Research Article

The Impact of Memory Change on Daily Life in Normal Aging and Mild Cognitive Impairment

Preetam K. Parikh, MA,1,3 Angela K. Troyer, PhD,*,1,2 Andrea M. Maione, BA,2 and Kelly J. Murphy, PhD1,2

1Department of Psychology, University of Toronto, Ontario, Canada. 2Neuropsychology and Cognitive Health Program, Baycrest Health Sciences, Toronto, Ontario, Canada.
3Present address: Department of Applied Psychology and Human Development, Ontario Institute for Studies in Education, University of Toronto, Canada.

*Address correspondence to Angela K. Troyer, PhD, Neuropsychology and Cognitive Health, Baycrest Health Sciences, 3560 Bathurst Street, Toronto, Ontario M6A 2E1, Canada. E-mail: atroyer@baycrest.org

Received September 16, 2014; Accepted February 7, 2015

Decision Editor: Barbara J. Bowers, PhD

Abstract

Purpose of the Study: Older adults with age-normal memory changes and those with amnestic mild cognitive impairment (aMCI) report mild memory difficulties with everyday problems such as learning new names or remembering past events. Although the type and extent of memory changes in these populations have been well documented, little is known about how memory changes impact their everyday lives.

Design and Methods: Using a qualitative research design, data were collected from three focus groups of older adults with normal memory changes (n = 23) and two focus groups of older adults with aMCI (n = 14). A thematic analysis using the constant comparative method was used to identify the impacts of memory change on key life domains.

Results: Four major themes emerged from the two groups, including changes in feelings and views of the self, changes in relationships and social interactions, changes in work and leisure activities, and deliberate increases in compensatory behaviors. Participants described both positive and negative consequences of memory change, and these were more substantial and generally more adverse for individuals with aMCI than for those with age-normal memory changes.

Implications: There are similarities and important differences in the impact of mild memory change on the everyday lives of older adults with age-normal memory changes and those with aMCI. Findings underscore the need for clinical interventions that aim to minimize the emotional impact of memory changes and that increase leisure and social activity in individuals with aMCI.

Keywords: Mild cognitive impairment, Normal aging, Everyday functioning, Qualitative research

Changes in memory are a normal part of the aging process (Craik, Anderson, Kerr, & Li, 1995). Some older adults experience memory loss greater than normally expected for their age, which may indicate the presence of amnesic mild cognitive impairment (aMCI). aMCI is associated with subjective and objective memory change and a lack of generalized cognitive decline or significant functional impairments in activities of daily living and is considered to be a risk factor for Alzheimer’s disease (Albert et al., 2011; Petersen, 2004). Memory impairments in aMCI are more substantial than those seen in normal aging, but less severe than memory impairments in Alzheimer’s disease (Petersen et al., 2001). The purpose of this research is to explore the impact that mild memory changes can have on the everyday lives of older adults.

© The Author 2015. Published by Oxford University Press on behalf of The Gerontological Society of America. All rights reserved.
For permissions, please e-mail: journals.permissions@oup.com.
of older adults with age-normal memory change and those with aMCI.

Memory differences in these two populations are mostly a matter of degree rather than type. By definition, individuals with aMCI have greater memory impairments than same-aged individuals with normal cognitive changes; on average, the memory deficit in aMCI is about 1–2 SDs below the mean for age (Albert et al., 2011). The specific types of memory changes seen in these two populations share many similarities. Both normal aging and aMCI are associated with everyday functional memory problems, as indicated by self- and informant-report (Farias et al., 2006; Smith, Della Sala, Logie, & Maylor, 2000), and include difficulties learning new names, recalling events that happened in the previous day or two, retrieving the name of an old acquaintance, coming up with a specific word in conversation, remembering why one walked into a room, and remembering to take medications on time. These subjectively reported memory difficulties are consistent with a wide body of research showing declines in the acquisition of new information into memory, retrieval of information from recent memory and semantic memory, and prospective memory on laboratory-based objective memory tests of list-learning, figure recall, paired associate learning, and memory for intentions (Estévez-González et al., 2004; Kester, Benjamin, Castel, & Craik, 2002; van den Berg, Kant, & Postma, 2012). The main qualitative difference in memory patterns for normal aging and aMCI is that the latter show relatively rapid forgetting of newly learned information—or decreased retention rates—over time; in this regard, memory patterns in aMCI more closely resemble those of patients with Alzheimer’s dementia than those of normal aging (Greenaway et al., 2006).

