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Anna Kaminska & Devin G. Ray

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Interpersonal memory failure in the workplace: The effect of memory and hierarchy on employee's affective commitment

Anna Kaminska  and Devin G. Ray

University of Aberdeen, Aberdeen, United Kingdom

ABSTRACT

The current work examined whether being forgotten or remembered by a boss or a coworker affects employee's interpersonal closeness to that person and, in turn, affective organizational commitment (AOC). A first correlational study examined these possibilities in an employed student (1a) and general employed (1b) samples. Perceived memory by both bosses and coworkers was a significant predictor of closeness to the boss or coworker and, in turn, of AOC. The indirect effect of perceived memory on AOC was stronger for boss memory than coworker memory, but only when memory ratings were supported by specific examples of memory. Study 2 provided additional support for the direction of effects posited in Study 1 using vignettes depicting memory and forgetting in the workplace. Overall, these findings suggest that perceptions of boss and coworker memory have an effect on employee's AOC through interpersonal closeness, and that this indirect effect is stronger for boss memory.

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Forgetting; hierarchy; memory; organizational commitment

Interpersonal Memory in the Workplace

Memory and forgetting during interpersonal interaction appear to be an unexplored part of workplace dynamics and an important aspect of leadership behavior. Demonstrations of memory and forgetting have the potential to affect relationships in the workplace and organizational outcomes, e.g., organizational commitment. We thus examined the impact of memory and forgetting on workplace relationships and organizational commitment. Additionally, due to prevalent hierarchical structure in organizational environments, we also explored the potential moderating effect of hierarchy.

Relevant precedents

As far as we know, the experience of being forgotten or remembered has not yet been studied in a workplace context. Similar interpersonal dynamics clearly matter in the workplace, however. For example, workplace incivility, which can be as simple as not saying “please” and “thank you” or leaving the shared coffee pot dirty (Andersson & Pearson, 1999), is associated with a myriad of negative consequences including reduced optimism and task performance (Porath & Erez, 2007), reduced working memory and attention (Erez et al., 2015), and higher levels of stress (Adams & Webster, 2013). These consequences of incivility can in turn cause substantial financial loss to organizations through absenteeism and lowered organizational commitment (Schilpzand et al., 2016).

Another parallel to workplace remembering and forgetting can be found in workplace exclusion (also called ostracism), which is the extent to which a person feels ignored or rejected by someone (or a group) in their place of work (Hitlan & Noel, 2009). Workplace ostracism is associated with

CONTACT Anna Kaminska  anna.kaminska.14@aberdeen.ac.uk  University of Aberdeen, F30, William Guild Building, School of Psychology, Kings College, Aberdeen AB24 3FX, United Kingdom

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increased counterproductive workplace behavior (e.g., working on non-work related tasks during working hours, gossiping about the supervisor, calling in sick when not ill, etc., Hitlan & Noel, 2009), reduced satisfaction with supervisors and coworkers, reduced psychological wellbeing (Hitlan, Clifton, et al., 2006), and reduced organizational commitment (affective and normative; Hitlan, Kelly, et al., 2006). Perceived exclusion by a workplace supervisor appears to be particularly problematic (Hitlan & Noel, 2009), perhaps the supervisor more closely represents the larger organization.

In personal relationships outside the workplace, feeling forgotten or remembered clearly matters. Ray et al. (2019) explored the frequency, content, and subjective experience of being forgotten. It was found that people experience being forgotten on a daily basis with personal details (e.g., name, specific nationality) and parts of previous conversations being forgotten most often. Crucially, the authors found that, relative to being remembered, people felt less important and, in turn, less committed to the forgetter following memory failure, even when excuses for memory failure were endorsed.

These findings are likely to have important application in the workplace. Leaders plausibly signal the importance they place on their employees and their commitment to their employees when they demonstrate successful memory or when they are caught forgetting. At the same time, workplace relationships are not the same as strictly personal relationships. Workplace relationships are embedded in the context of a larger organization and thus affect how employees feel about their organization (i.e., organizational commitment). Additionally, hierarchical structure (i.e., differences in hierarchical levels) are more relevant in workplace relationships. Effective application of previous findings to the workplace thus requires extension of the relational model outlined in Ray et al. (2019) to consider organizational commitment as an additional outcome and hierarchy as a possible moderator.

Organizational commitment

Organizational commitment refers to how strongly someone is attached to his or her organization (Arnold et al., 1998). Organizational commitment is characterized by an active relationship with the organization and readiness to contribute to the organization's success, hence, implying not only shared beliefs and goals, but also willingness to take action (Mowday et al., 1979; see also Mathieu & Zajac, 1990). Organizational commitment, in turn, translates into such important organizational outcomes as reduced staff turnover, improved job performance and increased organizational citizenship behaviors.

While organizational commitment is a multifaceted construct, affective commitment has emerged as the most desirable element of organizational commitment for employees to possess. It refers to the employee's identification with and emotional attachment to the organization (they *want* to stay; Allen & Meyer, 1990). Continuance and normative commitment, respectively, refer to employee's estimation of the costs of leaving the organization (they *need* to stay) and to the individual's feelings of obligation to remain (they *ought* to stay). However, affective commitment is most closely related to social interactions in the workplace, as neither normative, nor continuance commitment have social antecedents or consequences (Meyer et al., 2002).

Influences on organizational commitment have strong parallels to influences on interpersonal commitment. Like interpersonal commitment, organizational commitment has been found to be influenced by perceived importance: Employees who feel less important to their organization feel less committed to that organization as a result (Maxwell & Steele, 2003). Furthermore, as with interpersonal commitment, organizational commitment builds over time as trust, solidarity, and psychological contracts (i.e., unwritten set of expectations) develop amongst colleagues (Back & Flache, 2008; Brien et al., 2015). It is therefore plausible that organizational commitment is influenced by perceived memory in the same way as interpersonal commitment.

