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The Use and Functions of Students' Personal Stories in Online Discussion Forums

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Personal stories serve learning and socioemotional functions in teaching. Instructors share personal stories with students to promote engagement, foster learning, and create a sense of community. Students may also share personal stories with each other for similar reasons. Thus, the current study explored how often, and why, students (N = 79) shared personal stories as well as responded to other students' stories in online discussion forums (ODFs) that were part of a remotely taught adult development and aging class. The students ODF posts (f = 1,354) were content-coded for: (i) whether they contained a personal story, (ii) were a direct response to another students' personal story, and (iii) whether they served a teach and inform, empathic, or social-bonding function. Twenty-two percent of the posts made in the ODFs were personal stories, and almost half served a teach and inform function. Ten percent of students' posts were responses to other students' personal stories, and primarily served empathic and social-bonding functions. Results highlight the possibility that students can engage with one another to foster the pedagogical benefits of personal stories and provide insights into how personal stories can be infused into teaching and learning.

Student S: *"My grandparent died of Alzheimer's at the age of 82. I was young when they first developed it, so I was pretty confused with why my grandparent began confusing me for their own daughter."*

Student D: *"Hey Student S, I'm so sorry to hear about your grandparent. It must have been incredibly challenging for your family to take on all that came with their illness."*

Student V: *"I'm sorry about your grandparent Student S.… My grandparent was just diagnosed with Lewy Body Dementia and Parkinson's Disease about 6 months ago… Eventually one morning they woke up not knowing where they were and even who they were."*

Student S: *"Thank you all for your condolences. Student V, I'm so sorry to hear about your grandparent."*

The previous discussion could have happened in a coffee shop, a dorm room, or in front of a classroom while waiting for it to start because sharing personal stories with others and acknowledging other people's personal experiences is common in daily life. This exchange (blinded for any identifying information; e.g., name, sex, nationality, ethnicity, etc.), however, occurred in a small group online discussion forum (ODF) that was part of an adult development and aging course. These forums were designed to be a space for students to apply learned concepts to life context based on weekly instructor-provided prompts. Although personal stories were welcomed, they were by no means the explicit purpose of the forums. It was actually not until after the course was completed that the instructor realized how impactful the ODFs were in eliciting personal story sharing. It is this serendipitous occurrence that led to the overarching goal of the current project. The goal was to examine the extent to which personal stories were shared and responded to in ODFs, and the reasons why students were sharing and responding to their peers' personal stories. The project also provides insights into whether personal story sharing occurs spontaneously in ODFs or only when instructors ask students to relate course material to personal life experiences via instructor prompts.

Personal Stories as Pedagogy

Exploring the use of stories as a pedagogical tool in the scholarship of teaching is a long-standing theme (e.g., Downs et al., 1988; Grobman, 2015; Landrum et al., 2019). Although all story forms might be pedagogically relevant, research findings highlight the salience of *personal stories*. A survey conducted by Houska and colleagues (2015) of 100 university psychology professors found that 91% of teachers reported using stories at least occasionally over the last 5 years of teaching and, of those, 89% were informal personal stories or anecdotes. When asked about the reasons for sharing such personal information, instructors reported that it allows the course material to "come to life for students" and that "stories are what students remember" (p. 22). Other studies have found that in a typical 90-minute course, instructors shared, on average, five personal stories in order to clarify concepts, or encourage participation (Downs et al., 1988). Instructors also share personal stories with students to build psychological closeness (i.e., a sense of immediacy) (Groban, 2015) which can foster community and empathic understanding (e.g., Dolan et al., 2017, Green, 2004). Thus, university instructors seem to spontaneously use personal stories when teaching to enhance learning, create bonds with students, and to provide for empathic understanding (e.g., Kromka &

Goodboy, 2019). Research supporting the utility of instructor's personal story sharing for students also cuts across many educational disciplines (e.g., psychology, Houska et al., 2015; science communication, Neely et al., 2020; diversity studies, Zuniga et al., 2007). A related but understudied question, however, involves exploring why students might share and respond to one another's personal stories in educational settings. This is the focus of the current project.

Students' Personal Story Sharing

The literature to address the question about why students might share personal stories with one another in educational settings is less prevalent. Thus, we rely on tangential areas of work. One example is intergroup dialogue, an instructional technique to bring students from different social identity groups together in discussions to learn, and create greater understanding about diversity (Zuniga et al., 2007). Sharing personal stories is intentionally infused into the intergroup dialogue pedagogy in order to help students get to know one another more intimately, foster a sense of community among students, and more deeply understand the course content through other students' lived experiences (Keehn, 2015). This process, however, is somewhat different from what occurred in the ODFs explored in the current project. The students in the ODFs were not interacting synchronously or in person, and although the instructor and teaching assistant would occasionally post in the ODFs to encourage group participation, there was little facilitation beyond the initial prompts that were provided. It is also important to note that except for a few instances, students were not explicitly instructed to apply course concepts to individual experiences, nor were students asked to directly respond to another student's personal story. Therefore, personal story sharing in the current study occurred online, asynchronously, in an organic way that was predominantly student initiated.

Thus, the shared personal experiences and responses that occurred in the ODFs are perhaps more akin to the types of posts that are seen in blogs (i.e., topical, online response format) or web-based logs. Sharing personal stories and inviting others to make responses is built into the blogging environment (e.g., Gordon & Swanson, 2009). With the shift to active online learning, using blogs in higher education as a pedagogical tool has grown in popularity. Education-based blogs provide an opportunity for students to learn from one another, encourage and support active participation, enhance peer support, increase students' motivation to learn, and develop critical thinking and reflective skills (Kuo et al., 2017). For example, one large-scale survey (N = 600; Garcia et al., 2019) about students' perceptions of learning via blogs in higher education, found them to be a useful tool for enhancing learning, particularly when comments were made in response to someone else's blog post. Students perceived that they were learning based on what their peers were sharing. Taken together, this tangential literature suggests that even when story sharing is occurring between students (rather than from an instructor to a student), the students seem to be learning from one another, while simultaneously fostering an environment in which social relationships and empathic understanding can flourish.