Although by definition memory changes associated with normal aging and aMCI are relatively mild in nature and are insufficient to cause major problems independently conducting one’s normal daily activities (Petersen, 2004), qualitative and quantitative studies indicate that there are subtle effects of mild memory changes on complex activities of daily living such as managing money, transportation, or medications (De Vriendt et al., 2012; Perneckzy et al., 2006; Tuokko, Morris, & Ebert, 2005). Memory changes can impact other aspects of daily life, as well. Mild memory loss associated with multiple sclerosis, for example, has a negative impact on social, leisure, and work activities (Shevil & Finlayson, 2005). Similarly, individuals with mild cognitive impairment report changes in social and family roles, embarrassment and shame, emotionality, burden, frustration with recognized memory problems, loss of self-confidence, and anxiety (Frank et al., 2006; Joosten-Weyn Banningh, Vernooij-Dassen, Rikkert, & Teunisse, 2008). There is additional evidence that interrelated cognitive and emotional dimensions are involved in participants’ subjective experience of mild cognitive impairment, including their understanding and interpretation of the meaning of their diagnoses (Lingler et al., 2006).

These previous studies have provided information about how individuals experience negative emotions and alterations in roles related to their experiences with memory change. The current study aims to build on this emerging literature by exploring whether and how mild memory difficulties associated with normal aging and aMCI impact major life domains such as their leisure and work activities and relationships. Furthermore, this study is the first to explore this question in both normal aging and aMCI populations. We included both groups because the objective and subjective memory changes are similar in these groups and because by definition both are fully functional and capable of carrying out daily activities independently. Thus, similar types of impacts on daily life are expected in both groups, although these may be present to a larger degree in aMCI, as memory decline in this group is more severe than in normal aging (Petersen, 2004).

In addition, it is expected that a deeper understanding of the impact of memory change on the daily lives of individuals with normal aging and aMCI will have important clinical significance with respect to informing and improving memory intervention programs for healthy older adults and older adults with aMCI. With increased life expectancies world-wide (World Health Organization, 2014), clinicians can expect an increasing demand for services to these populations. The knowledge gained from this research may aid clinicians in tailoring intervention programs that target the specific needs and concerns of those experiencing changes in memory in order to maximize their functional outcomes.

### Design and Methods

#### Participants

Participants were older adults (age 60 and older) with age-normal memory ability or with aMCI. All participants were screened by clinical interview for medical and psychiatric disorders, medications affecting cognition, and substance use. Participants were also screened for current depressed mood using a self-report questionnaire (Geriatric Depression scale; Sheikh & Yesavage, 1986). Each participant received $12.50 CAD for parking or two transit tokens to cover travel expenses. All study procedures were approved by the Research Ethics Board at Baycrest Health Sciences Center.

We recruited older adults with normal memory for their age from a database of research participants at Baycrest. Individuals were contacted by telephone to determine their interest in participating in the study and were given a brief battery of cognitive tests to confirm normal cognition. To maximize convenience for participants, testing was completed by telephone using cognitive tests that have been validated for this form of administration (Brandt & Folstein, 1987; Unverzagt et al., 2007). Tests assessed overall cognitive status (Telephone Interview for Cognitive Status; Brandt & Folstein, 1987), word generation (Phonemic
Verbal Fluency; Spreen & Strauss, 1998), attention span and working memory (Digit Span; Wechsler, 1997), objective verbal memory (Hopkins Verbal Learning Test and Logical Memory; Brandt & Benedict, 2001; Wechsler, 1987), self-reported mood (Geriatric Depression scale; Sheikh & Yesavage, 1986), and self-reported memory (Multifactorial Metamemory Questionnaire; Troyer & Rich, 2002). Test results for each individual were reviewed by two clinical neuropsychologists to confirm that scores fell within the normal range using standardized norming criteria based on each participant’s same aged-peers. The final sample of individuals with normal cognition consisted of 23 older adults, including 13 women and 10 men ranging in age from 64 to 82.

