

Remembering To Do Things For Others: Social Prospective Memory and Goal Activation

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What is Prospective Memory (PM)?

- Memory for things you need to do (your “to-do” list)
 - For example:
 - Buying milk after work
 - Calling for a dental appointment
 - Finishing a conference presentation



What is Social Prospective Memory?

- Subset of PM which involves other people
 - For example:
 - Buying a birthday gift for a friend
 - Calling your grandparents
 - Finishing your part of a group project



Prior Research on PM

- PM in general is under-researched, even though it is important to health behaviors such as taking medication
- Research on the social aspects of PM is almost non-existent
 - Research suggests that social PM tasks, compared to non-social PM tasks, are:
 - Considered more important
 - Completed more often
 - Priming a social (helping) goal in female participants increased recall of real life social PM tasks

(Fahlsing, Penningroth, & Scott, 2012; Penningroth, Scott & Freuen, 2011)

What is Goal Priming?

- Implicit goal priming is an experimental procedure used to activate specific goals without a participant's explicit awareness. Examples include:
 - Word searches that include words related to a specific goal
 - Scrambled sentences that include words related to a specific goal
- Priming goals shows effects on related tasks:
 - Exposure to positive or negative trait words affected interpretation of an ambiguous description of a person
 - After exposure to helpful words, subjects were more likely to help the experimenter pick up dropped items

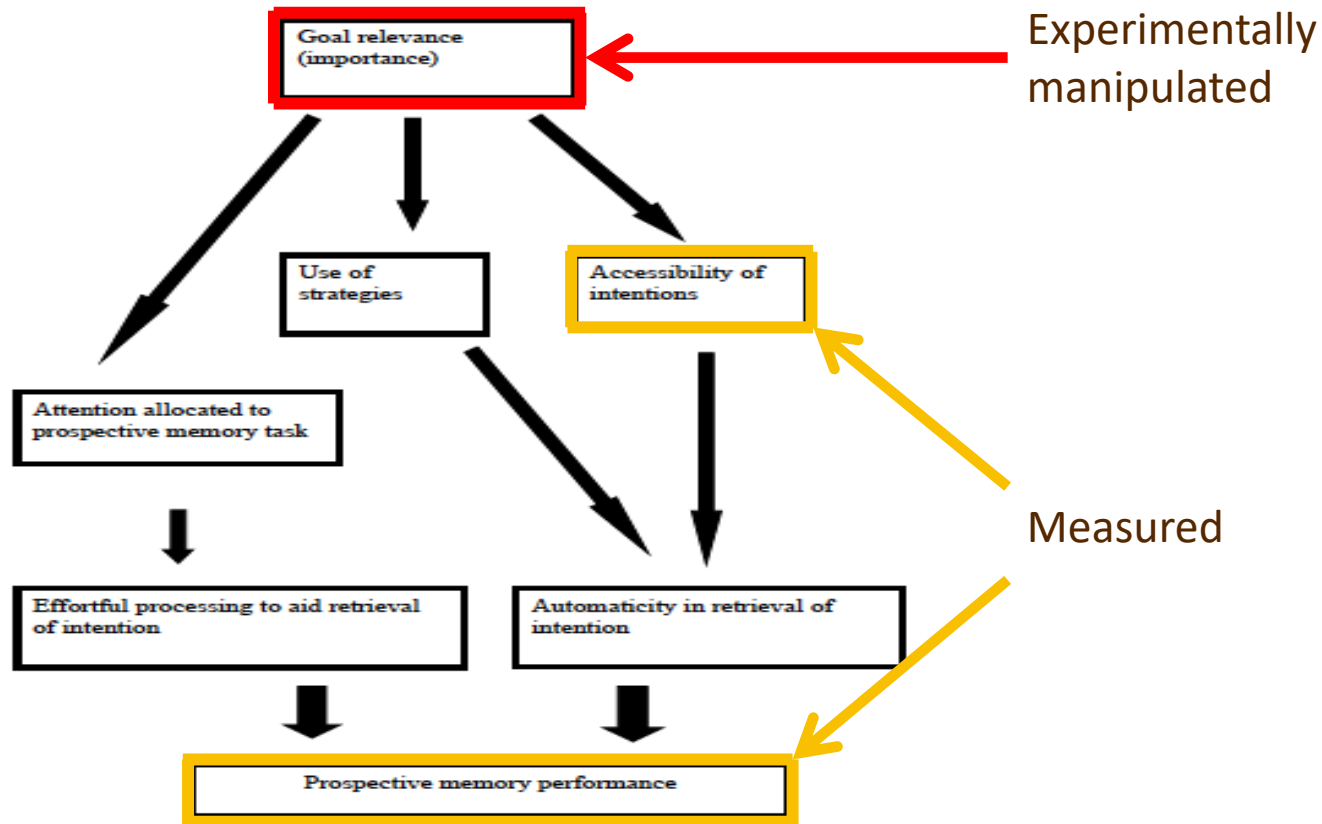
(Higgins, Rholes, & Jones, 1977; Macrae & Johnston, 1998)

