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Commentary

The importance of group process variables on collaborative memory☆

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The article by Blumen, Rajaram, and Henkel (2013) argues that findings from collaborative memory research can be applied to improving older adults' memory performance. While the majority of research on collaborative memory has demonstrated that collaboration can impair memory function, Blumen et al. highlight several research findings that demonstrate the potential benefit of collaboration on individual memory (e.g. error correction, cross-cueing, and complimentary retrieval strategies). The idea that collaboration can improve individual memory performance is especially important when considered in relation to older adults. As the authors note, older adults suffer declines in individual memory and they derive greater benefits from retrieval cues. Blumen et al. (2013) very effectively make the case that in light of older adults' cognitive deficits, working together with a fellow collaborator may provide an important and practical strategy for improving memory performance. The authors further specify the necessary steps required to translate basic research findings into the applied settings that would benefit older adults' memory. Specifically, they propose that laboratory paradigms should be extended and adapted so that they are more ecologically valid and are applicable to both healthy and cognitively impaired older adults. They further recommend research into the neural underpinnings of collaboration. Blumen et al.'s (2013) recommendations are excellent and will be useful in applying basic collaborative memory research to efforts aimed at improving older adults' cognition.

In addition to Blumen et al.'s (2013) recommendations for bridging basic and applied research, I recommend that the field should also consider the role of group process variables. Group process variables refer to the factors underlying the exchange of information in groups such as how effectively group members accept, reject, and acknowledge partner contributions. Much research has demonstrated the influence of group process variables on collaborative memory performance. For example, Meade, Nokes, and Morrow (2009) demonstrated that aviation experts who collaborated to recall aviation scenarios benefitted from working together. We argued that collaborative skill, specifically defined as the manner in which information was acknowledged and exchanged between partners, influenced the relative impact (both positive and negative) of collaboration on each individual's memory (see also Nokes-Malach, Meade, & Morrow, 2012).

Existing research on group process variables is directly relevant to Blumen et al.'s (2013) discussion of error pruning in collaboration. The authors discuss error correction/error pruning as one important means by which collaboration can positively influence memory performance. I argue that any intervention aimed at improving error pruning among older adults would benefit by further differentiation of the collaborative process variables involved in error pruning. Specifically, Ekeocha and Brennan (2008) differentiated between two processes involved in error pruning among young adults: self-filtering (individuals withholding responses in a group) and group filtering (group members not incorporating an individual's response). Ross, Spencer, Blatz, and Restorick (2008) examined similar processes among older adults (long term married couples). Ross et al. differentiated between self-corrections (self-inhibition of errors while collaborating) and group level corrections (partner correction of errors while collaborating). Interestingly, Ross et al. (2008) found an age difference in the collaborative process variables underlying error correction: both young and older adults were equally likely to correct their partner's errors (group level correction), but older adults also self-corrected (inhibited their own errors) while young did not. Across studies, group process variables provide insight into the nature of older adults' error corrections and so may be applicable to interventions.

Group process variables are also relevant to Blumen et al.'s (2013) discussion of collaborative memory differences between

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familiar and unfamiliar partners. Generally, familiar partners exchange information differently than do unfamiliar partners, but even within familiar partners, group process variables can predict memory performance in collaborative groups. Johansson, Andersson, and Ronnberg (2005) examined the role of collaboration on both episodic and semantic memory tasks for older adult married couples who were classified a priori as being high or low on division of responsibility (i.e. each member of the dyad was responsible for distinct information) and agreement (i.e. how well the members agreed upon who was responsible for certain information). They found that only those subjects who could agree to effectively split the information showed a trend toward facilitation on an individual level. Harris, Keil, Sutton, Barnier, and McIlwain (2011) similarly found that long term married couples who effectively coordinated and utilized a group level strategy demonstrated collaborative facilitation.

Notably, in each of these examples, the older adults were long term married couples and so were familiar partners. However, within this special population of long term married couples, there were some pairs of individuals who were more effective collaborators than others; Johansson et al. (2005) and Harris et al. (2011) both demonstrated that only those long term married couples who developed strategies to effectively share task demands demonstrated a collaborative benefit. These findings are important in specifying the nature of any collaborative intervention. Blumen et al. (2013) discuss the differences between familiar and unfamiliar partners and highlight the various findings related to partner familiarity and collaboration. The inclusion of group process variables allows a more fine-grained analysis of partner familiarity effects that may inform target variables in applied settings.

Considered together, evidence across several different paradigms suggests the emerging importance of group process variables. Group process variables provide insight into the mechanisms underlying information exchange among collaborators and so may predict how effectively older adults collaborate. That said, measures of group process variables are not without problems: group process variables are typically collected via verbal protocols and they are often utilized in exploratory and/or post hoc examinations of the data. Much work is still necessary to better validate the processes across laboratories and studies; the field of collaborative memory would benefit greatly from an agreed upon classification of group process variables. Thus, group process variables should be considered in addition to (rather than in place of) the research approach suggested by Blumen et al. (2013). In conjunction with other measures, group process variables can provide insight into possible age related changes in collaboration that can inform both basic and applied problems.

References

Blumen, H. M., Rajaram, S., & Henkel, L. A. (2013). The applied value of collaborative memory research in aging: Behavioral and neural considerations. *Journal of Applied Research in Memory and Cognition*,

Ekeocha, J. O., & Brennan, S. E. (2008). Collaborative recall in face-to-face and electronic groups. *Memory*, *16*, 245–261.

Harris, C. B., Keil, P. G., Sutton, J., Barnier, A. J., & McIlwain, D. J. F. (2011). We remember, we forget: Collaborative remembering in older couples. *Discourse Processes*, *48*, 267–303.

Johansson, N. O., Andersson, J., & Ronnberg, J. (2005). Compensating strategies in collaborative remembering in very old couples. *Scandanavian Journal of Psychology*, *46*, 349–359.

Meade, M. L., Nokes, T. J., & Morrow, D. G. (2009). Expertise promotes facilitation on a collaborative memory task. *Memory*, *17*, 39–48.

Nokes-Malach, T. J., Meade, M. L., & Morrow, D. G. (2012). The effect of expertise on collaborative problem solving. *Thinking & Reasoning*, *18*, 32–58.

Ross, M., Spencer, S. J., Blatz, C. W., & Restorick, E. (2008). Collaboration reduces the frequency of false memories in older and younger adults. *Psychology & Aging*, *23*, 85–92.