This strategy is also suited well for group classes, which are common in Cooperative Extension.

Results of the National Adult Literacy Survey indicate that 47 percent of adults in the United States demonstrate low levels of literacy (National Center for Educational Statistics 2002). Low-income communities see a disproportionate percentage of participants with limited literacy skills (National Center for Educational Statistics 2002). Therefore educational materials for Cooperative Extension programs such as Expanded Food and Nutrition Education Program (EFNEP) and Supplemental Nutrition Assistance Program-Education (SNAP-Ed) should be designed to meet the needs of this low-literate adult audience. These materials should strive for a readability score of grade 3 to 5 (National Cancer Institute 2003).

This article illustrates the process used to adapt the GGS strategy for another Cooperative Extension audience: low-income, low-literate parents of young children. Parent input guided the adaptation of the GGS strategy into a companion curriculum that the authors believe could be
used with an existing EFNEP or SNAP-Ed intervention.

Description of the adaptation process

Previous work with GGS for an adolescent audience employed strategies targeting their unique preferences and behaviors. For example, the motivators “improved appearance” and “increased energy” were identified (Shilts 2003). A self-assessment method was designed for a classroom setting (Horowitz, Shilts, and Townsend 2005; EatFit 2011) providing tailored goal options related to student dietary habits (e.g., choosing a more healthful pizza option [Shilts, Townsend, and Horowitz 2004a]). To adapt this strategy for use with low-income parents of young children, formative research was conducted where parent preferences and behaviors were considered for five curriculum components: assessment tools, participant motivators, goal content, goal selection process, and corresponding education materials.

Assessment tools. Twelve determinants of pediatric overweight and 23 corresponding specific modifiable behaviors practiced by families of preschool children were identified via a series of evidence-based analyses with focus on studies of low-income populations (Ontai et al. 2009a; Townsend et al. 2009a). The University of California Cooperative Extension Healthy Kids (HK) and My Child at Mealtime (MCMT) assessment tools were developed to measure the 23 identified behaviors and were selected for use in the adapted GGS companion curriculum (Ontai et al. 2009b; Townsend et al. 2009b). The HK/MCMT tools were designed for self-administration by low-income, low-literate, ethnically diverse caregivers of young children (Ontai et al. 2011; Townsend et al. 2011). The Flesh Kincaid Readability Index for HK was grade 1.3 and for MCMT, 2.1 (Klare 1984). The HK/MCMT tools were used in two components of the adapted GGS companion curriculum. First, participant responses from the tools were used to individually tailor the companion curriculum workbooks. Second, behavioral nutrition (n=4) and developmental (n=2) experts collaborated to identify specific behaviors included in the HK/MCMT tools that could be easily translated into participant goal options: eating fruit, vegetables, and other low-fat foods; drinking more milk and fewer sugar-sweetened beverages; planning meals; modeling healthy behaviors by parents; reducing screen time; increasing physical activity; and increasing parental responsiveness and decreasing parental demandingness during mealtime (Townsend et al. 2009a).

Participant motivators, goal content, and goal selection process. Ethnically diverse, English speaking, low-income parents/caregivers (n=10) of children aged 3-5 enrolled at Head Start were recruited for individual interviews. The interviews (approximately 30 minutes) were conducted by the authors at three Head Start centers. Interviews were conducted until no new information was provided. Institutional Review Board approval was granted by the University of California, Davis (#200816354-1) and California State University, Sacramento (#93). Interview questions included:
What would motivate you to work toward a goal to make healthier food choices for you or your family?

If an educator helped you set a goal related to healthy eating, would you want a new goal each week? Or would you want the same goal for several weeks until you achieve it?

Which of these goals would you be willing to work toward (list of goals provided based on the HK/MCMT content)?

Of participants interviewed, 40 percent identified “children,” 40 percent identified “health,” and 20 percent identified both “children and health” as personal motivators for goal attainment. Most (70 percent) preferred a new weekly goal, while 30 percent preferred the same goal until accomplished. When given lists of possible goal options based on the 23 modifiable behaviors assessed by HK/MCMT and asked preferences, all participants indicated they were willing to work on goal content that involved the child and focused on meal planning or shopping.

Participant goal options and the goal selection method for the companion curriculum were developed from interview findings and focused on parent health, child health, meal planning, and child involvement in food selection (Table 1). The participant could select a goal from a preformatted list based on the assessment tools or create her own goal. Additionally, participants could opt to select a new goal each subsequent education session or work on the same goal until accomplished.