We recruited older adults with aMCI from a clinical intervention program for MCI at Baycrest. Individuals in the aMCI group were approached during a group meeting of this clinical intervention and were informed about the current study. Individuals interested in participating provided their contact information and were subsequently contacted by telephone in order to be screened for eligibility. Each individual had been previously classified with aMCI by two clinical neuropsychologists using criteria established by Petersen (2004). These criteria include the presence of a new memory complaint, objective evidence of memory impairment, normal general cognitive functioning, and no substantial interference in instrumental activities of daily living. The clinical diagnostic procedure included a clinical interview with the client and an informant, a full neuropsychological assessment, and administration of mood and functional questionnaires. To confirm that each participant still met criteria for aMCI at the time of this study, and for the purpose of comparing the two participant groups, aMCI participants were also administered the telephone battery of tests described previously. The final aMCI sample consisted of 14 older adults, including 4 women and 10 men ranging in age from 73 to 89.

Means and standard deviations for demographic and test variables for the two participant groups are presented in Table 1. Participants with aMCI were older on average than normal memory participants, t(35) = −3.42, p < .05. There were no significant group differences in level of education t(35) = −0.39, p > .05, or sex ratio, χ² (n = 37) = 2.74, p > .05. In the objectively measured cognitive domains, the aMCI group obtained lower scores than the normal memory group in areas of memory and attention/working memory, all t’s > 2.5 all p’s < .05; there were no group differences in general cognitive status or verbal fluency. On self-report measures, the aMCI group endorsed more symptoms of depressed mood, t(31) = −2.73, p < .05, although this group difference of 1 point on a 15-point scale is not considered to be clinically meaningful. As expected, the normal memory group reported greater satisfaction with memory, t(31) = 4.85, p < .001, and better everyday memory functioning, t(35) = 2.39, p < .05.

### Table 1. Participant Demographics and Descriptive Data for Normal Memory and aMCI Participants

<table>
<thead>
<tr>
<th>Variable</th>
<th>Normal memory (n = 23)</th>
<th>aMCI (n = 14)</th>
<th>d</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Demographics</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age (years)</td>
<td>72.5 (6.4)</td>
<td>79.0 (4.3)</td>
<td>1.2*</td>
</tr>
<tr>
<td>Education (years)</td>
<td>15.3 (2.3)</td>
<td>15.6 (2.4)</td>
<td>0.1</td>
</tr>
<tr>
<td>Sex ratio (female:male)</td>
<td>13:11</td>
<td>4:10</td>
<td></td>
</tr>
<tr>
<td><strong>Descriptive variables: objective measures</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TICS total score</td>
<td>38.3 (3.2)</td>
<td>32.5 (3.2)</td>
<td>1.8</td>
</tr>
<tr>
<td>HVLT-R immediate recall age SS</td>
<td>11.0 (2.6)</td>
<td>6.4 (3.0)</td>
<td>1.6*</td>
</tr>
<tr>
<td>HVLT-R delayed recall age SS</td>
<td>11.2 (2.3)</td>
<td>4.4 (3.3)</td>
<td>2.4*</td>
</tr>
<tr>
<td>Logical Memory immediate recall age SS</td>
<td>11.6 (3.1)</td>
<td>6.6 (2.9)</td>
<td>1.7*</td>
</tr>
<tr>
<td>Logical Memory delayed recall age SS</td>
<td>11.8 (1.8)</td>
<td>6.8 (3.2)</td>
<td>1.9*</td>
</tr>
<tr>
<td>Digit Span age SS</td>
<td>11.5 (2.9)</td>
<td>9.5 (1.7)</td>
<td>0.8*</td>
</tr>
<tr>
<td>Phonemic Verbal Fluency age SS</td>
<td>12.8 (2.2)</td>
<td>12.0 (3.5)</td>
<td>0.3</td>
</tr>
<tr>
<td><strong>Descriptive variables: self-report measures</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Geriatric Depression scale</td>
<td>1.0 (1.1)</td>
<td>2.1 (1.1)</td>
<td>1.0*</td>
</tr>
<tr>
<td>MMQ-Contentment</td>
<td>51.6 (7.3)</td>
<td>34.3 (11.9)</td>
<td>1.8*</td>
</tr>
<tr>
<td>MMQ-Mistakes</td>
<td>51.1 (7.2)</td>
<td>45.2 (4.6)</td>
<td>1.0*</td>
</tr>
<tr>
<td>MMQ-Strategy</td>
<td>35.7 (7.4)</td>
<td>37.5 (7.2)</td>
<td>0.3</td>
</tr>
</tbody>
</table>