In fact, interpersonal closeness in the workplace and affective organizational commitment appear to be linked. Bouwmans et al. (2019) found that team-oriented HR practices (e.g., team development and teamwork facilitation) increased team performance in teachers, and, importantly, this link was

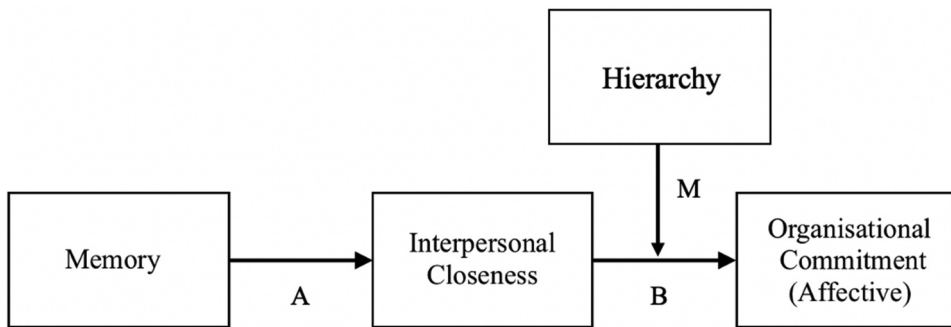


Figure 1. Proposed organizational model of effect of memory on organizational commitment. Memory impacts organizational commitment indirectly through interpersonal closeness. The influence of interpersonal closeness on organizational commitment is more extreme when the involved relationship is with a higher status colleague (e.g., one's boss).

mediated by affective organizational commitment. This finding suggests that interpersonal closeness, facilitated by such team development practices, creates affective organizational commitment.

Taken together these findings suggest that the interpersonal model of forgetting described by Ray et al. (2019) can be applied to workplace relationships and extended to predict affective organizational commitment (see Figure 1, paths A and B). We thus propose an organizational model of interpersonal memory suggesting that memory has an indirect effect on affective organizational commitment through interpersonal closeness (i.e., felt importance and commitment). For example, if a person experiences being remembered by someone they work with, they will feel closer to that person and, as a result, be more committed to their workplace, especially if that person is a supervisor.

Organizational commitment and hierarchical structure

The literature on employee-leader interactions suggests that interactions with a supervisor or leader are particularly important for organizational commitment. Treating subordinates with sensitivity and respect, interactional justice, is a well-established predictor of affective organizational commitment from employees (e.g., Li et al., 2017; Wang et al., 2010). Behaviors focused on building connections between leaders and employees increase the employee commitment to and personal ownership of organizational goals (Caldwell & Hayes, 2007; Maxwell & Steele, 2003). Consideration behaviors during leadership (i.e., behavior that indicates friendship and respect between the boss and subordinates) predict both job satisfaction and organizational commitment (Haque et al., 2019; Lok & Crawford, 2004), as well as job performance (Wang et al., 2010). Furthermore, such behaviors have also been linked to increased knowledge sharing at both individual and team levels (Li et al., 2017). Conversely, negative interactions with the supervisor (e.g., incivility/rudeness from those in charge) reduce organizational commitment (Reio, 2011), and do so more than comparable interactions with coworkers (Hitlan & Noel, 2009).

Taken together, these findings suggest that the hierarchical position of an individual might moderate the impact of their apparent memory (Figure 1, path M). Specifically, evidence of memory from a boss might impact affective organizational commitment more than evidence of memory from a coworker.

The current work

In the current work, we aimed to examine the importance of memory (and its failure) in the workplace by extending Ray et al.'s model to (1) predict affective organizational commitment, and to (2) incorporate the moderating role of hierarchy in the relationship between memory, interpersonal closeness, and affective organizational commitment.

We set out to achieve these goals through two complementary methods. Study 1 used survey methods to study existing relationships between employed participants, their coworkers, and their bosses in a subsample of employed students (1a) and a more general employed sample (1b). This study measured employed participants' perceptions of their coworker's and boss' memory, participants' interpersonal closeness to their coworkers and bosses, and participants' affective commitment to their organizations in order to assess and compare relationships between those variables. This method provided ecologically valid insight into our research questions but lacks experimental rigor.

Study 2 used a vignette-based experimental approach in which employed participants evaluated hypothetical scenarios. Memory and forgetting were manipulated in depictions of workplace relationships and the resulting expectations of interpersonal and organizational commitment were observed. Although less ecologically valid than the correlational methods in Study 1, this method has the advantage definitively characterizing causal direction. In combination, the survey method employed in Study 1 and the experimental method employed in Study 2 enabled a thorough test of research questions under examination.

We expected that better memory by either a coworker or an immediate manager would lead to higher interpersonal closeness (Hypothesis 1). Further, we expected that better memory by either coworkers or immediate manager would increase people's affective organizational commitment through interpersonal closeness (Hypothesis 2). Finally, based on past literature (e.g., Hitlan & Noel, 2009), we expected that the ultimate effect of interpersonal closeness on affective organizational commitment would be stronger for bosses than for coworkers (Hypothesis 3).

Study 1

Study 1 used a correlational design to explore and compare the influence of coworker's and boss' memory, and to examine how coworker's and boss' memory influence interpersonal closeness and employee's organizational commitment.

Methods

Participants and statistical power

Sample 1a examined a sample of 158 employed students from a Scottish university. Participants were largely employed in low-hierarchical customer-facing (e.g., server, shop assistant) and care (i.e., for people with special needs) roles (69%). The remainder (31%) were employed in a wide variety of industries (e.g., translators, kitchen staff, project management, etc.). Sample 1b examined a sample of 99 employed members of the general population. Participants were employed in a wide variety of industries, such as education, IT, general office work, and customer-facing roles, with a variety of high- and low-hierarchical roles. Sample characteristics for both subsamples are summarized in Table 1. Participants in both subsamples were screened to verify employment and according to attention checks imbedded in the study materials. The response rate for both subsamples cannot be calculated as participants responded to posts on recruitment platforms. Study 1 was approved by the Psychology Ethics Committee at the University of Aberdeen (PEC/3991/2018/9).

