Goals and Memory Aging: Anchored Self-Set Goals for List, Name, and Story Recall
by Robin L. West, Kimberly A. Smith, & Carla M. Strickland-Hughes

INTRODUCTION

Research on goal setting with respect to memory and aging has clearly established the following for list recall:

- Goals can be motivational for all ages
- People work harder for more challenging goals
- Age differences in ability impact goal-related recall gains
- Self-efficacy and related beliefs influence goal achievement
- Feedback interacts with goal success

Considering aging, older adults, as compared to younger adults, are less reliably influenced by goals to improve their test scores (West, Ebner, & Hastings, in press):

- If demands appear to surpass their skills, older adults may withdraw effort from a challenging goal, resulting in weak performance gains in goal conditions (West & Thorn, 2001).
- At the same time, under relatively ideal conditions, older adults can be successful after goal setting., e.g., older adult scores improve when tasks are moderately difficult and goals are set by experimenters in relation to individual levels of performance (West et al., 2005; West et al., 2009).
- Past research also shows that older adults, but not younger adults, have difficulty setting their own appropriate memory goals (West & Thorn, 2001; West et al., 2001).

RESEARCH QUESTIONS

- Can older and younger adults effectively set their own goals if given goal-setting anchors?
- Will older and younger adults respond as well to name and story recall goals as to list recall goals?
- Are there age differences in goals or goal-related recall gains across these three types of recall tasks?

METHODS

- Healthy, well-educated community dwelling Caucasian adults
- Older (N = 38) adult participants were more highly educated (p< .001) and had lower self-rated health (p<.001) than younger adults (N=34)
- Tasks completed in group sessions
- Participants randomly assigned to goals or no goals groups
- In goals groups only, goals were self-set for 3 memory tasks, in relation to participants' own baseline recall performance.

MEASURES

Self-set Goals, selection ranging from 20 – 140% improvement
- Anchoring was used before each goal was set
- Anchors varied on each trial and each task, ranging from 75-85% better
- Participants divided into no goal (NG), low self-set (<60%) and high self-set (>60%) goals (HG)

Baseline Recall (T1) and Posttest Recall (T2)

- List Recall – 15 (T1) or 48-item (T2) partially categorizable shopping list
- Name Recall – paired associates, 12 (T1) or 24 (T2) names with faces
- Story Recall – 8 (T1) or 24 sentence (T2) paragraph
- 1 min encoding, 5 min retrieval for T1; 5 min encoding and 5-10 min retrieval for T2
- Tasks were structured to achieve ~ 100% gain without goals