*Note: aMCI = amnestic mild cognitive impairment; d = Cohen’s effect size; HVLT-R = Hopkins Verbal Learning Test Revised; MMQ = Multifactorial Memory Questionnaire; SS = scaled score; TICS = Telephone Interview for Cognitive Status.

*p < .05.

### Procedures

Eligible individuals were invited to participate in a 1-hr focus group discussion at Baycrest. Each focus group included 7–10 participants, a group size that is generally considered to be most beneficial for stimulating discussion (Vaughn, Schumm, & Sinagub, 1996). Five focus groups were conducted in total (three with normal memory participants and two with aMCI participants), a number considered generally acceptable (Vaughn et al., 1996) and sufficient for us to reach data saturation for each of the two participant groups.

After participants gave their informed, written consent, the focus group moderator used a semistructured script to guide discussion about the impact of participants’ memory changes on different aspects of their lives. Key topics for discussion are listed in Table 2 and were based on the construct of illness intrusiveness, that is, the extent to which illness can constrain life domains considered important for quality of life, as operationalized by Devins and colleagues (1990). Using this framework, after a preliminary “ice-breaker” question about the memory changes they have
noticed in themselves, participants were asked a general question about the impact of those changes on their daily lives and subsequent specific questions about the impact of memory change on various life domains. Approximately 5 min of discussion was allotted for each topic, and participants were asked to give specific examples of the impact of memory change on each of these domains.

The focus group moderator (the first author of the current study) was a female undergraduate university student who was conducting research for an honor’s thesis project at the time of data collection. The moderator had some previous experience running discussion group sessions with older adults. Participants were aware that the focus group moderator was a research assistant involved in the current study. A second research assistant was also present during the focus group interviews, in order to assist with organizing the group sessions and to take field notes during the interviews. All focus groups were digitally audio-recorded and transcribed prior to data analysis.

Data Analysis

A thematic analysis using the constant comparative method (Glaser & Strauss, 1967; Vaughn, Schumm, & Sinagub, 1996) was used to analyze the focus group data. Transcripts from the normal memory focus groups and the aMCI focus groups were analyzed separately for major themes. These major themes from the two participant groups were then examined for similarities and differences.

The first step in our data analysis was to identify the initial themes that represent the findings from the focus groups. The initial categories were derived from information gathered while moderating the focus group and reading the focus group transcripts. Next, units of data were identified and extracted from the focus group transcripts. Units of information were examples or statements (i.e., phrases, sentences, or paragraphs) describing how memory change on each of these domains.

The major themes (i.e., outcome data of thematic analysis) were identified by refining or reframing initial themes in light of the information from the categories and the units of data. In order to enhance reliability, a second rater independently conducted a thematic analysis using these same steps. Themes were finalized through a process of deliberation between the two independent raters. Overall, it was found that the raters independently generated themes that were similar in nature; differences were examined and discussed until a compromise was reached in terms of whether those themes were ultimately included or discarded.