Hypotheses

- **Performance hypothesis:** Participants with a social goal activated will perform better on social prospective memory tasks compared to participants with a personal achievement goal activated
- **Accessibility hypothesis:** (Female) participants with a social goal activated will show increased accessibility of real-life social prospective memory tasks

Theoretical Support

- Goal-Based-Motivational-Cognitive Model of Prospective Memory (Penningroth & Scott, 2007)



Method: Participants

- Lab-based study, conducted summer 2012
- 80 participants were recruited from the University of Wyoming and Laramie community through flyers, classified ads, and word of mouth
- Participants were paid \$8 for participation

Method: Manipulation of Goal Relevance

- Participants completed a scrambled sentence task to either prime:
 - social goal (“helping”)
 - personal achievement goal
- Twenty scrambled sentences were presented (5 words shown, create a 4 word sentence):
 - box a opened at was

**Goal relevance
(importance)**

Method: Manipulation of Goal Relevance

- Social prime condition:

helped
assistance
aided
supported
provided

encouraging
facilitated
promoted
fostered
furthered

(Macrae & Johnson, 1998)

- Personal achievement prime condition:

I gain
I attained
I solved
I independent
my achievement

get me
succeed
accomplished
personal
individualist

Method: Ongoing (Background) Task

- Participants were told to rate 87 words on one of three dimensions for a new, unrelated study:
 - concreteness
 - pleasantness
 - familiarity
- Ratings on scale 1-4, with left hand
- Press “Next” key with middle finger of right hand



Method: Measuring Prospective Memory Performance

- Participants were also told that there was a secondary interest in remembering to perform an action in the future during the word rating task:
 - Mark “animal” words with an “a” after rating, right index finger
 - cow, tiger, pig
 - Mark “clothing” words with a “c” after rating, right ring finger
 - shoes, hat, sweater



Method: Measuring Prospective Memory Performance

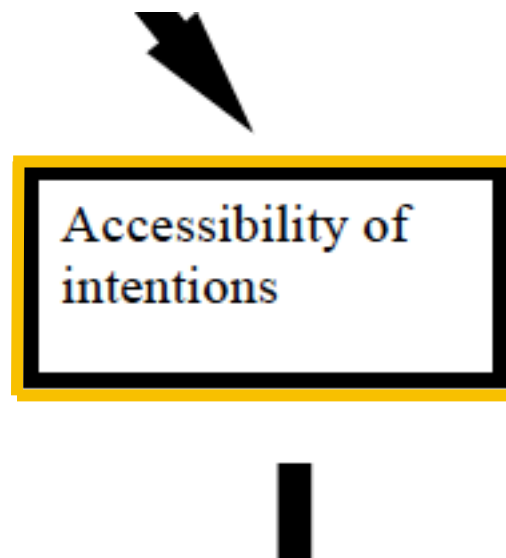
- One category (e.g. “animal”) would enter the participant in a drawing for a \$50 gift card
- The other category (e.g. “clothing”) would enter the participant’s friend in a different drawing for \$50 gift card