A Theoretical Foundation and the Current Study

The theoretical underpinnings on personal story sharing in teaching and learning draws from different vantage points, ranging from cognitive psychology (e.g., Graesser et al., 1980) to educational psychology (e.g., Grobman, 2015). Thus, it is challenging to come to a consensus about why students might be using, and responding to, one another's personal stories. However, there is long-standing theoretical work about why people share personal stories in everyday life (not just in educational settings). This theory is about the functions of autobiographical memory and focuses on *why* people remember and share the personal past with others (e.g., Baddeley, 1988; Bluck & Alea, 2002). The functions of autobiographical memory have been explored in a variety of settings, including among parents reminiscing with children over dinner (e.g., Bohanek et al., 2009), in intimate conversations between romantic partners (e.g., Pasupathi et al., 2002), and in online social media environments (e.g., Alea et al., 2019; Wang, 2020). The current study is one of the first, however, drawing from the functions of autobiographical memory framework, to attempt to directly identify the functions of personal stories in a higher-education teaching and learning environment.

Three major functions have been identified in the autobiographical memory literature: self, directive, and social (Bluck & Alea, 2002). The social functions of autobiographical memory are the most relevant to the current work. This includes using personal stories to foster intimacy in relationships, to build empathy, as well as using personal stories to teach and inform (Alea & Bluck, 2003). Personal stories have been shown to build relational bonds (e.g., Alea & Bluck, 2007), even in online environments (i.e., instant messaging; e.g., Alea et al., 2019). Studies have also shown that sharing personal stories can elicit empathic understanding from others (e.g., Bluck et al., 2013) and that parents use personal stories to teach children life lessons (e.g., Kulkofsky et al., 2009). Thus, we believe that these social functions are likely the reasons personal stories are shared by instructors with students (e.g., Alea & Osfeld, 2022), but may also be the reasons why students are sharing personal stories with one another.

Thus, there were two specific aims of the study. The first was to explore story sharing and responding frequency. We wanted to know how common it was for students to share personal stories with one another in ODFs, and how often they responded to their classmate's personal stories. The second aim was to examine the functions of the personal stories shared and responses made. Based on the literature about the social functions of autobiographical memory, we expected that students' stories and their responses would serve, at a minimum, as a means to teach and inform, garner empathy, and build social bonds. The study is thus qualitative and descriptive and no a priori pedagogical choices were made to encourage personal story sharing (or not) among students in the ODFs. No expectations were made about how often personal stories would show up in students' posts or how often specific functions of personal stories would occur. The goal of the project is not to identify which specific ODF prompts provided by the instructor lead to more stories or serve particular functions to provide a guide for future instructors of adult development and aging courses. Instructors should be free to choose ODF prompts relevant to their course material. In this way, this work is also broadly applicable, beyond this specific course.

Method

Participants and Course

Participants were university students ($N = 79$) in a 10-week adult development and aging course taught asynchronously by the first author in Spring 2020. The course was usually taught in person; however, due to the Covid-19 pandemic, it was shifted to an online format and was entirely asynchronous. It was an upper division psychology elective course. Human subjects ethics approval was given post hoc to use the students' ODF posts as data. Therefore, informed consent was not used and no compensation was given for participation. Accordingly, for confidentiality, no other identifying information was collected directly from the participants. Instead participant demographics was solicited from the university registrar. Students in the course were primarily juniors (85%) and seniors (13%). Seventy-six percent of students were female, 22% were male, and 3% had a gender that was 'unknown.' Twenty-seven percent of the students were from underrepresented minority groups, 24% were Asian, 45% White, and 4% had an unknown ethnicity. The average GPA of students in the course was 3.20, and most students' grades were in the A to B range (74%).

Online Discussion Forum Chats

One requirement of the course included having students engage in online discussion forum (ODF) chats each week (called "Experiential Learning Chats"). Online discussion forums are a frequently used pedagogical tool in remotely taught courses (Marra et al., 2004) and thus the current work applied beyond the scope of this particular course. The explicit purpose of the ODF in this course was twofold. First, the forums were a place in which students could take course concepts and apply them to the everyday life of individuals across adulthood. The goal was to mimic the type of discussion that tends to occur in the in-person version of this course, in which students discuss in an informal way the course concepts in relation to their aging parents and grandparents, for example. Thus, these forums were not designed for the purpose of exploring the extent or functions of student's personal stories in ODFs; their presence was a fortunate outcome that warranted further investigation.

The prompts, which were provided by the instructor each week, are briefly summarized in Table 1. Most weeks ($n = 7$) had only one prompt, 1 week had two prompts, and 2 weeks had three prompts. In 5 of the weeks, the prompt asked students to apply the material directly to their personal experiences, meaning their own life or the life of a middle-aged or older adult family member or friend. In the other weeks, no direct application to their own life was prompted. This demarcation between explicitly or not explicitly requesting links to personal experiences was not an a priori decision. Thus, we made no further analysis of why a particular prompt in a particularly week elicited more or fewer personal stories. Instead, we considered more broadly in the analyses that follows whether it made a difference if the prompt included asking students to link the course content back to a personal experience or not.

The second purpose of the ODFs was to build a sense of community among students given the asynchronous course format. Thus, the ODF groups were kept small and consisted of the same four to five students throughout the quarter, with a total of 13 different groups (Groups A through M). Students were instructed to make two to three brief comments each week. These included either a 'new' post (i.e., starting the ODF chat) and/or response posts (in which students responded to other students' previous posts). The students were encouraged to make it feel like a "real chat" but were never explicitly instructed to respond directly to another student's personal story. Grading was based solely on participation, and the ODF posts counted 10% toward students' overall course grade.