A sensitivity analysis was conducted using G*Power (Faul, Erdfelder, Lang, & Buchner, 2007). For a linear multiple regression (fixed model, R^2 deviation from zero) with $\alpha = 0.05$, 80% power and 4 predictors, our subsamples could independently detect an effect of medium-small size ($f^2 = 0.13$). This is in line with medium effects of memory reported in Ray et al. (2019). The present sample sizes were thus adequate.

Table 1. Sample characteristics for Study 1a and 1b.

Study	Sample	Recruited N	Excluded (not employed)	Excluded (failed attention checks)	Retained N	Demographics	Reimbursement
1a	Students (employed)	158	2	18	138	117 Female 21 Male 17–35 age range $M_{age} = 21.06$ $SD = 2.45$	Course credit
1b	General population (employed)	99	3	1	95	42 Female 53 Male 18–62 age range $M_{age} = 30.34$ $SD = 9.04$	£1.00

Design

The study employed a correlational design. The predictor variables were boss' memory and coworker's memory. The outcome variables were closeness to boss, closeness to coworker, and affective organizational commitment.¹

Materials and procedure

The questionnaire was administered using SNAP Survey Software, Version 11 (<http://www.snapsurveys.com>), a Windows-based program for web-based survey design and management. Participants accessed the survey online and thus used their own technology with access to the Internet (computers, smartphones, etc.).

After completing consent documents, participants were asked to think of either their most typical coworker or their immediate manager/boss. Participants were asked to rate (a) how well their coworker/boss remembered them and things about them, and (b) how often their coworker/boss forgot them or things about them on a seven-point Likert scale ranging from 1 (not at all) to 7 (extremely). Coworker's and boss' forgetting scores were reversed, and averaged with coworker's ($r(231) = -0.460, p < .001$) and boss' ($r(231) = -0.581, p < .001$) remembering scores, respectively to form a single "memory" score for coworkers and bosses. These questions were followed with an open-ended question "What makes you say that? Can you provide an example?" Participants were then asked to rate their perceived closeness to the coworker/boss on a nine-item scale encompassing both importance and commitment (Ray et al., 2019, adapted from; Rusbult, 1983, Cronbach's $\alpha = 0.915$). Next, all instructions and questions were repeated for the other target (immediate manager/boss or most typical coworker). Then participants filled out Allen and Meyer's (1990) organizational commitment questionnaire, including the Affective Organizational Commitment Scale (ACS; Cronbach's $\alpha = 0.88$). Lastly, participants' demographic information was collected.

To check that participants were paying attention throughout the study, they were asked to select option 2 on attention check items. In subsample 1a, this occurred four times during the questionnaire, twice for each set of questionnaires. In subsample 1b, this occurred once during the organizational commitment questions.

Note that two technical errors occurred in subsample 1a. Firstly, a technical error prevented randomization of item order. Items pertaining to coworkers were administered first. Secondly, participants completed the organizational commitment scale twice, once after each set of closeness questions. Only the final administration of the questionnaire was analyzed here. In subsample 1b, both errors were corrected.

Results

Open-ended explanations for memory ratings

We performed a semantic content analysis on open-ended explanations for memory ratings in order to gain a qualitative sense for the basis of participants' memory ratings.

A significant fraction of participants omitted open-ended explanations as to why they rated coworker or boss memory and forgetting in the way that they did. This tendency was less extreme in subsample 1a (22% of responses) than in subsample 1b (41% of responses). This tendency to sometimes omit open-ended answers might reflect the perception that separate questions about boss or coworker memory and about boss or coworker forgetting were too similar to warrant a second response. Indeed, some participants simply wrote, "same" as a reply to one of the four open-ended prompts (i.e., if they had provided an answer about why the rated remembering in the way that they did, they referred to that same answer for why they rated forgetting in the way that they did).

Of participants who provided responses, most gave specific examples of memory or forgetting to support their ratings. This tendency was again stronger in subsample 1a (65% of responses) than in subsample 1b (55% of responses). The specific examples consisted of memory or forgetting for personal details (e.g., age, previous jobs) or past interactions (e.g., conversations about weekend plans or shift arrangements). Of provided responses, only 10% were work related in subsample 1a and only 17% were work related in subsample 1b. Responses that did not provide specific examples of remembering or forgetting consisted of general comments about memory (e.g., I am sure she does not remember everything), descriptions of the relationship (e.g., we know each other through family) or descriptions of working conditions (e.g., there are quite a few people in my organization at my level).

Overall these results suggest that participants usually based their memory ratings on specific incidents that provide evidence of remembering or forgetting. Interestingly, these incidents were rarely work-related. However, many participants also based their memory ratings on features of the relationship or features of their job.

Quantitative analysis

We assessed our hypotheses using structural equations modeling. Within models, slopes, indirect effects, and associated confidence intervals were estimated using 10,000 iteration bootstrapping. Our final quantitative model is depicted in [Figure 2](#).

Replication across studies

We first assessed the stability of our results by treating subsample 1a and subsample 1b as separate groups in a single analysis, and by comparing the fit of an unconstrained model to the fit of a model in which all paths were constrained to be equal between subsamples. Meaningful differences between subsamples would be indicated by a significant decrease in model fit following these constraints. Constraining all paths to be equal between subsamples had no observable impact on model fit, $\Delta\chi^2(6) = 9.34$, $p = .155$, indicating that results between subsamples were comparable. We thus continue analysis using the combined results of both studies.

Overall model fit

Our initial model consisted of the a , b , and x paths in [Figure 2](#). These paths capture our hypotheses about the relationships between memory, interpersonal closeness, and affective organizational commitment (a and b paths), while allowing for interdependence between closeness to bosses and coworkers (x paths). This model fit the data reasonably well but left room for improvement, $\chi^2(3) = 11.75$, $p = .008$; $RMSEA = 0.11$, 90% $CI [0.05, 0.18]$.