Prospective memory performance

Method: Measuring Accessibility

- Participants were asked to list 5 real life tasks they wanted to remember to do in the next month
- Rated as social (if forgetting affected another person) or not



Method: Surveys & Awareness Check

- Participants completed multiple surveys, including the Compassionate Goals scale (a measure of chronic compassionate/pro-social goal activation)
- Finally, participants completed an awareness check based on Bargh and Chartrand's funneled debriefing (2000) which ensured participants:
 - were unaware of the priming effect
 - understood task instructions (especially category and reward)

Results: Performance

- 19 of the 80 participants were excluded from analysis (incorrect recall, recognized priming procedure, computer failure)
- The remaining 61 participants included 28 females, 33 males

Results: Performance

- A manipulation check indicated that a “general” achievement goal was primed, not a “self” achievement goal
 - Targets that helped the participant’s friend should be marked less in the “self” achievement goal condition
 - Independent samples t-test on percent marked for friends by goal prime showed no significant difference:
 - $t(59) = -.313, p = .775$

Results: Performance

- Exploratory analysis indicated that target was significant
 - Likely because “animal” words always marked with right index finger, “clothing” words always marked with right ring finger
- 2 (goal primed) X 2 (gender) X 2 (target) X 2 (beneficiary) mixed ANOVA
 - Four-way interaction of goal X gender X target X Beneficiary was marginally significant
 - $F(2, 52) = 2.896, p = .064, \eta_p^2 = .10$

Results: Performance

- With such a large effect size, further investigation was warranted
- Sample was broken into 4 groups:
 - Males with achievement goal primed
 - Males with social goal primed
 - Females with achievement goal primed
 - Females with social goal primed