Table 1
Summary of Instructor Prompts for the Online Discussion Forums (ODFs) and Number of Posts by Week

Week	Instructor Prompts	Number of Posts
1	Test knowledge about aging facts quiz Take biological age quiz and compare to chronological age Watch a video about the oldest living mother and reflect on meanings of age	182
2	Identify instances of selection, optimization, and compensation in your own life or in the life of a middle-aged or older adult family member, friend, etc. that you know* Discuss pros and cons of cross-sectional vs. longitudinal designs Consider diversity associated with aging issues and provide a source or reference	215
3	Discuss the necessity, legitimacy, and ethical implications of transcranial magnetic stimulation and whether it should be standard for older adults	135
4	Discuss the pros and cons of compressed morbidity, arrested aging, and decelerated aging Talk to a middle-aged or older adult parent, grandparent, friend, etc. about their awareness of age-related changes and the link to their views about disability and functional health?*	148
5	Consider the DMV driving regulations for older adults given what was learned about attention, memory, and cognitive-theories of aging	114
6	Consider whether mandatory retirement is necessary given changes in intellectual functioning, everyday decision-making, expertise, wisdom, and cognitive collaboration with age	132
7	Discuss if public health officials and communities (including your own) have responded to Covid-19 in ageist ways that link back to a deficit view of aging, and the role of stereotype threat*	107
8	Consider whether advertising geared toward older adults seems appropriate given information learned about socioemotional aging	99
9	Discuss personality across adulthood by comparing your results on a personality quiz to another middle-aged or older adult family member's responses*	103
10	Consider exploring the internet, or asking a family member caring for someone with dementia, what types of technological resources they might need*	119

Note. *Explicit requests were made to reflect on own or another's life experiences in the prompt. The full prompts for each week are available by request from the first author. The total number of posts across all weeks = 1354.

Content Coding

The coding manual developed for the current study is based on story pedagogy and autobiographical memory function literatures, as well as an iterative data-grounded approach. The full manual is available from the authors upon request. The ODF posts were content coded in two stages using best practices for coding narrative data (Syed & Nelson, 2015). First the posts were coded for whether it contained a personal story (or not), and whether the post was a response to another student's personal story (or not). The ODF posts that contained a story or a story response were then coded for function. Across both stages, the unit of analysis was a single post, and coding was based on what was explicitly stated. Figure 1 provides a visual of the format of the ODF chats, and example personal stories, story responses, and function codes (see details that follow).

Personal Stories and Story Responses

Coding was dichotomous: either a personal story was present (1) or absent (0), and a response to another students' personal story was either made (1) or not (0). A single post could have received both codes, meaning that it could have been both a personal story post (a personal story shared by a student) and a story response (the same student responding to another students' personal story). Two research assistants were trained to code for personal stories and story responses. They coded to 100% reliability with discrepancies and coder drift addressed during regular meetings with the first author. Less than 10% of the posts had discrepancies to resolve (personal stories $n = 108$; story responses $n = 95$).

Personal stories. Personal stories were defined as "experiences or events that a student shares based on their life or the people in their life." This definition captured both autobiographical, personally experienced stories and vicarious stories (Pillemer et al., 2015). Due to the nature of the course (i.e., adult development and aging) vicarious stories, or stories that students had heard from others in their life, were included as personal stories. Students' posts frequently included information about parents, grandparents, other adult family members, and friends. Stories could have been either narrative-like (e.g., detailed plot, characters, etc.; Baron & Bluck, 2009) or, what we called "autobiographical blurbs" (e.g., briefer accounts; akin to anecdotes in Houska et al., 2015). Semantic information or autobiographical facts (e.g., 'I have a grandmother,' 'I don't really like to exercise,' etc.) were not coded as a personal story.

Story responses. A story response was defined as a post that made reference to another student's personal story, and/or expanded upon their story in some way. In order for the post to have received the code of a story response, the student's response needed to explicitly refer back to a personal story from another student's post. Story responses did not have to occur sequentially, or directly after a student's personal story post. If the response simply acknowledged another student's post but made no explicit reference back to their personal story (e.g., "thanks for sharing"), it was not coded as a story response.