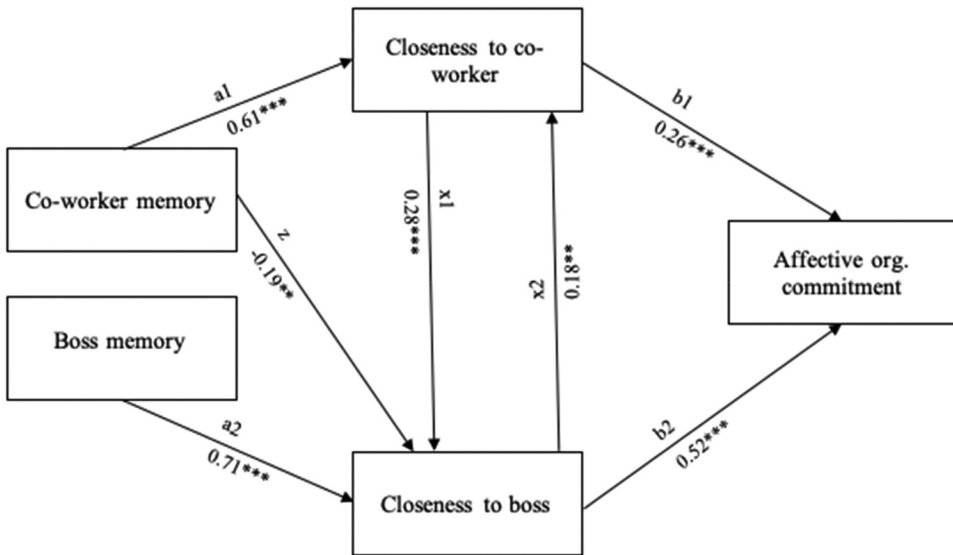


Figure 2. Our final structural equations model. Paths a1 and a2 show perceived levels of coworker and boss memory predicting closeness to coworkers and bosses respectively. Paths b1 and b2 show closeness to coworkers and bosses in turn predict affective organizational commitment. The joint effect of the a paths and the b paths capture the indirect influence of perceived memory on affective organizational commitment through interpersonal closeness. Paths x1 and x2 allow for possible interdependence between boss and coworker closeness. Path z was a data driven addition to improve model fit.

Modification indices, $\min \Delta\chi^2(1) = 4.08$, and residual moments, $z = -1.07$, converged to recommend a path between coworker memory and boss closeness. Addition of this path (path z) resulted in excellent model fit, $\chi^2(2) = 2.13$, $p = .345$, $RMSEA = 0.02$, $90\% CI [0.00, 0.13]$. As path z did not qualify our earlier analysis of cross-study consistency, $\Delta\chi^2(7) = 6.38$, $p = .496$, and was compatible with all hypothesized relationships, we incorporated it into the final model used to assess our hypotheses.

Hypothesis evaluation

We first examined whether the established link between perceived memory and interpersonal closeness would replicate in professional relationships between coworkers and their bosses (hypothesis 1). Consistent with hypotheses, we observed strong links between both coworker memory and coworker closeness (Figure 2, path a1), $b = 0.71$, $95\% CI [0.61, 0.82]$, and boss memory and boss closeness (Figure 2, path a2), $b = 0.69$, $95\% CI [0.60, 0.77]$.

We next examined whether perceived memory had an indirect effect on affective organizational commitment through interpersonal closeness to bosses and coworkers (hypothesis 2). Consistent with hypotheses, both closeness to bosses (Figure 2, path b2), $b = 0.46$, $95\% CI [0.36, 0.57]$, and closeness to coworkers (Figure 2, path b1), $b = 0.25$, $95\% CI [0.14, 0.37]$, predicted affective organizational commitment. Moreover, estimates of the indirect effect of perceived memory on affective organizational commitment indicated clear positive indirect effects for both boss memory, $b = 0.32$, $95\% CI [0.24, 0.40]$, and coworker memory, $b = 0.18$, $95\% CI [0.10, 0.26]$.

Finally, we examined our prediction that the link between memory and affective organizational commitment would be stronger for bosses than for coworkers (hypothesis 3). Descriptively, the upstream relationship between boss closeness and affective organizational commitment was indeed stronger for bosses (Figure 2, path b2) than for coworkers (Figure 2, path b1). Additionally, when these two paths were constrained to be equal, model fit was significantly worse, $\Delta\chi^2(1) = 6.77$, $p = .009$. This outcome indicates that boss closeness did indeed have a stronger relationship with affective organizational commitment than coworker closeness. Moreover, direct estimate of the difference between the

two indirect effects confirmed that the indirect effect of boss memory on affective organizational commitment was larger than the indirect effect of coworker memory, $b = 0.14$, 95% CI [>0.00 , 0.28].

The data driven addition of a negative path between coworker memory and boss closeness (Figure 2, path z), $b = -0.24$, 95% CI [-0.39 , -0.073], indicated a small but unanticipated negative indirect effect of coworker memory on affective organizational commitment through boss closeness, $b = -0.11$, 95% CI [-0.18 , -0.04]. We speculate that this effect might reflect coworker commiseration following negative interactions with a shared boss. Such negative interactions might be particularly likely to be remembered and referred to again in the future, even when coworkers were not directly involved in the interaction. Given the data driven nature of this finding and the post-hoc nature of our explanation, however, this finding and interpretation should be approached with caution.

Causal direction and evidence specificity

It is possible that the present data might also be accounted for by an alternative model in which respondents estimated boss and coworker memory from how close they felt to their bosses and coworkers (i.e., reverse causation). Indeed, our analysis of participants' open-ended explanations for their memory ratings provided some support for this possibility. When justifying their memory ratings, many participants referred to characteristics of their relationships rather than to specific incidents that demonstrated memory or forgetting. Other participants provided no explanation at all.

Model fit for reverse causation

In order to evaluate this alternative explanation, we first assessed the viability of a model in which the location of memory variables and interpersonal closeness variables was reversed. In this model, boss and coworker closeness directly predicted boss and coworker memory, and boss and coworker memory directly predicted affective organizational commitment. If this alternative model failed to provide a viable account of the present data, that would strengthen our preferred causal interpretation.