Results: Performance

Beneficiary
 — Friend
 - - - Self

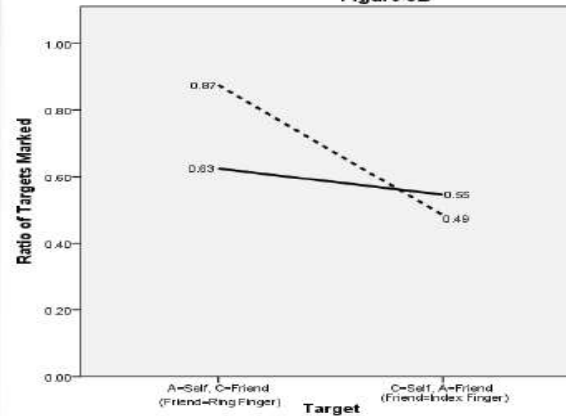
Males with Achievement Goal Primed

Figure 3A



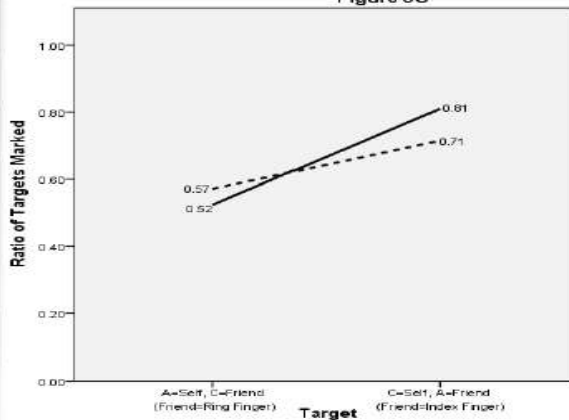
Males with Social Goal Primed

Figure 3B



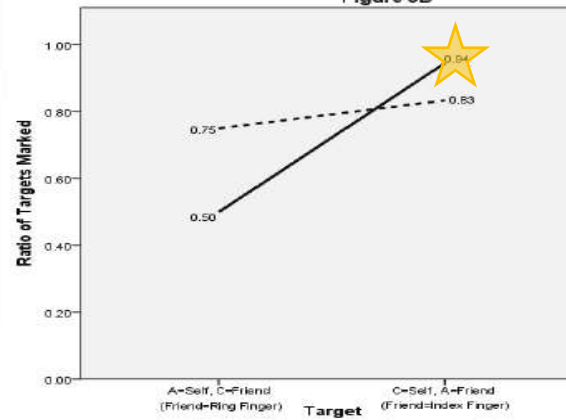
Females with Achievement Goal Primed

Figure 3C



Females with Social Goal Primed

Figure 3D

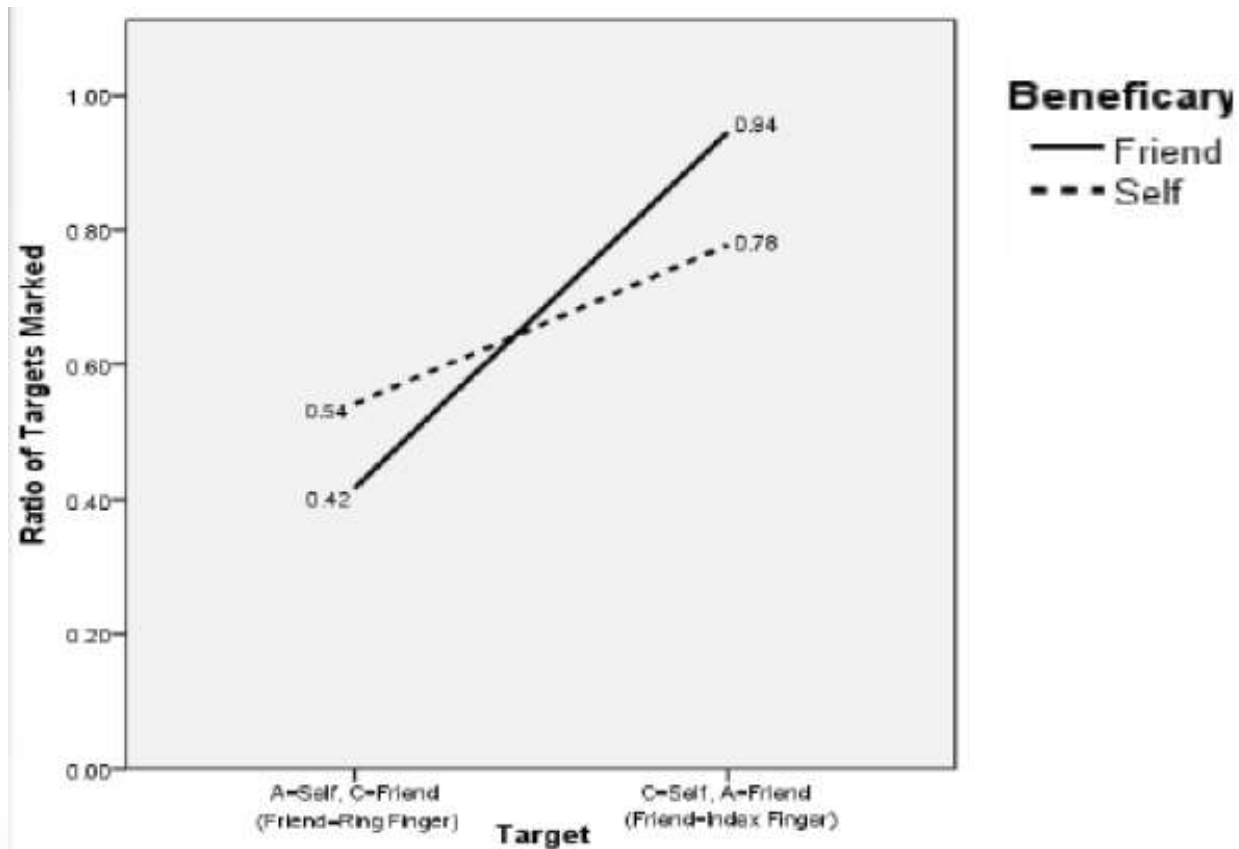


Results: Performance

- Two post-hoc 2 (target) X 2 (beneficiary) mixed ANOVAs performed, Bonferroni corrected:
 - Male with achievement:
 - $F(1, 11) = 9.982, p = .016, \eta_p^2 = .454$
 - Female with social:
 - $F(1, 11) = 15.133, p = .004, \eta_p^2 = .558$
- Compassion score was not significantly in any analysis