Memory Self-efficacy (MSEQ-4; West et al., 2007), ranging from 0 – 100
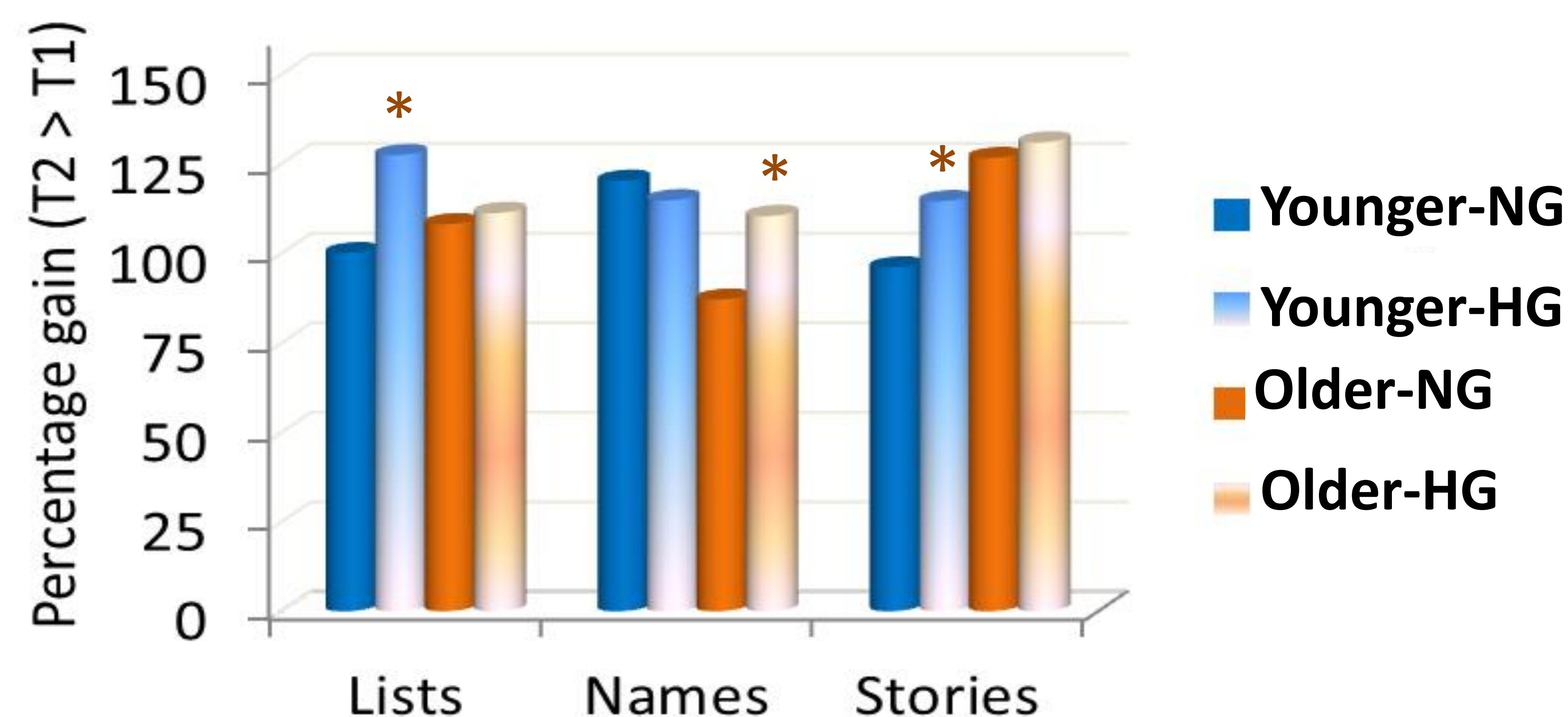
RESULTS

Self-set Goals:
- Older adults set goals as high as younger adults; goals were set higher for list recall (M = 61.0) than for name recall (48.9) and story recall (49.4)