A model in which the locations of closeness variables and memory variables were reversed, but which was otherwise identical to that in Figure 2, fit the data poorly, $\chi^2(2) = 40.27$, $p < .001$, $RMSEA = 0.45$, 90% CI [0.34 , 0.58]. Model fit could be improved substantially by adding a direct path between boss closeness and affective organizational commitment, $\chi^2(1) = 1.38$, $p = .240$; $RMSEA = 0.64$, 90% CI [0.00 , 0.29], but the resulting model was difficult to interpret in a theoretically coherent manner.

In this model, coworker closeness was unrelated to affective organizational commitment. More specifically, the model did not include a direct path between coworker closeness and affective organizational commitment and the indirect effect through memory was not reliably different from zero, $b = 0.13$, 95% CI [-0.02 , 0.286]. The notion that workplace relationships with same-level colleagues are irrelevant to affective organizational commitment would contradict both common sense and established findings (e.g., Back & Flache, 2008; Bouwmans et al., 2019; Brien et al., 2015).

Boss memory, in contrast, showed a positive direct effect on affective organizational commitment, $b = 0.80$, 95% CI [0.51 , 1.05], and negative indirect effect through memory, $b = -.212$, 95% CI [-0.415 , -0.16]. If memory were primarily inferred from closeness, however, it is difficult to understand why indirect effects involving memory would be separable from and opposite to the direct effects of closeness. Examination of this alternative model thus indicates that our theoretically specified causal order, in which memory informed closeness, provides a more coherent account of the present data than does the reverse of that causal order.

Reanalysis incorporating evidence specificity

We next explored the importance of evidence specificity when participants justified their ratings of coworker and boss memory. We divided our sample between participants who provided at least one specific piece of evidence to support their memory ratings ($n = 121$; e.g. "she remembers [...] details about my family") and participants who did not provide any specific evidence to support their memory ratings ($n = 111$; e.g., "we live together" or no response at all).

Broad comparison of these subgroups through path constraints indicated that the two subgroups were not entirely comparable, $\Delta\chi^2(7) = 16.47, p = .021$. In focused investigation of the theoretically relevant paths, all hypotheses were supported in both subsamples with one exception. Among participants who did not provide specific evidence to support their memory ratings, the indirect effect of memory on affective organizational commitment through closeness was not reliably different between bosses and coworkers, $b = 0.07, 95\% CI [-0.12, 0.28]$. These results indicate that hypotheses 1 and 2 were supported among both of these new subsamples but that hypothesis 3 was supported only among participants who provided specific evidence in support of their memory ratings.

Discussion

We expected that the relationship between memory and closeness observed in interpersonal contexts (Ray et al., 2019) would generalize to workplace relationships (Hypothesis 1). Consistent with this prediction, employees who felt better remembered by their coworker or boss also felt closer to that coworker or boss (Hypothesis 1).

We also expected that the effects of memory would extend to affective organizational commitment through closeness to coworkers and bosses (Hypothesis 2). Consistent with the prediction, we observed positive indirect effects of memory on affective organizational commitment for both bosses and coworkers.

Finally, we expected that the link between memory and affective organizational commitment would be stronger for boss memory than for coworker memory (Hypothesis 3). Consistent with this prediction, we observed a stronger relationship between boss closeness and affective organizational commitment than between coworker closeness and affective organizational commitment. Additionally, this difference was mirrored in the larger indirect effect of boss memory on affective organizational commitment than coworker memory.

Interestingly, an additional data-driven negative path from coworker memory to boss closeness suggested a negative indirect effect of coworker memory on affective organizational commitment through boss closeness. We speculate that this indirect effect might reflect high memorability for conversations between coworkers complaining or gossiping about a shared boss.

A clear strength of these results is their ecological validity. They focus on the current employment of people in work. At the same time, the correlational nature of the design raises questions about the direction of causality in the observed relationships. A model reflecting reverse causation fit the present data poorly. Additionally, the majority of participant responses cited specific examples of memory in support of their memory ratings, and hypotheses were most clearly supported among this majority. At the same time, however, these results are ultimately correlational. Our conclusions would thus be strengthened by additional evidence relying on the experimental manipulation of memory.

Study 2

Study 2 presented employed participants with scenarios depicting memory success or failure in a workplace setting. The scenarios were based on Ray et al. (2019), Study 3, but were rewritten to reflect the experiences shared by participants in Study 1. Following a brief backstory, a coworker or boss remembered or forgot something about another coworker or about a subordinate. After viewing the memory incident, participants were asked to infer how close the forgotten or remembered party felt to the agent of memory and how affectively committed the forgotten or remembered party felt to their organization. In order to accurately represent the range of experiences described in Study 1, different scenario versions depicted memory or forgetting for either personal details or for past interactions. We did not make specific predictions about differences between types of information. By manipulating perceived memory and observing its effects on closeness and affective organizational commitment, this design left no uncertainty about the causal precedence of memory in any observed effects.

Methods

Participants and statistical power

One hundred and forty-four employed participants were recruited from Prolific Academic and paid £0.90 for their time (response rate cannot be calculated). Participants were employed in a wide variety of industries, e.g., IT, analytics, project management, sales and free-lance work. Data was screened according to employment and attention checks. Ten participants were excluded due to responding “no” when asked if they are currently employed (despite pre-screening). Two participants were excluded due to failing one or both of the attention checks.

The final sample used for the analysis consisted of 132 participants (63 female). Participants’ age ranged from 18 to 64 ($M_{age} = 33.67$, $SD = 10.95$). All participants gave their informed consent to participate. The study was approved by the Psychology Ethics Committee at the University of Aberdeen (PEC/4170/2019/2).

A sensitivity power analysis was conducted using G*Power (Faul, Erdfelder, Lang, & Buchner, 2007). For an ANOVA (fixed effects, special, main effects and interactions) with $\alpha = 0.05$, 80% power, 1 numerator df and 4 groups, our sample of 132 participants allowed us to detect an effect of medium-small size ($f = 0.24$). This is in line with medium effects of memory reported in Ray et al. (2019), which suggests that the sample size used in this study was adequate.