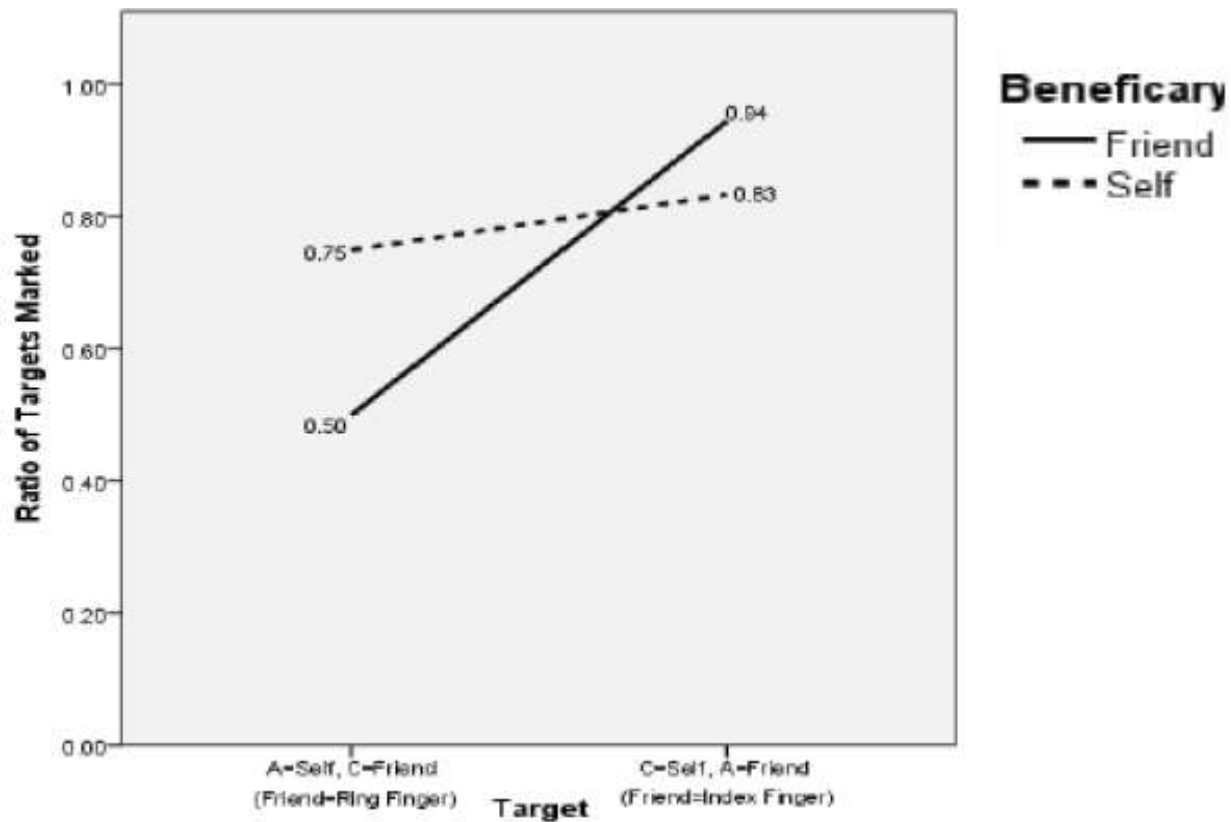
Results: Performance

- **Males with achievement goal primed**, helped friend more if it was an index finger press (easier?)



Results: Performance

- **Females with social goal** primed, helped friend more if it was an index finger press (easier?)