Goal-related Gains (percentage gain on T2 relative to T1 baseline score):
- Goal-related gains interacted with age; high self-set goals (HG) led to greater gains than no goals (NG) for younger adults on list and story tasks and for older adults on the name task; the low self-set goal groups scored in-between the other two groups; Age Group X Task X Time of test interaction was significant (p < .01) for percentage gain scores (see graph below for no goals and high goals data)
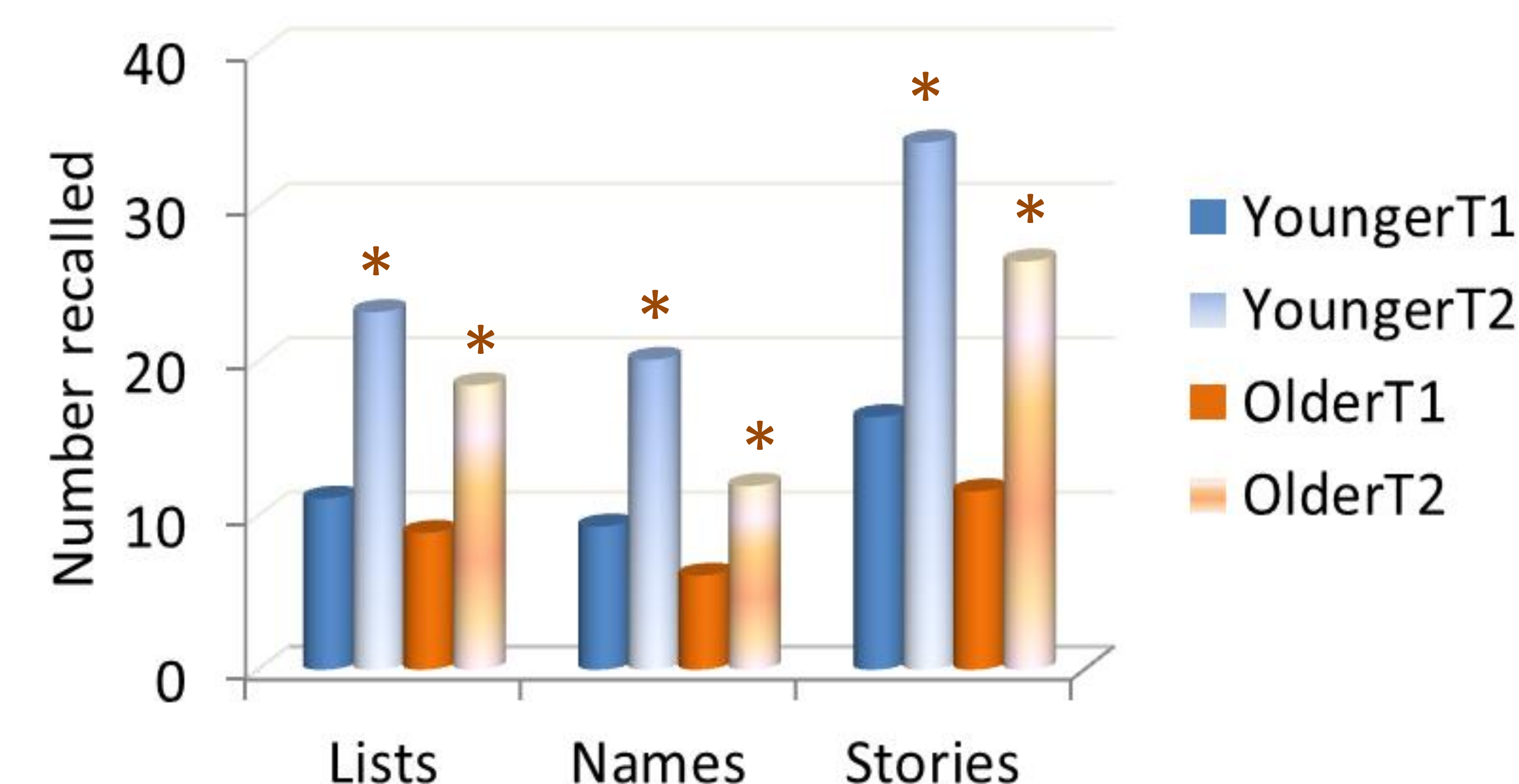

RESULTS CONTINUED

Self-efficacy:
- For those with goals, self-efficacy (controlling for age) was highly related to T2 performance for lists (p <.05), names (p <.005), and stories (p < .05).

Practice-related gains in raw scores:
- Younger adults gained more overall than older adults from T1 to T2 on all tasks (significant Age X Trial interactions, p < .001) as shown in the graph below.

CONCLUSIONS & IMPLICATIONS

- This is the **first study to generalize previous goal setting studies on list recall to name recall and story recall**. Goals led to gains for both of these new tasks, suggesting the value of future studies in this area.
- As expected, **individuals who set the most challenging goals gained the most** on the second trial.
- As in past studies with self-set goals, older adults do not show raw score gains across trials as high as those of younger adults.
- This is the **first study to use anchors to improve goal setting** by young and old. In general, older adults with anchors set goals that typically matched the goals of younger adults. **Older adult performance was lower than younger adult performance at both T1 and T2, but gains (as a percentage of T1 performance) were comparable across age.**
- **Future studies could focus on how to train individuals to set personal goals** that would enhance cognitive performance, across multiple trials with practice and feedback.