Results

Analysis revealed four major themes arising from the normal memory and aMCI groups related to the impact of memory change on their everyday lives. These themes, described subsequently, emerged from both groups, and included changes in feelings and views about the self, changes in relationships and social interactions, changes in work and leisure activities, and deliberate increases in compensatory behaviors. A fifth theme—more wasted time—emerged from the normal memory group only and is not discussed further here.

Changes in Feelings and Views About the Self

Both participant groups described experiencing common memory mistakes such as forgetting names of friends and acquaintances, misplacing household items, and repeating themselves in conversation. These incidents resulted in a variety of negative emotional experiences and self-evaluations that were expressed differently by the two groups. Participants with age-normal memory changes described feeling “bothered,” “upset,” and “embarrassed” by their memory mistakes. They expressed some degree of self-doubt about their abilities and a tendency to put themselves down. Several participants shared that their memory mistakes made them “feel stupid.”

Participants with aMCI generally described stronger emotional reactions and negative self-evaluations. Their memory mistakes made them feel “frustrated,” “depressed,” and “personally inadequate.” One participant described feeling “more fragile ... like you're getting older by the minute.” Another recounted feeling “destroyed” when memory mistakes are brought to his attention:

Table 2. Key Topics of the Focus Group Discussion

<table>
<thead>
<tr>
<th>Impact of memory change on:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Leisure activities</td>
</tr>
<tr>
<td>• Health</td>
</tr>
<tr>
<td>• Relationships</td>
</tr>
<tr>
<td>• Work or volunteer activities</td>
</tr>
<tr>
<td>• Self-image</td>
</tr>
</tbody>
</table>
It destroys your confidence. If I say something and [my son] says, “Oh, you’ve said that before…” That destroys you when they say, “You’ve said that before.”

The pervasiveness of these negative feelings appears to vary between the two groups. In the normal memory group, these feelings occur only occasionally and do not last for long. For example, “If I forget something, I might feel down on myself a little bit, but very temporarily.” Another participant described feeling upset by his memory failures “from time to time.”

The aMCI group, on the other hand, described feelings that were more pervasive. They spoke of “losing” their self-confidence and understanding that their memory will “never return.” They expressed fear and worry over further memory decline and what that meant for the future: “... you wonder what you’re going to be up against next week.” Overall, the negative feelings and self-evaluations seemed more persistent, as well as more strongly negative in this group.

Both participant groups also described some degree of self-acceptance, although this was expressed quite differently in the two groups. Those with normal memory changes recognized similar memory problems in their peers. One participant said, “Personally, I feel as normal as the next person….” For these individuals, self-acceptance took the form of realizing that memory change is a natural part of the aging process:

I just say, “This happened, I’m getting older, it’s normal.”
It’s not just me, it’s happening to other people as well.
I don’t get bothered. It happened, so it happened.

For participants with aMCI, on the other hand, their memory problems were not perceived as “normal” and self-acceptance was described as a need to accept reality. Many described resignation to the fact that they will always have memory problems. This is experienced as a permanent shift that they are forced to accept and move on. Some expressions of this sentiment reflected a negative outlook: “We have to accept it, otherwise we lie down and die. Because the older we get, the worse it’s going to get.” Others framed it in a somewhat more positive way: “If I can’t do anything about it, I accept it, and that’s the way it is. That’s life.”

Changes in Social Interactions and Relationships

Memory changes were noted to have important consequences for everyday social interactions and relationships with others. The changes described were generally positive for older adults with age-normal memory changes and generally negative for those with aMCI.

Participants with normal memory change described a sense of camaraderie with their same-age peers who experience similar types of memory changes. The normalization of memory change leads to feelings that “we are all in the same boat.” As such, these participants mentioned feeling “empathy” and “patience” when others make memory mistakes. Several individuals described how their own experiences of memory change have impacted how they respond to others in the same situation:

I find that when I’m talking with friends and we’re discussing things, I’m listening when they repeat things. I don’t want to hurt their feelings, so I listen to them tell it again.