**Education materials.** GGS strategies brought forward from the adolescent GGS intervention (Bandura 1991; Horowitz, Shilts, and Townsend 2004; Locke and Latham 2002) were adapted for the new audience and informed by the parent interviews (n=10). The resulting companion curriculum included (1) a magazine-style goal workbook for parents and (2) an educator manual with supporting handouts, activities, and posters. The workbook was designed in a magazine style because this format was successful with other low-income audiences (Horowitz, Shilts, and Townsend 2004) as it is visually appealing and not reminiscent of academics. The workbook was evaluated for readability using the Flesh Kincaid Readability Grade Index (Klare 1984). The grade level for the goal setting booklet was 3.8, appropriate for low-literate audiences. The education materials included images that represented ethnically diverse, low-income families with young children and content targeting common issues parents encounter. The companion curriculum was driven by social cognitive and goal setting theories (Bandura 1991; Locke and Latham 2002). For example, a goal barriers activity was tailored for parents by focusing on their expertise and challenges. Cards (4 inches x 6 inches) were provided that contained relevant goals, barriers, and barrier solutions (e.g., Goal – fix a fruit or vegetable snack with your child two times this week; Barrier – my child doesn’t like vegetables; Solution – have your child go to the grocery store with you and help pick vegetables for the snack). Parents discussed barriers
impeding goal attainment; they brainstormed barrier solutions, recording them in their personal workbook.

Authors scored the GGS companion curriculum using a taxonomy of theory-linked behavior change techniques, more commonly known as strategies in the United States, developed by Michie and colleagues (Table 2). The purpose of this taxonomy was to establish a common language for dietary and physical activity curricula for users (designers, researchers, and practitioners) and thus to determine what curricula behavioral components work and why (Abraham and Michie 2008). Michie recommended that researchers and program developers use this standardized nomenclature to allow for comparison with other interventions and for clearer identification of effective behavior change strategies (Michie and Abraham 2004; Michie et al. 2009). The GGS companion curriculum incorporated twelve behavior change strategies ranging from self-monitoring to relapse prevention, all driven by goal setting theory (Table 2). The GGS companion curriculum was designed to augment an existing Cooperative Extension behaviorally focused nutrition education curriculum. Two Cooperative Extension curricula, Eating Smart Being Active (ESBA) and Healthy, Happy Families, were selected to partner with our new GGS curriculum to promote parental goal attainment (Ontai and Families with Young Children Workgroup 2010; University of California Davis and Colorado State University 2007). In addition to these twelve strategies, other behavior change strategies will be addressed by the partnered curriculum. For Cooperative Extension professionals, it is important to become familiar with the taxonomy nomenclature and use it in Extension intervention work where behavior change is a goal.

**Pilot study.** The newly adapted GGS companion curriculum was pilot tested with two groups of ethnically diverse, English speaking parents/caregivers (n=21) recruited from preschools serving low-income families. Parents engaged in the GGS process integrated with ESBA (nutrition/physical activity) and Happy, Healthy Families (parenting), with 98 percent reporting effort toward their selected weekly goals. The intervention educators reported that approximately 25 percent of parents had difficulties with the goal selection process, where they selected multiple major and minor goals or did not understand how to fill out the goal contract. Subsequent modifications included development of a large poster for the educator to use when describing the GGS process to the participants plus clearer instructions and additional design elements in the participant workbook. An action planning activity was also added so parents would have the opportunity to plan and write down specific steps needed to achieve the selected goal. In addition, the educators reported that most parents needed additional help understanding cues as they relate to goal success. Hence the “cues” activity was revised to be more interactive and include additional concrete examples of positive and negative cues plus a clearer title and additional graphic elements were added to the workbook.
Discussion

In the last two decades, a significant increase in breadth and depth of research into goal setting to promote health behavior change has occurred. Several reviews documented that goal setting is frequently used to facilitate adoption of healthful eating and physical activity behaviors to reduce chronic disease risk (Bodenheimer and Handley 2009; Cullen, Baranowski, and Smith 2001; Shilts, Horowitz, and Townsend 2004b; Strecher et al. 1995). In addition, the results of a meta-analysis identified goal setting as one of two promising behavioral intervention components to help modify dietary fat, fruit, and vegetable intake (Ammerman et al. 2002).

The formative research resulted in an adapted guided goal setting companion curriculum where parents complete the HK/MCMT assessment tools to identify behaviors related to pediatric obesity (strengths and weaknesses). Based on results of the assessment, participants are praised for one nutrition or physical activity strength and presented with two areas for improvement. Parents are “guided” to select one of these areas for a major goal and then choose a minor goal from three predetermined choices. This process is repeated for the parental feeding-related behaviors based on the results from MCMT. As a consequence of parent interviews, parents are given three additional options at subsequent sessions: select a new goal, modify the existing goal, or continue to work on the initial goal.

A magazine-style workbook supports and reinforces the GGS companion curriculum. This workbook contains behavior-driven strategies: goal selection, action planning, contracting, tracking, self-monitoring, barriers counseling, cue management, and rewarding, and it was written at a level appropriate for low-literate audiences (Figure 1) (Shilts et al. 2010).

Implications for Cooperative Extension educators

We have found that behavior change strategies, such as goal setting, need ample formative evaluation and pilot testing to be relevant to and appropriate for a new target audience. Interested Cooperative Extension educators can use this behavior change strategy with similar audiences of low-income parents.