Results: Accessibility

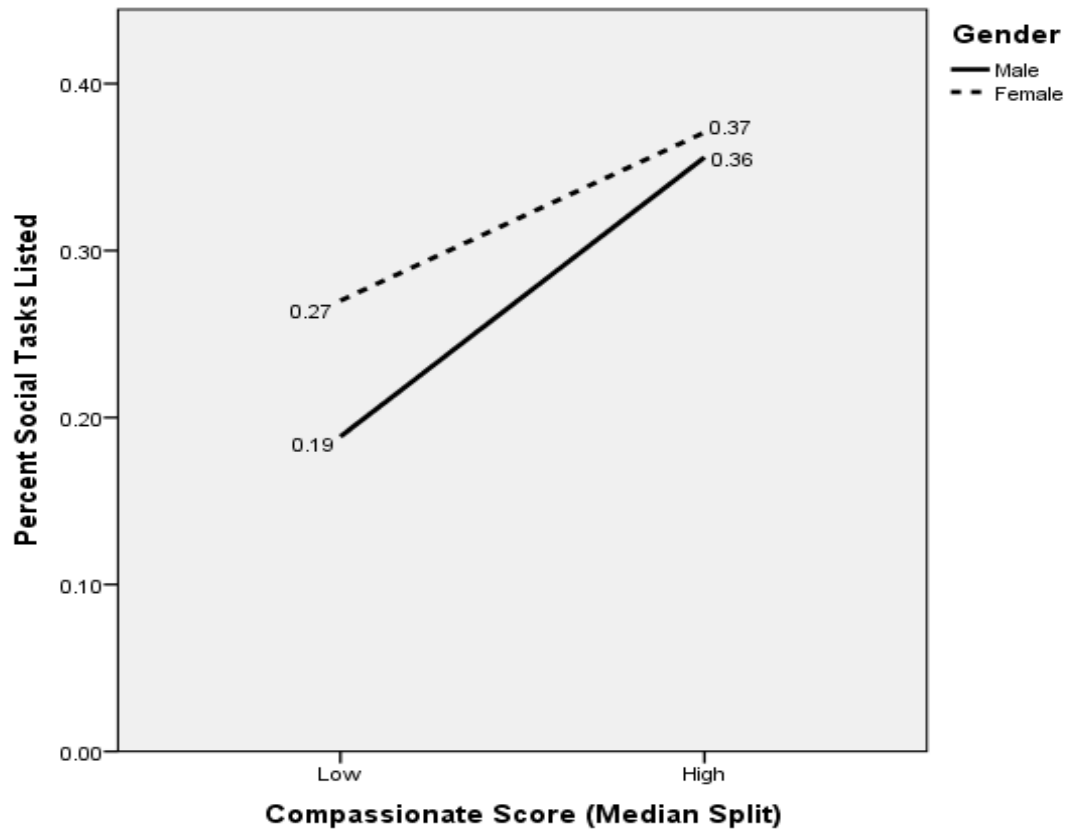
- 10 of the 80 participants were excluded from analysis (recognized priming procedure, computer failure)
- The remaining 70 participants included 31 females, 39 males

Results: Accessibility

- 2 (goal primed) X 2 (gender) X 2 (high/low compassion goal level-median split) mixed ANOVA
 - Only significant effect was the main effect for compassionate goal level:
 - $F(1, 62) = 4.594, p = .036, \eta_p^2 = .069$

Results: Accessibility

- High compassionate goal level leads to a larger percent of tasks listed that were social, regardless of gender



Limitations

- A general achievement goal was primed, rather than a personal achievement goal
- Button presses became an unexpected confound
 - Created smaller cell sizes, likely interfering with compassionate goal score analysis
- No questionnaire on achievement goals
- Order of word rating task and listing real life PM tasks was not counterbalanced