Functions of Personal Stories

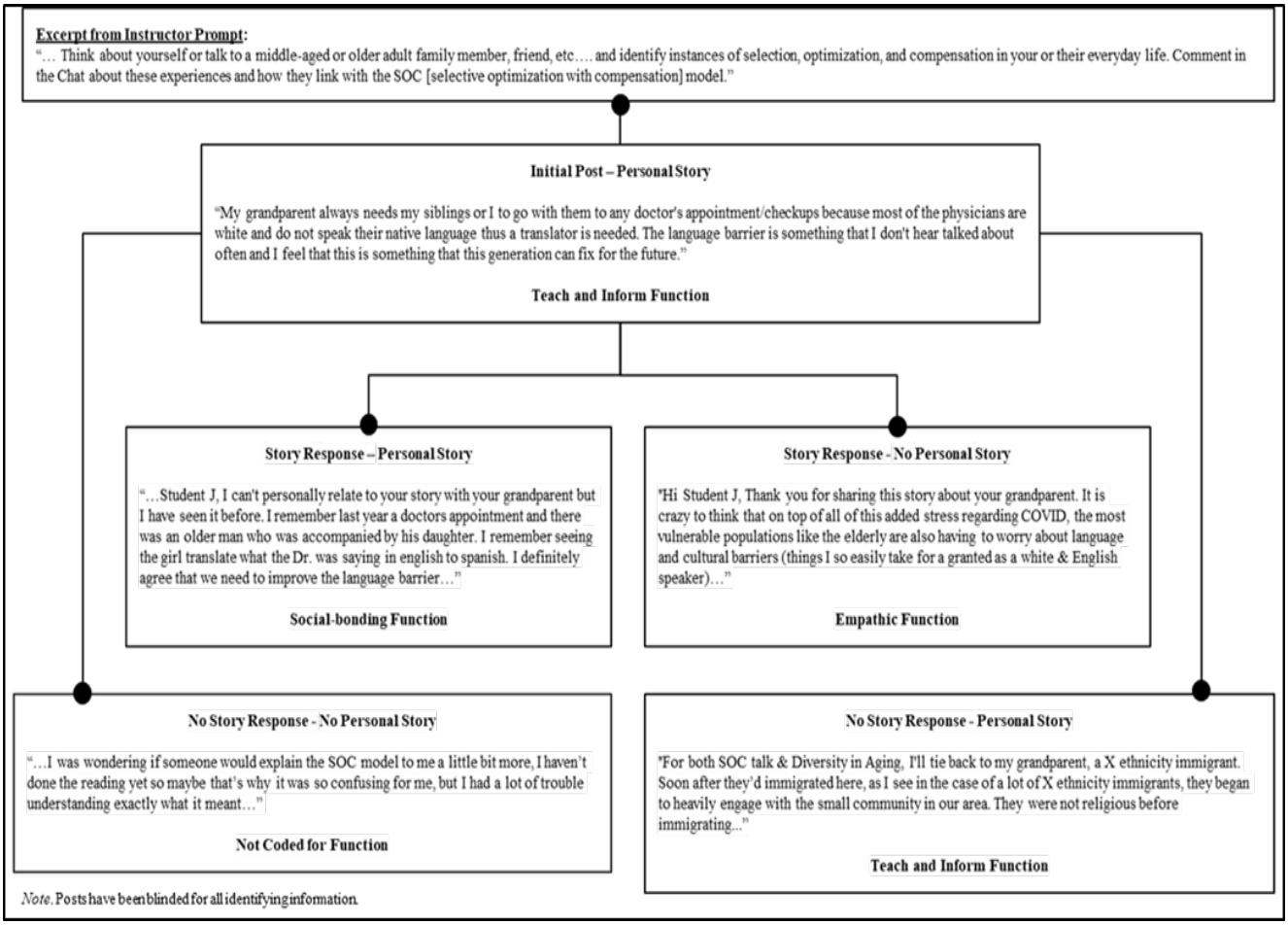
The coding scheme developed for the functions of the personal stories and story responses is grounded in the social functions of autobiographical memory literature (Alea & Bluck, 2003), and included using personal stories as a way to teach and inform, empathize, and bond with others. Only posts that were coded as a personal story or as a story response were considered for function coding. Codes were mutually exclusive. This had two meanings: First, having the codes be distinct meant that a single post could not be coded as serving multiple functions. This complete separation of the functions of personal stories is commonplace in the theoretical literature grounding the coding scheme even though functions of autobiographical memory likely overlap in daily life (Alea & Bluck, 2003). If multiple functions seemed to be present in a single ODF post (e.g., a personal story post serving both a teach and inform, and empathic function), then the function that was mentioned first in the students' post would be coded. This choice was made for methodological reasons (i.e., to enhance parsimony and the likelihood of obtaining interrater reliability; Syed & Nelson, 2015) and is consistent with other narrative coding schemes, even though it may be a somewhat artificial decision.

Second, it was also possible that a single ODF could have a personal story serving one function (e.g., teach and inform) and a story response in the same post serving another function (e.g., empathic). In this case, the story response function took precedence over the original story post function (even if the response was not first in the narrative of the post). This decision was made because the purpose of the ODFs was to have a discussion among the students, and this could only have happened if the responses to other students' posts were provided. A research assistant and the first author were trained to code for the functions of personal stories, and reliability was assessed on 75 posts. Some pertinent statistics: Interrater agreement = 84% and kappa = 0.67. The research assistant coded remaining posts and coder drift and queries were clarified at weekly meetings.

Teach and Inform Function. The teach and inform function code was based on Alea and Bluck's (2003) description of using autobiographical memories to teach

Figure 1

Excerpts from ODF Posts and Examples of Personal Stories, Responses to Personal Stories, and Functions of Personal Stories Codes



Note. Posts have been blinded for all identifying information.

and inform others, illustrate a point, or give advice. This function of personal stories, though not labeled in this way, was also salient in the story pedagogy literature (e.g., Landrum et al., 2019). Explicit instances of ODF posts using personal stories to teach and inform often began with catch phrases like, "*For example…*," "*Illustrates…*," "*In relation...*," followed by a personal story that directly illustrated a course concept. Posts receiving this code could also have been more subtle, in which a student would simply share a personal story and in doing so illustrated a particular course concept. Coding a story response for the teach and inform function occurred if a student's response directly indicated the function, such as when a student would essentially thank another student for sharing their personal story because they learned something (e.g., *"They [other students' story] actually helped me understand the definitions of each term even better…"*). A story response was also coded as serving a teach and inform function if the responding student added on to a previous post that another student made which included a personal story to further illustrate or teach a course concept.

Empathic Function. The empathic function code is based on autobiographical memory and counseling literatures. It included using personal stories to both show empathy *to* another and elicit empathy *from* another (e.g., Bluck et al., 2013). The empathic function code included response posts, for example, that clearly demonstrated empathic understanding and concern for others (e.g., *"I definitely related to you when you mentioned that...*"). It also included instances in which students directly asked others if they can empathize with their personal story (e.g., *"I would love to see if others can relate...*"). This coding category included both cognitive components of empathy (Smith, 2006) (e.g., "*I understand where Student M is coming from because my grandparent is from Country P…"*) and emotional (e.g., "*I totally get how hard it is for our parents to attend doctor appointments because the healthcare system fails to be accessible…"*). Some common catch phrases to use when coding for this function included: "*I understand what you mean…*," "*I know how you feel…*," "*I'm sorry that happened….*" More casual ways of communicating empathy (Jerez, 2020), via phrases like "*That is really cool…*" or "*That's awesome/great…*," were also in the empathy function coding category if they link to a personal story.