I know how I forget names, and I know if somebody else is going to try to introduce me to somebody else … that sometimes names suddenly slip out of your mind. I know that happens to me, so I immediately say my name, so they’re not left there frustrated, worrying about “Oh, this is embarrassing. What am I going to do?”

In contrast to the normal memory group, individuals with aMCI spoke about how their memory problems can lead to social withdrawal. Participants stated that they “don’t get out as frequently,” that they are “withdrawing more from social occasions,” and even that they have become more “introverted.”

A variety of reasons was offered as to why memory problems have led to social withdrawal in the aMCI group. Remembering friends’ names and shared experiences is an important part of social relationships, and failure to do this can be embarrassing or frustrating. For some individuals, withdrawing from social interactions is a way to avoid embarrassment: “You think, ‘Oh, if I go there, they will all laugh at me,’ or whatever, so, you know, you don’t go.” For others, their poor memory leaves them with a lack of context regarding their social relationships:

Sometimes I go over an old telephone list and I think, “Oh, I should call that person,” and I have forgotten quite a bit of what kind of relationship we’ve had so I don’t always go back and call people…. You just get mixed up when you look at a lot of names and you can’t place them anymore…. So, I say I’d better leave that because I’m not sure.

Individuals with aMCI also described feelings of social exclusion that they attributed to their memory problems. For example, participants recounted incidents when they had trouble remembering details or hesitated while speaking, and their conversation partners “cut me off” or would “even make a joke out if it.” One participant described how his memory problems have impacted the way others interact with him:

They don’t carry on the same type of relationship with you. They will be kind, they will speak to you, but I don’t find out a lot of stuff that I used to find out…. They don’t expect the same thing of me, and I feel left out.
Both the normal memory group and the aMCI group described changes specifically in relationships with their spouses. In the normal memory group, the change was a useful, constructive one. It was expressed in terms of a partnership, with each spouse helping the other compensate for their memory changes: “We’re sort of developing a check-up on each other.”

In the aMCI group, interactions with the spouse reflected a shift toward a more one-sided relationship. Individuals with aMCI rely on their spouses more for remembering their shared experiences and responsibilities. In social situations, they may depend on spouses to respond on their behalf: “The second time I get asked that question I have an out, my wife does that for me now.”

This greater reliance on a spouse can have a positive side. One participant with aMCI, for example, mentioned a newly developed sense of gratitude:

I have an appreciation of my wife that I never had before. I have an appreciation of how my disability must be hell on wheels for her.

Changes in Work and Leisure Activities

Both participant groups described difficulty with more cognitively demanding aspects of their work and volunteer activities. They found it increasingly challenging, for example, to keep on top of multiple projects, to complete training and recertification requirements, to co-ordinate large meetings and projects, and to speak spontaneously in front of groups. One aMCI participant described a volunteer position where “I was organizing meetings and setting agendas and assigning responsibilities. I don’t do that anymore because I forget.” In response to these potential difficulties, participants in both groups reported taking more time to complete their usual tasks, changing their roles within the organization so their responsibilities are less demanding, and, for some, looking for other work opportunities or seeking retirement.

Regarding leisure activities, the two participant groups described very different experiences. Individuals with normal memory changes seek out and participate in cognitively engaging activities such as crossword puzzles, fitness classes, and later-life learning courses. These participants were aware of the link between intellectual engagement and brain health and were motivated to participate in leisure activities for their health benefits:

Once I retired, I was afraid that my mind might start to go mushy with not having stimuli all day. So I did enroll in a few things…. I’m really looking for things to keep that mind active.

Participants with aMCI, on the other hand, expressed a tendency to decrease, rather than increase, their leisure activities. Many had experiences of giving up leisure activities that they once found enjoyable because their increasing memory problems made it more difficult for them to participate. For example:

Books are getting long and complicated now. I start reading and then I forgot what happened in the section earlier, I can’t remember the name of a character. I’ve had to change the choice of my books to more simpler ones where there’s only four people. I don’t read as much.