An efficacy trial of the adapted GGS strategy began in late 2011. The self-assessment and goal generating process will also be automated and made available to other Cooperative Extension Services via the internet by 2014. The companion curriculum with workbook (Shilts et al. 2010) is available to be partnered with the pediatric obesity prevention assessment tools, HK (Townsend et al. 2009b) and MCMT (Ontai et al. 2009b), and a traditional Cooperative Extension nutrition education and parenting curriculum.
Acknowledgments

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References


Shilts, M. K. The Effectiveness of Guided Goal Setting on Dietary and Physical Activity Self-efficacy and Behaviors of Middle School Adolescents. PhD diss., Department of Nutrition, University of California, Davis. 2003.


Table 1. Sample minor goals for obesity prevention developed specifically for low-income parents of young children

<table>
<thead>
<tr>
<th>Focus Area</th>
<th>Sample Minor Goal</th>
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<tbody>
<tr>
<td>Meal Planning</td>
<td>Offer your family 2 vegetables at dinner 3 times this week. Plan and fix meals instead of eating out 2 times this week. Set a regular meal time when you think your child will be hungry 3 times this week.</td>
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<tr>
<td>Child Involvement of Food Selection</td>
<td>Let your child choose a fruit and vegetable on your next shopping trip. Let your child serve himself at 2 meals this week.</td>
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<tr>
<td>Technique</td>
<td>Example in Guided Goal Setting Program</td>
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<tr>
<td>Provide goal instruction</td>
<td>Parents receive basic goal setting instruction on major and minor goals and attributes known to enhance goal attainment: keeping goal content positive, specific, proximal, and attainable.</td>
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<tr>
<td>Prompt self-monitoring of behavior</td>
<td>Parents complete HK/MCMT assessment tools focusing on current nutrition, physical activity and child feeding practices. Parents receive a tailored printout based on their individual results from HK/MCMT assessment tools. The printout identifies one strength and two areas to work on for nutrition and parenting behaviors. Each area contains one major goal and three minor goal options.</td>
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<tr>
<td>Prompt specific goal setting</td>
<td>Participants are guided to review the two major goals offered and select one. They select a minor goal for the week while having the option to create their own minor goal.</td>
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<tr>
<td>Agree on behavioral contract</td>
<td>Parents complete a contract by indicating the minor goal selected, signing the contract and having a classmate sign.</td>
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Table 2. Content of guided goal getting companion curriculum using behavior change techniques as defined by Michie et al.*

[Table 2 Summary: Michie behavior change techniques were used to organize and describe the behavioral strategies in the adapted GGS companion curriculum]
<table>
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<tr>
<th>Guided Goal Setting</th>
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<tr>
<td>Provide feedback on performance</td>
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<td>During each education session, after initial goal selection, participants report goal effort and attainment on a graphically appealing tracking sheet.</td>
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<tr>
<td>Provide contingent rewards</td>
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<td>After tracking goal effort and attainment, parents receive raffle tickets as a reward. Tickets are drawn for prizes to facilitate goal attainment. An education topic, Reward yourself – You deserve it, is included in the intervention. Parents write down three ways to reward themselves for reaching their goals.</td>
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<tr>
<td>Prompt review of behavioral goals</td>
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<tr>
<td>After tracking minor goal progress each session, parents review current goals. They can choose to continue working on the same goal, select a new goal from a preformatted list, alter the existing goal to make it more difficult or easier, or create their own goal.</td>
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<tr>
<td>Prompt barrier identification</td>
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<td>Parents are introduced to the barrier concept in the education topic, Barriers – What’s getting in your way? As a group activity, 4x6 cards containing a goal, barrier and barrier solution are distributed. Participants identify additional solutions that might work for them. Parents are asked to identify specific barriers to their selected goals. As a group they develop barrier solutions which are recorded in the participant workbook.</td>
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<tr>
<td>Teach to use prompts/cues</td>
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<td>An education topic, Cues – Stage your life for success, provides examples of positive and negative cues. Parents receive 4x6 cards with a positive cue on one side and a negative cue on the other to discuss with the group. Parents think of negative cues inhibiting goal attainment and positive cues facilitating goal attainment. These ideas are recorded in the participant workbook. Reminder cards are distributed at the end of each education session. Parents write their goal selection for the following week. Parents are encouraged to post the reminder card on the refrigerator, bathroom mirror or in the car to serve as a positive cue.</td>
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<tr>
<td>Provide opportunities for social comparison</td>
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<tr>
<td>Small group activities are integrated throughout the intervention to facilitate discussion of goal effort, attainment,</td>
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barriers, and cues. These discussions are facilitated by the educator to promote social comparison and social support.

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<tr>
<th>Plan social support</th>
<th>Classmates sign others’ goal contracts. Goal reminder cards go home to a prominent location so other family members can be aware of the goal.</th>
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<tr>
<td>Use relapse prevention</td>
<td>An education topic, Roadmap for the future, helps the participant become aware of why some goals are not accomplished or are hard to sustain. Techniques are provided to promote successful goal development, attainment and sustainability. At the final education session, participants are guided to develop their own goal to work on after the intervention has concluded.</td>
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*This assumes other techniques will be addressed with partnered curriculum. ESBA and Healthy, Happy Families added the following techniques: provide information about behavior-health link · provide information on consequences · provide instruction · demonstrate the behavior.*