Social-Bonding Function. The social-bonding function of autobiographical memories involved using personal stories as a way to develop, maintain, and enhance social bonds (Alea & Bluck, 2003). Stories that were told for the social-bonding function in a dialogue or conversational format tend to follow the format of "you tell me your story, I'll tell you my similar story." The social bond created between the student sharing the initial personal story and another student's response was sometimes explicit, such that one student could give a direct indication that one's story was similar to someone else's story (e.g., "*Like you, I grew up translating for my Parent…*"). However, more subtle instances of building bonds via shared personal experiences were also coded for the social-bonding function. Some common catch phrases used when coding this function include: "*Like you…*," and "*I have a similar situation….*" Sometimes, less explicit phrases, such as *"I share similar things..."* were also used if linked directly to a personal story.

Non-Functional Categories. Two other categories were included but were not considered to be functional uses of personal stories. A reminiscence code was given when a personal story was shared in a post but no function of the personal story was evident. The student was simply reminiscing as in the following example: *"…This past week my sibling turned 23 and I was sitting there thinking how weird it is that in just a few years they will probably be getting married and settling down….*" Additionally, a miscellaneous category was used for any post that did not fit into one of the previous three function categories and was not a personal story. It was almost never used.

Results

The results are divided into three major sections. In this first section, preliminary analyses were conducted to determine the number of posts overall and variability by weeks, groups, and type of prompt. The next two sections corresponded to the study goals, to explore how often students shared and responded to personal stories in the ODFs, and examine the functions served by these posts.

Students shared a total of 1,354 posts in the ODFs. The instructor and teaching assistant (TA) for the course also periodically made comments in the ODFs (e.g., to encourage students to chat or to comment on students' posts). These posts (N = 106) were deleted prior to coding. Chi-square (χ^2) and binomial tests of proportions (p) were used to compare observed frequencies (f_o) to what was expected by chance (f_e). Chi-square tests of independence were also conducted to determine whether there were contingent relations between the types and functions of posts by weeks and groups. Analyses were not always possible due to empty cells, but when they were, results were consistent with those reported. Thus, these contingent relations are not considered further. Adjusted standardized residuals (z-scores) and the Bonferroni correction ($\alpha_{adj} = 0.017$) were used for all post-hoc tests (Beasley & Schumacker, 1995).

Preliminary analyses were conducted. As seen in Table 1, the number of posts was not equal across the 10 weeks of the course, $\chi^2(9) = 92.96$, $p = 0.000$ ($f_e = 135.4$). The number of posts ranged from a low of 99 in Week 8 to 215 in Week 2. Weeks 1 and 2 had the most posts, with 182 and 215, respectively. About half of the posts (51.1%, $n = 692$) were made in weeks in which personal experiences were explicitly prompted, and the other half were made when no such prompt was provided by the instructor (48.9%, $n = 662$), $p(1,354) = 662.00$, $SE = 18.40$, $p = 0.431$, $p_e = 50\%$.

Students followed directions in creating a chat-like environment in the ODFs. There were more posts that were responses compared to new posts, $p(1,354) = 366.00$, $SE = 18.40$, $p = 0.000$ ($p_e = 50\%$). Seventy-three percent of posts ($f_o = 988$) were responses to another students' post compared to being a new post (27%, $n = 366$). As seen in Figure 2, some groups were more active in their ODFs than other groups, $\chi^2(12) = 129.67$, $p = 0.000$, $f_e = 104.15$. Groups C and G were the least active, and Groups A, B, and I were the most active, and along with groups D and F, were more active than expected by chance. Group distinctions are not considered further due to low frequency count in some categories.

Frequency of Personal Stories and Responses

Of the 1,354 ODF posts, 22.1% ($f_o = 299$) contained personal stories, and 77.9% ($f_o = 1042$) did not, $p(1,354) = 1,042.00$, $SE = 18.31$, $p = 0.000$, $p_e = 50\%$. Thus, not including a personal story in the ODF post was more common than including one. There were differences in the frequency of personal stories provided depending on whether a personal experience was explicitly requested in the ODF prompt provided by the instructor, $p(299) = 74.00$, $SE = 8.65$, $p = 0.000$, $p_e = 50\%$. As seen in Figure 3, of the posts that contained personal stories, 75.3% ($f_o = 225$) occurred when the instructor asked students to link the ODF post to a personal experience. This was more than expected. In contrast, 24.7% ($f_o = 74$) of the posts contained a personal story even when no request was made by the instructor to link the ODF prompt to a personal experience. Thus, it seems that personal stories are likely to appear in the ODF posts when the instructors explicitly asks students to link content from the course back to personal experiences, but also, sometimes, when the instructor does not, demonstrating the spontaneity of personal story sharing in ODFs.

Of all of the ODF posts that were made, 9.8% ($n = 131$) contained a direct response to another students' personal story, and 90.2% ($n = 1207$) did not, $p(1,338) = 1,207.00$, $SE = 18.29$, $p = 0.000$, $p_e = 50\%$. Thus, not responding specifically to another students' personal story was more common than responding to another students' personal story. Although it seems that students made relatively few direct responses to another student's personal story, the number is actually somewhat impressive given that students were not explicitly asked to respond to one another's personal stories in particular, only to create a chat-like ODF environment.