Design

The study employed a 2 (memory: remembered vs. forgotten) \times 2 (hierarchy: high-low vs. same) \times 2 (information types: personal detail vs. past interaction) mixed design. Memory and hierarchy were manipulated between-subjects but information type was manipulated within-subjects. The dependent variables examined were closeness to communicator, and affective organizational commitment.

Materials and procedure

The questionnaire was administered via SNAP Surveys. Following consent, participants saw a vignette consisting of a backstory, which established that the two people portrayed were either coworkers or a boss and an employee, and a conversation between the two people involved. During the conversation one person (the communicator) either remembered or forgot something about the other person (the target). The known information was either a personal detail (person’s birthday) or a past interaction (discussion of weekend plans). The communicator was either the boss (in high-low hierarchy condition) or a coworker (in same hierarchy condition).

After reading the vignette, participants were asked to rate how important the target was to the communicator on the same closeness items used in Study 1, adapted to a third person perspective (Cronbach’s $\alpha = 0.94$). Next, participants were asked to rate the target’s organizational commitment on the same items used in Study 1 (ACS Cronbach’s $\alpha = 0.78$). This procedure was then repeated with a second vignette that contained a slightly different backstory and conversation in support of the second type of remembered or forgotten information. To check that participants were paying attention throughout the study, they were asked to select option “2” twice during the questionnaire, once for each vignette. Assignment to between-subjects condition and order of information type were randomized. Full materials are available in the online supplement.

Results

Perceived interpersonal closeness

We predicted that being remembered would lead to higher perceived closeness than being forgotten for both boss and coworker interactions (Hypothesis 1). Results for perceived interpersonal closeness are graphed in [Figure 3](#).

As expected, factorial ANOVA revealed a main effect of memory, $F(1, 128) = 32.984, p < .001, \eta_p^2 = 0.205$, in which perceived closeness was higher when an interaction was remembered ($M = 4.71, SE = 0.11$) than when an interaction was forgotten ($M = 3.79, SE = 0.11$). The analysis also revealed a main effect of information type $F(1, 128) = 19.140, p < .001, \eta_p^2 = 0.130$, which indicated that closeness was higher when past interactions were discussed ($M = 4.42, SE = 0.09$) than when personal details were discussed ($M = 4.08, SE = 0.09$).

An unexpected 3-way memory \times hierarchy \times information type interaction also emerged, $F(1, 128) = 4.706, p = .032, \eta_p^2 = 0.035$. Decomposing this three-way interaction into two separate memory \times hierarchy ANOVAs for each type of information yielded a memory \times hierarchy interaction when the subject of memory was a personal detail, $F(1, 128) = 6.427, p = .012, \eta_p^2 = 0.048$ but only a main effect of memory when the subject of memory was a past interaction, $F(1, 128) = 23.668, p < .001, \eta_p^2 = 0.156$. $F(1, 128) = 0.460, p = .499, \eta_p^2 = 0.004$. Simple effects analysis exploring the two way interaction in the personal details condition revealed that boss memory for personal details ($M = 4.87, SE = 0.18$) led to more perceived closeness than coworker memory for personal details ($M = 4.27, SE = 0.19$), $F(1, 128) = 5.588, p = .020, \eta_p^2 = 0.042$. Boss ($M = 3.42, SE = 0.19$) and coworker ($M = 3.74, SE = 0.18$) forgetting of personal details did not result in observably different levels of perceived closeness, however, $F(1, 128) = 1.533, p = .218, \eta_p^2 = 0.012$.

Consistent with Hypothesis 1, these results indicate that, compared to forgetting, people infer more closeness as a result of remembering by either a coworker or a boss. Surprisingly, these results also suggest that hierarchy affects the interpretation of memory under some circumstances. When a boss was observed to remember a personal detail about a subordinate, people inferred that memory impacted closeness more than when a coworker was observed to remember another coworker.



Figure 3. Mean perceived interpersonal closeness scores across all conditions (error bars represent ± 1 standard error). Results showed that perceived closeness was higher when an interaction was remembered vs. forgotten and when past interactions vs. personal details were discussed. Boss memory for personal details led to more perceived closeness than coworker memory for personal details, with no such difference in either forgetting or previous conversation conditions.

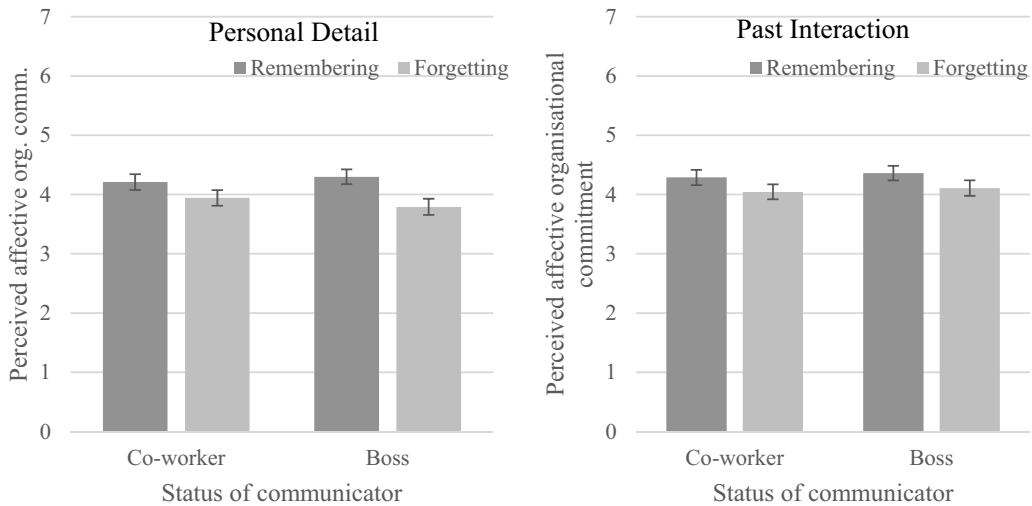


Figure 4. Mean perceived affective organizational commitment scores across all conditions (error bars represent ± 1 standard error). Results showed that perceived affective organizational commitment was higher when an interaction was remembered vs. forgotten and when past interactions vs. personal details were discussed. No effect of status or interactions with status were observed.