Conclusions: Performance

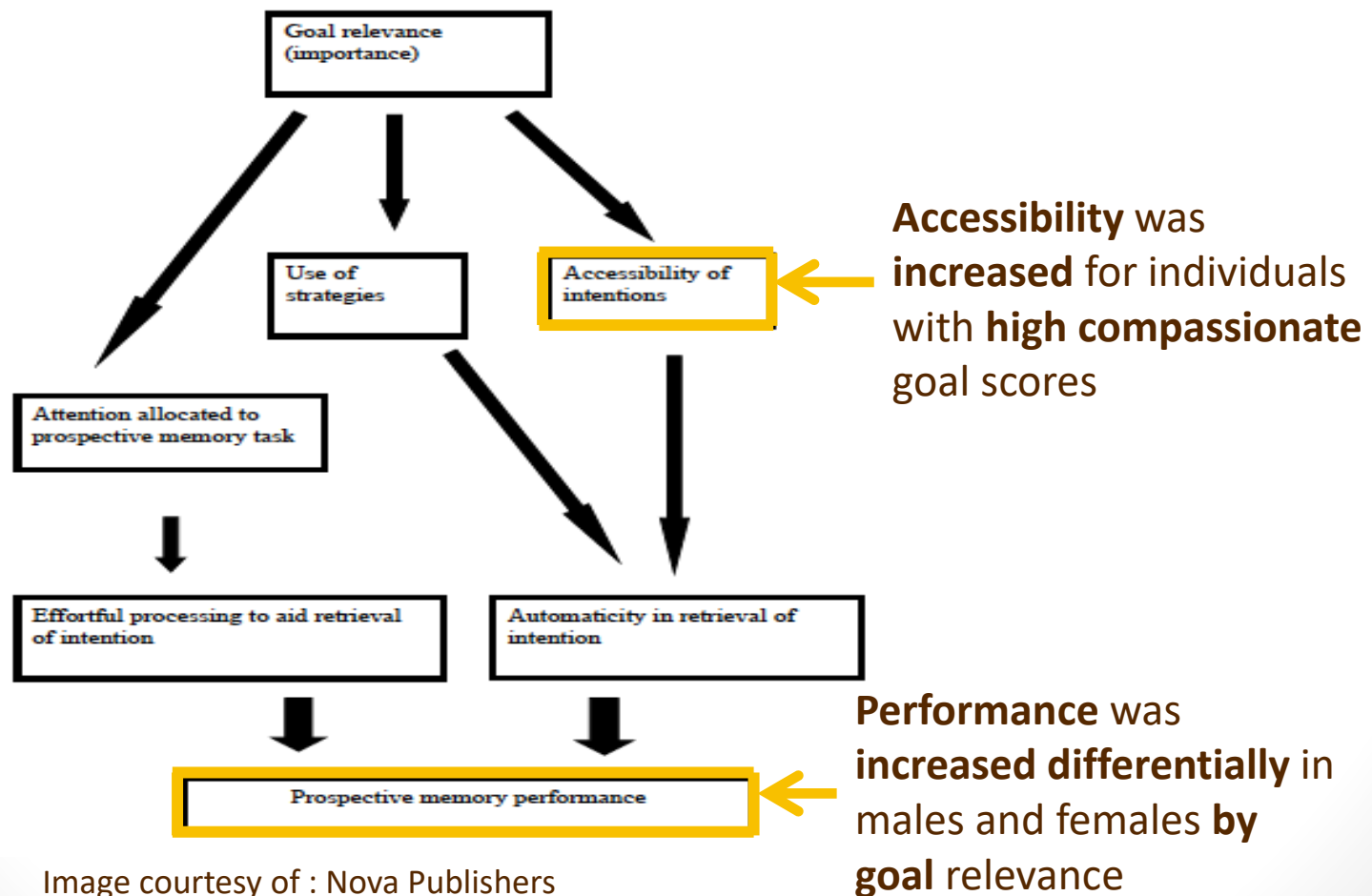
- Performance hypothesis partially confirmed for female participants:
 - Under the assumption that pressing “A” with index finger for animal was easier than pressing “C” with ring finger for clothing:
 - Males with achievement goal primed helped their friends more when it was **easy**
 - Females with social goal primed helped their friends more when it was **easy**

Conclusions: Accessibility

- Accessibility hypothesis was not supported
- Additionally, the gender effect in social PM task accessibility found by Fahlsing, Penningroth, and Scott (2012) was not replicated
 - Possibly the general achievement goal became a social achievement goal after participants were given the opportunity to achieve socially
 - Interaction with an experimenter could have raised accessibility of social tasks
- Compassionate goal level was significantly related to the amount of social tasks listed

Conclusions: Overall

- Some support was seen for the Goal-Based-Motivational-Cognitive Model of Prospective Memory (Penningroth & Scott, 2007)



Questions?