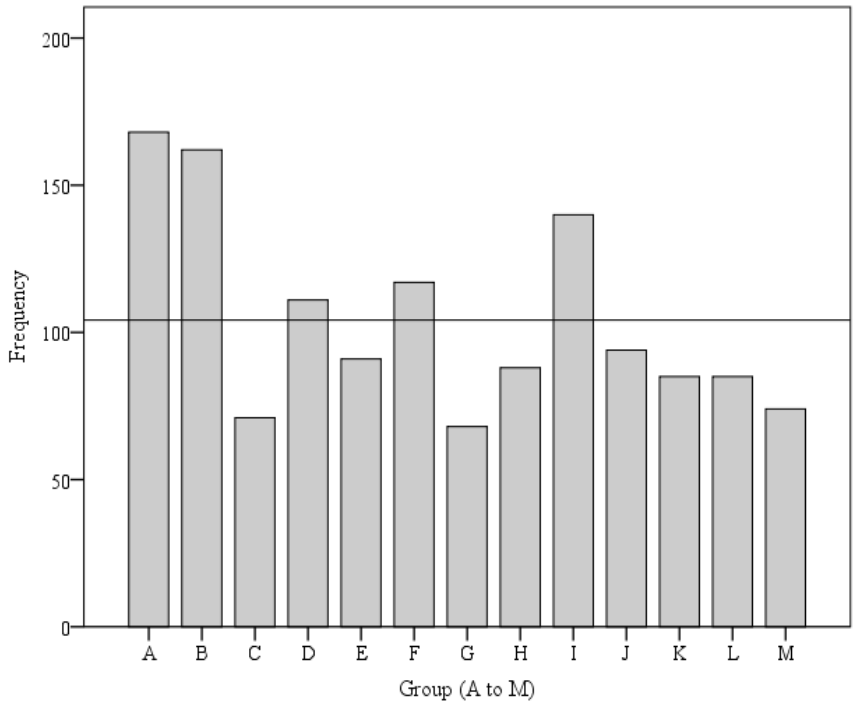
There were differences in the frequency of responses to personal stories depending on whether the instructor had directly requested a link with the students' personal experience in the ODF prompt for the week, $p(131) = 20.00$, $SE = 572$, $p = 0.000$, $p_e = 50\%$. As seen in Figure 3, if only the posts that contained a story response are considered, 84.7% ($n = 111$) of the posts occurred when the ODF prompt for the week included an explicit request to link the course material to a personal experience, compared to 15.3% ($n = 20$) of the posts when no request was made by the instructor. This result is not unexpected and indicates that students were following directions when asked to link the course material back to personal experiences. However, it also shows that even if the instructor does not ask students to create these links with an explicit prompt, students still sometimes do so.

Functions of Personal Stories

Of the posts that were coded for function, 63.9% ($n = 228$) were serving a teaching and informing function, 26.1% ($n = 93$) were serving an empathic function, and 7.6% ($n = 27$) were serving a social-bonding function. Nine ODF posts were for reminiscence and three were miscellaneous. These frequencies were significantly different from what was expected, $\chi^2(4) = 503.04$, $p = 0.000$, $f_e = 71.40$, and the effect remains when only the three function categories are examined, $X^2(2) = 180.98$, $p = 0.000$, $f_e = 116.00$. Follow-up tests reveal specifically that the teach and inform function occurred more often ($z = 10.39$, $p = 0.000$) and the social-bonding function ($z = -44.50$, $p = 0.000$) occurred less often than expected. The empathic function did not differ in frequency from what was expected ($z = -2.14$, $p = 0.033$).

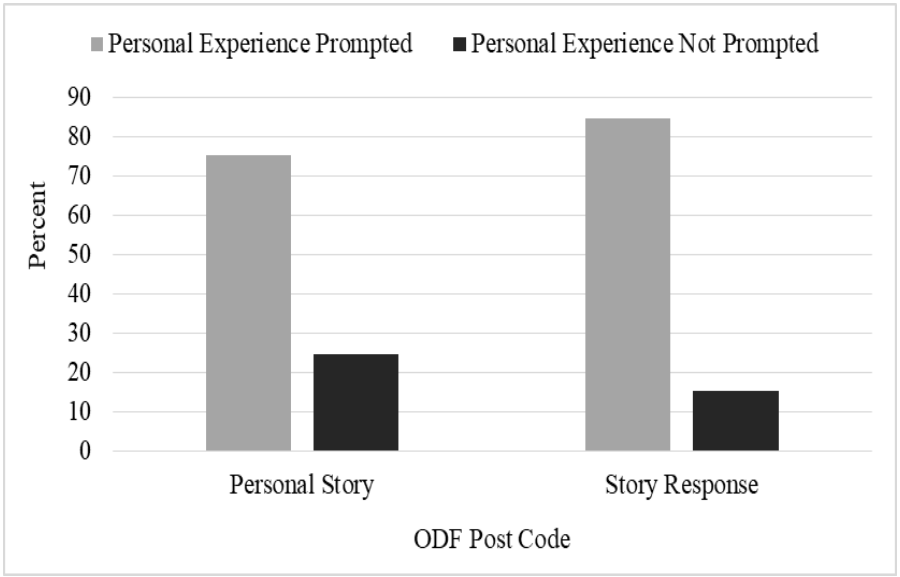
We further explored whether the type of function that the post was serving would be more or less common, depending on whether the ODF post was a personal story shared by a student or a response to another student's story. Results are in Figure 4. As seen in the left-hand side of the figure, there was a significant difference in the functions served by the posts that were personal stories, $X^2(2) = 251.51$, $p = 0.000$, $f_e = 96.3$. Specifically, 72.2% ($f_o = 223$) of the personal story posts served a teach and inform function, and this was more than what was expected ($z = 12.91$, $p = 0.000$). Both the empathic function ($z = -5.54$, $p = 0.000$) and the social-bonding function ($z = -7.37$, $p = 0.033$), however, occurred less often than what was expected in the personal stories. Specifically, 14.5% ($f_o = 42$) of the personal story posts were serving an empathic function and 8.3% ($f_o = 24$) were serving a social-bonding ($f_o = 8$) function. Thus,