Perceived affective organizational commitment

We predicted that being remembered would lead to higher perceived affective organizational commitment than being forgotten (Hypothesis 2a). Results for perceived affective organizational commitment are graphed in Figure 4.

As expected, factorial ANOVA revealed a main effect of memory, $F(1, 128) = 8.443, p = .004, \eta_p^2 = 0.062$, in which affective organizational commitment was higher when the interaction was remembered ($M = 4.29, SE = 0.08$) than when the interaction was forgotten ($M = 3.97, SE = 0.08$). The analysis also revealed a main effect of information type $F(1, 128) = 4.054, p = .046, \eta_p^2 = 0.031$, in which perceived affective organizational commitment was higher when a past interaction was discussed ($M = 4.20, SE = 0.06$) than when a personal detail was discussed ($M = 4.06, SE = 0.07$).

We also predicted that boss memory would impact affective organizational commitment more than coworker memory (Hypothesis 3). Contrary to expectations, no memory by hierarchy $F(1, 128) = 0.32, p = .572, \eta_p^2 < 0.01$, or memory by hierarchy by information type interactions were observed, however, $F(1, 128) = 0.686, p = .409, \eta_p^2 = 0.005$.

Mediational analysis

We used mediational analysis in an OLS regression framework to assess the extent to which the relationship between memory and affective organizational commitment could be explained by indirect effects through closeness. We established the potential for indirect effects by revisiting the relationships between memory variables and closeness variables and by assessing the relationship between closeness variables and affective organizational commitment. An indirect effect of memory on affective organizational commitment would be implied when memory predicts closeness and when closeness predicts affective organizational commitment (Baron & Kenny, 1986; Preacher & Hayes, 2004). Next, we used the PROCESS macro for SPSS (model 4; Hayes, 2013) to quantify implied indirect effects with a point estimate and a confidence interval.

We expected that interpersonal closeness would mediate the effect of memory on affective organizational commitment (Hypothesis 2). Because we did not observe clear evidence that the relationship between memory and affective organizational commitment differed according to hierarchy in this design, we did not analyze mediation separately for high and low hierarchy communicators.



Figure 5. The total, direct, and indirect effects of memory condition on affective organizational commitment through interpersonal closeness in Study 2. Unstandardized slopes are presented with total effect in squared parentheses. Indirect effect of memory on affective commitment: $b = 0.28$ (LL = 0.20, UL = 0.56). Perceived closeness to communicator fully mediated the effect of memory on affective organizational commitment.

Overall, memory was a significant predictor of perceived interpersonal closeness to the communicator (see above). In turn, closeness to the communicator was a significant predictor of affective organizational commitment, $b = 0.377$, $p < .001$. This combination implied the presence of an indirect effect. Quantification of this indirect effect using bootstrapping with 10,000 samples (Preacher & Hayes, 2004; Preacher et al., 2007) yielded a significant point estimate in which the indirect effect of memory on affective organizational commitment via closeness, $b = 0.276$, 95% CI [0.202, 0.562], reduced the original relationship between communicator's memory and affective organizational commitment to non-significance, $b = -0.033$, $p = .744$ (see Figure 5).

Discussion

Consistent with Hypothesis 1, participants inferred higher perceived closeness between an employee and a coworker or boss when the coworker or boss remembered something about the employee than when the coworker or boss forgot something about the employee. Consistent with Hypotheses 2, this effect on interpersonal closeness in turn led participants to expect more affective organizational commitment from a remembered person than from a forgotten person. Taken together these findings corroborate evidence from Study 1 without any ambiguity regarding causal direction.

Results regarding the moderating influence of hierarchy were less clear. Contrary to expectations, we did not observe clear evidence that participants expected boss memory to impact affective organizational commitment more than coworker memory (Hypothesis 3). Participants thus appear to have failed to anticipate the differences between boss and coworker memory from Study 1 when observing incidents of remembering or forgetting in the workplace. In hindsight, this oversight appears consistent results from Study 1. Participants in Study 1 only reported an impact of hierarchy when they provided a specific example in support of their memory ratings. The effect of hierarchy on affective organizational commitment thus appears to emerge in direct and specific experiences of being forgotten.

At the same time, however, the effects of boss and coworker memory were not equivalent. Participants expected boss memory for personal details to be more impactful on interpersonal closeness than coworker memory for the personal details. Study 2 thus suggests that hierarchy does affect the way that remembering and forgetting are interpreted in third-party observations. The specific impact of hierarchy might differ between firsthand experience and third-party observation, however.

The effect of memory on affective organizational commitment might, at first glance, appear small in absolute terms. The scenarios depicted a single relatively unremarkable workplace

exchange, however. Such interactions might lead to large absolute effects as they accumulate, but the smaller absolute effects observed here appear proportionate to the significance of the depicted interaction.

The results of Study 2 also indicated that type of information discussed impacted interpersonal closeness and affective organizational commitment. When participants observed an exchange about a past interaction, they inferred greater interpersonal closeness and more affective organizational commitment than when participants observed an exchange about personal details. As these results were unrelated to memory, we did not consider them to be theoretically relevant.

General discussion

The present work employed complementary methods to examine the importance of memory (and its failure) in the workplace. Across methods, we found that memory and memory failure affected workplace relationships and, through those relationships, affected affective organizational commitment.

Both studies supported the hypothesis that feeling well-remembered would increase interpersonal closeness to a coworker or boss. In Study 1, the better remembered that people felt by a current coworker or boss, the closer they felt to that coworker or boss. In Study 2, participants who observed an employee being remembered by a coworker or boss inferred that the employee felt closer to the coworker or boss. In combination, these findings clearly indicate that, as with personal relationships outside the workplace (Ray et al., 2019), better memory for colleagues or subordinates will increase interpersonal closeness in a workplace setting.