In this group, the inability to participate in formerly enjoyed activities may link back to the sense of personal inadequacy. A change in one’s level of mastery can represent a shift in the sense of self:

I’m a downhill skier, or I was. Went up the hill and couldn’t remember which trails were easy and hard to come down. I have skied all my life. I stopped skiing now. I don’t go out anymore.

Deliberate Increase in Compensatory Behaviors

Both older adults with normal memory change and those with aMCI reported that they find ways to compensate, at least partially, for their memory changes by increasing their use of memory strategies and aids. Individuals with aMCI spoke about using external memory aids such as lists and calendars, using physical reminders such as putting medication in a visible location, and relying on their spouses to help them remember important past and future events. Those with normal age-related memory change mentioned a wider array of compensatory approaches. Similar to the aMCI group, the normal memory group relied on lists, calendars, and spouses, but they also described making an effort to “simplify, simplify, simplify,” focusing on one thing at a time, using rhyming and associations for remembering things, and searching for alternate phrasing when experiencing difficulty with word-finding.

Importantly, both groups also reflected on their success with these compensatory behaviors. There was acknowledgement that, without a deliberate intention to use memory strategies or aids, they would have more difficulty remembering appointments and other important events. Both groups found these to be essential for their everyday lives. In other words, “If I didn’t write it down, I would miss it.”

Participants in both groups noted the positive consequence of using compensatory strategies. Reliably remembering important things helps with “self-esteem” and with “coping.” Some also described these changes as serving them well for the future, as expressed by this participant with normal memory changes:

It’s a matter of organization and preventing the forgetting…. It’s just a matter of compensating, learning how to compensate…. I think we’ve adjusted so we can continue doing what we’ve done for years and years.
Conclusions

The current study adds to our understanding about the functional impact of memory change on the lives of older adults. We found that mild memory changes have a meaningful impact on several aspects of daily life, including feelings and views of the self, relationships with others, engagement in work and leisure activities, and use of compensatory behaviors. Unique to this study is the opportunity to explore the impact of memory change on two distinct groups of older adults—those with normal age-related memory decline and those with more significant memory problems related to aMCI. A comparison of the findings from these groups reveals many similarities and some important differences.

Both groups described experiencing the types of memory failures that have been reported in previous qualitative and quantitative research. These include, among other things, forgetting the names of individuals who are well known to them, misplacing commonly used household items, and unintentionally repeating themselves in conversation. Understandably, these memory failures can cause social embarrassment and frustration. Importantly, both groups find ways to compensate, at least partially, for their memory changes by increasing their use of memory strategies and aids and relying on others to help them remember important past and future events. Both groups use behavioral compensation successfully, finding it to be essential for managing their memory changes. These findings are similar to those of previous research with MCI groups (e.g., Frank et al., 2006; Joosten-Weyn Banningh et al., 2008) indicating significant emotional reactions and proactive approaches to compensating for memory changes. Our research adds to the current literature by including individuals with normal cognitive aging. The comparable findings between our two groups are suggestive of the universality of these experiences and indicate that even mild memory changes seen in normal cognitive aging are sufficient to result in meaningful impacts on everyday life.

Despite these similarities, the overall impact of memory problems appear to be greater and more negative for those with aMCI relative to those with normal memory changes. This is perhaps not surprising, given that aMCI by definition is associated with greater objective memory decline than in normal aging (Petersen, 2004) and results in more functional memory challenges in everyday life (e.g., Farias et al., 2006). Although both groups report an impact on their emotions and views of self, the normal memory group describes what appears to be situation-based and time-limited embarrassment and frustration with their memory mistakes. In contrast, in the aMCI group, these effects are more pervasive, creating a sense of personal inadequacy and loss of self-confidence that emerges as a recurring theme. Such feelings arise in their discussion about relationships with important people in their lives, engagement in formerly enjoyed activities, and even in their description of using compensatory memory aids. These strong emotional experiences impacted a wide variety of life domains for this group.