Figure 2
Number of Posts by Online Discussion Forum (ODF) Group



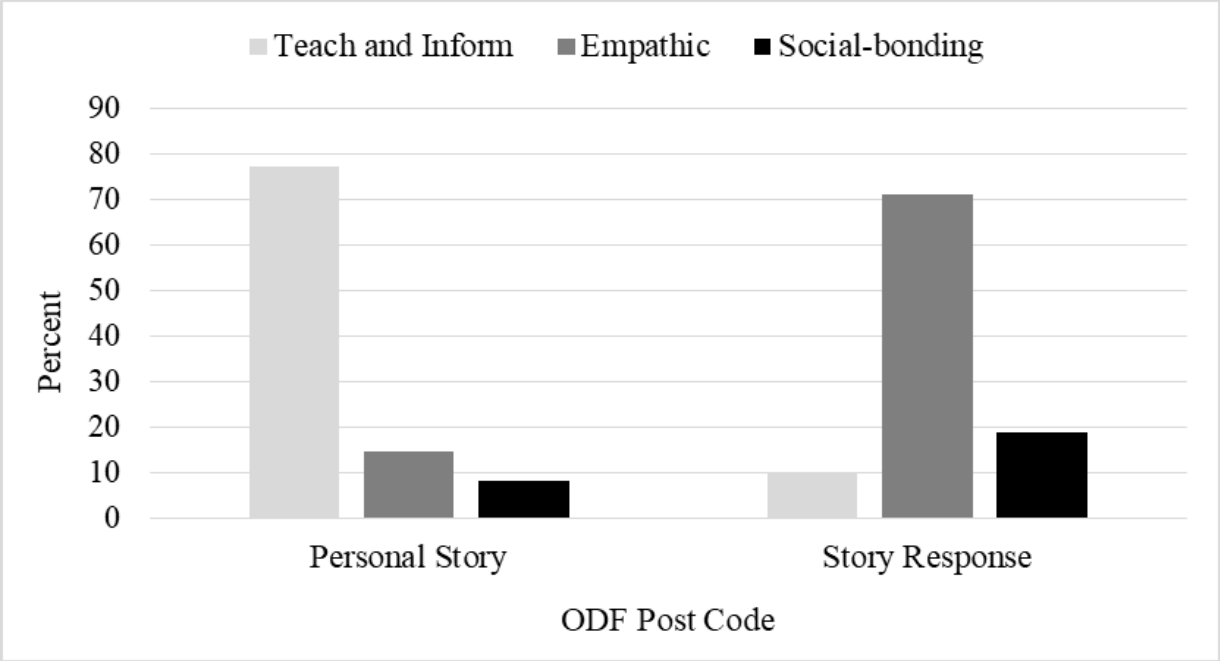
Note. Each group included 4 to 5 students. The horizontal line is the expected $f = 104.15$.

Figure 3
Percentage of Personal Stories and Story Responses in the ODF Posts Depending on if a Personal Experience was Prompted or Not



Note. Expected percentage = 50% within personal story and story responses ODF post code.

Figure 4
Percentage of Each of the Three Functions of the ODF Posts for Personal Stories and Story Responses



Note. Expected percentage = 33.33% within personal story and story response ODF post code.

when students share personal stories with their peers, they seem to most often be doing so in an effort to teach and inform, then empathize, and finally as a way to bond with one another.

There was also a significant difference in the functions served by the story responses, $X^2(2) = 81.94$, $p = 0.000$, $f_e = 42.3$, and, as can be seen in Figure 4, the pattern of results is different from what was found when looking at the personal story posts. As seen on the right-hand side, the most common function being served by story responses was the empathic function. Specifically, 70.9% ($f_o = 90$) of the story responses were serving an empathic function, and this was more than what was expected ($z = 7.33$, $p = 0.000$). The next most common function being served by the story responses was a social-bonding function, 18.9% ($f_o = 24$), though this was less than what was expected ($z = -2.82$, $p = 0.005$). The teach and inform function was also served but only for 10.2% of the story response posts ($z = -4.51$, $p = 0.000$). Thus, students are responding to their peers' personal stories for more psychosocial reasons, for empathy and social bonding, compared to responding in a way that fosters learning.

A final set of analyses explored whether the pattern for the functions served by personal stories and story responses varied depending on whether the posts occurred in a week in which the instructor's prompt encouraged students to reflect on a personal experience or not. These results were not statistically significant (personal story: $\chi^2(2) = 5.52$, $p = 0.063$; story response: $\chi^2(2) = 4.29$, $p = 0.117$) and the pattern for the functions being served was the same as the aforementioned analyses. Thus, results suggest that the primary reason that most students were initially sharing a personal story with their peers in the ODF was to help their peers better learn and understand the course concept through their personal experience, but that empathizing with their peers was the primary reason why personal stories were being responded to. It did not matter whether the personal story sharing was in response to an instructor's prompt to link the course content with personal experience or whether the story sharing occurred spontaneously.

Discussion

The current study is the first, to our knowledge, that brings together the literature on the pedagogy of personal stories (e.g., Landrum et al, 2019) and the functions that autobiographical memories serve in daily life (e.g., Bluck & Alea, 2002). Much of the scholarship from the teaching and learning literature on stories as a pedagogical tool has focused on the outcomes involved when instructors share stories with their students (e.g., Houska et al., 2015; Grobman, 2015). The current study, however, focused on a new direction of research looking

at student-to-student sharing and receiving of stories in ODF posts. The work was thus exploratory and we relied heavily on the literature about the three social functions of autobiographical memory (Alea & Bluck, 2003) when content coding students' ODF posts. The results are descriptive but provide insight into how often and why students share personal stories in online learning environments. The current work is a starting point for further systematic implementations and experimental exploration of the use of stories among peers in ODFs.