Both studies also supported the hypothesis that feeling well-remembered would increase affective organizational commitment through interpersonal closeness. In Study 1, both coworker and boss memory influenced affective organizational commitment indirectly through coworker and boss closeness. In Study 2, participants who observed an employee being remembered by a coworker or boss inferred that the employee felt more affectively committed to their organization because of differences in inferred closeness. In combination, these findings indicate that better memory for colleagues or subordinates will increase employee's affective commitment to their organization through the impact of memory on interpersonal closeness.

The present work's implications for the moderating role of hierarchy on the impact of memory are more nuanced. Consistent with past literature (Hitlan & Noel, 2009), Study 1 supported the hypothesis that boss memory would have a larger impact on affective organizational commitment than coworker memory because closeness to a boss in turn had a larger impact on affective organizational commitment than closeness to a coworker. Evidence for this difference was consistent only among participants who provided specific examples in support of their memory ratings, however. Additionally, Study 2 did not support a moderating role for hierarchy in the relationship between memory and affective organizational commitment.

How should these discrepancies be resolved? We suggest that participants' specific experiences of memory in the workplace from Study 1 provide the most informative data. In these data, affective organizational commitment was more strongly related to boss memory and boss closeness than to coworker memory and coworker closeness. This outcome is clear and unaffected by questions about causal direction. In contrast, when participants did not provide specific examples of memory or evaluated specific examples as a third party, differences between experiences with bosses and coworkers were less reliable. We suggest that the direct and specific nature of the supportive data lends it more credibility than the indirect or nonspecific nature of the unsupportive data. Note that these unsupportive data remain informative, however. They suggest that the moderating role of hierarchy tends to be overlooked outside of direct personal experience.

Practical applications

The current studies clearly demonstrate the importance of memory for effective management of staff. All studies showed that demonstrations of memory increased relative closeness to the communicator of memory, leading to greater affective attachment to the organization. These findings thus suggest that displays of memory can be used to encourage organizational commitment. On the other hand, being forgotten resulted in lower relative closeness and organizational commitment. Consistent with past literature on incivility and workplace exclusion (Hitlan, Clifton, et al., 2006; Schilpzand et al., 2016), being forgotten in the workplace thus has the potential to be a stressor (like rudeness), potentially causing downstream consequences such as reduced productivity and increased staff turnover.

The current findings could be usefully incorporated into interventions aimed at reducing workplace incivility and exclusion. They suggest that developing means to actively manage displays of memory in the workplace might aid the effective management of employee morale and workplace climate. This could be achieved through creation of guides (Irwin & Cederblad, 2019) or supervisory training on importance of making employees feel included within the workplace (Arshadi et al., 2012). Employee assistance programs highlighting what can be considered mistreatment and how to deal with it in the workplace (Arshadi et al., 2012) could also be used to address issues arising from being forgotten.

The reported findings also have clear implications for effective leadership. Caldwell and Hayes (2007) found that behaviors focused on building connections between leaders and employees increase employee's commitment to and ownership of an organization's goals. Similarly, our studies suggest that that boss' displays of memory for their employee fosters higher affective organizational commitment for that employee. Displaying successful memory for interactions with subordinates thus appears to be a specific means by which a positive leadership style might be demonstrated. Future research might usefully focus on the development of leadership training for enhancing employee commitment through leaders' memory display and through mitigating negative effects of forgetting.

Strengths and limitations

The present studies have complementary strengths and limitations. The questionnaire-based methods of Study 1 might be influenced by social desirability. That is, participants may have answered in such a way as to show themselves in a better light, consciously or unconsciously. Importantly, this limitation does not apply to Study 2. The third-person perspective in that study suggests that social desirability did not influence responses in that study. Convergence in results between Study 2 and Study 1 thus offers reassurance that social desirability was not the main driver of observed effects in Study 1.

The third person perspective in Study 2's vignettes has its own limitations, however. This method implies that the participant is a third-party observer. Although this can be an ecologically valid way of testing a common occurrence in a workplace (e.g., overhearing conversations in the office kitchen), it does carry the assumption that participants were able to effectively take the perspective of the people involved in the scenarios. Fortunately, this limitation does not apply to Study 1. These studies were based on first-hand experience. Predominant convergence between Study 1 and Study 2 thus offers reassurance that the third person perspective of Study 2 was not the main driver of the effects observed there.

In the sampling of the studies, we did not obtain information regarding how many hours participants were working (part-/full-time or otherwise), as well as the amount of time they spent interacting with their coworkers and supervisors. It is possible that accounting for these factors would further moderate the obtained effects. As such future research would benefit from examining if there are any differences between employment types and their effect on the proposed relationship between memory and organizational commitment.

Finally, it is noteworthy that, when classifiable, the large majority of workplace memory displays involved personal rather than professional content. This is, perhaps, not surprising since memory influenced professional outcomes though feeling of interpersonal closeness to coworkers and bosses. Memory displays directly related to professional interactions might, however, be even more impactful on workplace outcomes than more general interpersonal memories. Although the small proportion of strictly professional memory content observed in Study 1 precludes a meaningful analysis of moderation in the present work, this question is worthy of further investigation.

Note

1. Normative and continuance organizational commitment were measured as well as part of three-component model of organizational commitment (Allen & Meyer, 1990). Analyses of normative and continuance commitment are not reported in the main text as no particular hypotheses were made regarding these forms of commitment. However, they are available upon request from the first author.

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Notes on contributors

Mrs Anna Kaminska is a PhD student at the University of Aberdeen, studying effect of culture on helicopter pilots' safety-critical behaviours. She is also interested in and studies the effects of interpersonal memory failure in organisational settings.

Dr. Devin G. Ray is a Lecturer at the University of Aberdeen. He studies memory and memory failure in intergroup, group, and interpersonal contexts.

ORCID

Anna Kaminska  <http://orcid.org/0000-0001-8712-8979>

Data availability statement

The materials and data reported here are available for access at <https://osf.io/9ru3b>.

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This article has earned the Center for Open Science badges for Open Data and Open Materials through Open Practices Disclosure. The data and materials are openly accessible at <https://osf.io/9ru3b>.

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