A profound experiential difference between the two groups centers around their involvement in social and leisure activities. Older adults with age-normal memory changes proactively seek out new activities that will keep their “brains active.” They describe a sense of social engagement or camaraderie with their age peers, in part due to the recognition of shared experiences that can be interpreted as “normal” for their age. Older adults with aMCI, on the other hand, have more difficulty engaging in leisure activities because their more significant memory problems leave them feeling lost, confused, or embarrassed. They describe feeling left out or disregarded in social interactions, thus causing them to withdraw from these activities to an even greater degree. It is not difficult to imagine how this could become a self-fulfilling prophecy where loss of confidence leads to withdrawal from social and leisure activities, and the consequent decline in participation in these activities results in increasing difficulty in these areas, followed by further loss of confidence and feelings of inadequacy.

This research has potential clinical significance for the treatment of memory changes associated with normal cognitive aging and with aMCI. Current psychoeducational approaches in these populations include sharing knowledge about memory changes, training in the use of evidence-based memory strategies, and promoting the adoption of brain-healthy lifestyles (e.g., Belleville et al., 2006; TROYER, 2001; TROYER, Murphy, Anderson, Moscovitch, & Craik, 2008; Wiegand, TROYER, Gojmerac, & Murphy, 2013). Our thematic analysis revealed many areas of concern to these populations that could be emphasized in existing programs. Both groups expressed negative emotions and self-evaluations as a consequence of their memory mistakes, and they could benefit from interventions focused on helping normalize the experience of memory change and increasing feelings of control over their memory function. Indeed, recent findings with a healthy aging group show normalization of memory change was an overarching benefit from participating in a memory program (Vandermerwe et al., in review). In MCI, despite the larger-than-normal memory changes, at least some memory problems could be attributable to normal aging, and these individuals could be helped not to overinterpret their memory mistakes.

Another clinical application relates to participation in engaging activities. We found evidence that individuals with aMCI are at risk of withdrawing from leisure activities and social interactions. This is consistent with research showing that MCI is associated with decreased life-space, or restricted movement through the environment (James, Boyle, Buchman, Barnes, & Bennett, 2011; Uemura et al., 2013). Given that MCI is a risk factor for dementia, as well as emerging evidence of a positive impact of cognitive and social engagement on memory and dementia (e.g., Floel et al., 2008; Hertzog, Kramer, Wilson, & Lindenberger, 2009), our findings underscore the need to help clients with aMCI increase their engagement in leisure and social
activities. One approach would be the behavioral technique of Activity Scheduling as a way to help individuals boost their levels of engagement.

There are several limitations to the current study that are worth noting. First, the use of focus group interviews instead of individual interviews may have limited the depth and quality of information gathered about participants’ experiences. Dominant members may occasionally take over the dialog during focus group interviews and group dynamics may inhibit some members from actively participating in the discussion. Second, there were several differences, other than diagnosis, between our two groups. Participants in the aMCI group were slightly older and endorsed more symptoms of depression than the normal memory group. Although it is possible that some of the group differences emerging from the thematic analyses were partially attributable to age or mood, this was likely to be minimal, given that differences of 6–7 years of age and 1 point on a 15-point mood questionnaire are unlikely to be clinically meaningful. Also, individuals with aMCI were recruited from a clinical intervention program, and any benefits from that program have the potential to reduce the impact of memory change on participants’ daily lives, thus resulting in fewer differences between our groups. Finally, the majority of our participants were highly educated, Caucasian older adults living in Toronto, Ontario. Additional studies would be needed to determine the generalizability of our results to the larger population of older adults.

In conclusion, we obtained qualitative information about the types of impacts that memory change can have on the everyday lives of older adults with age-normal memory changes and those with aMCI. As expected, memory changes impact the lives of both groups, with the extent of impact reported to be greater and more negative in the aMCI group. Future research will help determine the generalizability and clinical impact of these findings.

Funding
This work was supported by a grant from the Alzheimer’s Society of Canada (07-89); and by the Morris Goldenberg Medical Research Endowment.

Acknowledgments
The authors thank Dr. Karen Fergus and Sylvia Davidson for their input into the methods and data analysis of this study.

References