Personal stories occurred in almost a quarter of all of the ODF posts. The posts ranged in content. Stories were, for example, about students' grandparents' age-related changes, students' own experiences in coping with the pandemic, and helping parents and grandparents with language barriers. These stories were most often used to teach and inform. This is a known theoretical function of autobiographical memory (Alea & Bluck, 2003; Bohanek et al., 2009) and has been explicitly identified as a reason why people share personal stories in online contexts (Wang, 2020). For example, posting personal stories as a way to provide useful, practical information to others is actually one of the most common reasons that young adults report sharing information in social media (Stone et al., 2022). Students shared stories to help clarify the course material for their peers by interweaving their personal experiences into the lesson. An example of this can be seen in Figure 1.

Helping others learn via story seems to be a primary reason why instructors share personal stories with students (e.g., Houska et al., 2015). Students report being engaged with and liking the stories that instructors share (e.g., Alea & Osfeld, 2022), and together these pedagogical techniques are thought to leverage student learning (e.g., Davidhizar & Lonser, 2003; Mutonyi, 2015). This same pedagogical value seems to be there when students share stories with one another. Responding to another student's story may also have beneficial learning outcomes. Seventeen percent of the students' responses to other students' stories were coded as serving a teach and inform function. Thus, it seems that students and their peers can collectively leverage the power of personal stories in the learning process.

Responses to personal stories occurred for 10% of the ODF posts, even though students were not asked to directly reference back and acknowledge another students' personal story. The empathic function of autobiographical memory (Bluck et al., 2013) involves using personal stories as a way to elicit empathy from others or to provide empathy to others. The empathic function was in over half of the story responses in the current study. The social-bonding function (e.g., Alea & Bluck, 2003) of personal stories was evident when students would share a similar story to another student to feel a sense of likeness. This social-bonding function occurred in 30% of the responses that students made to other students. At times, a student would even directly name another student in their response to indicate a social bond, as seen in Figure 1. These findings indicate that students' personal stories, and particularly the way that students respond to their peers' stories, moves beyond the goal of learning something and toward the need for feeling something. Personal stories seem to be special and different from other types of self-disclosures (e.g., non-personal stories, other people's stories) by serving as a way to enhance closeness between people (e.g., Guan & Wang, 2022).

Limitations, Future Research, and Pedagogical Applications

One limitation of the current study is that the project emerged post-hoc as the instructor for the course recognized that students were sharing personal stories and responding to one another's stories in the ODFs. Thus, the prompts by the instructor were not explicitly designed each week to either elicit, or not, students' personal stories. Thus, in some weeks, the ODFs had prompts that directly encouraged students to think about their own personal experiences, and during these weeks students were more likely to share and respond to one another's personal stories. In other weeks, however, no such prompts were made, and thus, personal story sharing among the students occurred spontaneously. In these weeks, it seemed that students were trying to connect with one another via personal stories: the social bonding function was equally prevalent, regardless of whether a personal experience was prompted. Though perhaps a methodological limitation, these findings point to two meaningful pedagogical techniques. First, if instructors would like students to share their personal experiences with one another to use as a teaching tool or in socioemotional ways, they can simply ask students to engage in a discussion in which they can share their personal experiences. Another and more subtle possibility is by creating course assignments that encourage application (e.g., ODF posts that link course content to daily life), in which students may spontaneously share their personal stories with one another and benefit from the functional outcomes of personal story sharing.

Another limitation is that the findings may only be applicable to the specific course in which the data were collected, adult development and aging, and to the context in which the personal story sharing occurred, ODFs. We think this is unlikely though. Personal story sharing as a pedagogical technique has been explored in a variety of courses (e.g., general psychology; Grobman, 2015; social psychology; Miller & Wozniak, 2015). We suspect that the frequency of students sharing personal stories would vary as some courses lend themselves more easily to personal stories and anecdotes. However,

we also suspect that the three functions of personal stories identified here will exist in a variety of courses because they seem to be the functions of autobiographical memory that are ubiquitous in daily life (Alea & Bluck, 2003), and for students, the educational context, is a part of their daily life.

It does seem possible that the frequency and functions of personal stories will vary depending on whether the context of story sharing occurs remotely versus in person. For example, one study found that students liked another student and empathized with them more when their story was told in person compared to when it was told synchronously (via instant messaging; Alea et al. 2019). However, the anonymity provided in online contexts also allows people to feel more confident and uncensored, which can lead to heightened bonding when relationships are developing (e.g., Tidwell & Walther, 2002). Future research that empirically and systematically varies the context of story sharing is warranted so instructors will know how to better design courses to facilitate story sharing amongst peers. Until we know more, however, there does not seem to be harm in having students share personal stories with one another and doing so may even be therapeutic in online contexts (e.g., Stone et al., 2022).

Although the coding scheme developed for the current project was based on best practices in developing reliable narrative coding manuals (Syed & Nelson, 2015), it may have also created an artificially low percentage of personal stories shared and responded to and the functions that they served. For example, although multiple functions may have been present in a single ODF post, only the first function mentioned was coded. Although it created parsimony and heightened chances of reliability, it is very possible that the personal stories served multiple functions simultaneously (Alea & Bluck, 2003) and that we missed some of the students' intended functions of their personal stories. This could be explored in future research.

Additional directions for future research that would help to enhance pedagogical techniques could capitalize on the subtle variations found in the current study. Perhaps students were learning better in weeks in which more posts were made or if these weeks contained more posts intended to serve a teaching and informing function. Assessing feelings of closeness among group members at the beginning and end of the term to examine if the frequency and functions of personal stories shared predicts levels of closeness is another direction for future research. Also directly asking students why they shared a personal story in a follow-up survey would let us know if students perceive their stories to be serving particular functions that were not captured in the current work. In conclusion, instructors sharing personal stories to students has been called "an alternative pedagogy that could lead to improvements in the retention of content knowledge in psychology" (Landrum, 2015, p. 5). We would like to propose to put some of this pedagogical task into the hands of students and let them share their personal stories with *one another* as a way to not only teach and inform, but to create a learning space inclusive of empathic understanding and a sense of community.

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