Looking for Liking: In search of the mere exposure effect

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Some Social Psychology theorists (e.g. Brown, 1965, Zajonc, 1968) think that liking for complex materials increases with familiarity induced by repeated contact with the material, a phenomenon termed *the mere exposure effect*. Many consider liking, like familiarity, a measure of implicit memory. Implicit memory measures are thought to be more sensitive than explicit measures such as recognition or recall. Bornstein in his 1989 review of mere exposure effect 1968 – 1987 concluded that the effect was strongest in adults with five (or more) heterogeneous (i.e. not blocked) presentations of novel, complex materials. More than half a century of research on the effects of lag on recall has established that increased spacing between study events benefits recall (e.g. Kellogg, 2015). The effects of lag on recognition are more complex as, Ciccone, .and Brelsford, (1974) found a significant quadratic relationship between lag and recognition. Increased frequency benefits all measures of memory (Kellogg, 2015). Bornstein (1989) concludes that mere exposure to materials, especially complex, novel materials will increased frequency of presentation (with a plateau between 5 and 10 presentations).

In the present study we manipulated frequency and lag to enhance memorability of complex verbal materials (altered Haiku taken from anthologies compiled by Henderson (1958) and Yasuda (1957)). Haiku are three-line 17 syllable Japanese poems. These were selected because they are verbally complex, brief, and unfamiliar to AC students. If liking is a sensitive measure of memory (e.g. Grimes & Stafford, 2012) and if liking is promoted by exposure, then our manipulation of spacing (lag) and frequency of presentation should both lead to increased liking, as well as the more traditional measures of memory by recognition and familiarity judgments. The four levels of lag (0, 1, 2, or 3 intervening items) varied orthogonally with three levels of frequency (2,3, or 4 presentations) in a with-in subjects design. Following their reading of the Haiku, students completed forced-choice recognition, liking, and familiarity ratings.

We expected that as stimulus frequency increased, recognition, liking, and familiarity would increase; we expected liking, recognition, and familiarity would increase with increased lag, with a quadratic trend for lag on recognition; and we expected that liking, recognition, and familiarity would be related.

A sample *altered* Haiku and the **original** Haiku:

Out from the hollow *of Great Buddha's nose –* *lies the Galaxy*!	**Out from the hollow** **of Great Buddha's nose –** **comes a swallow**.

Method

The study used a 3 (exposure frequency of 2,3, or 4) × 4 (lag of 0, 1,2, or 3) within-subjects repeated measure factorial with three dependent variables, recognition score, familiarity, and liking. Forty-nine Austin College Psychology students participated for extra course credit.

The study used variations of 54 Haiku poems taken from Henderson (1958) and Yasuda (1957). To eliminate any possible pre-experimental familiarity with the poems, the last line of each poem was rewritten using final lines from other Haiku with the restriction that the revised poems had to be grammatical. Eight of the revised poems were used as primacy and recency fillers. An additional 10 poems were used as needed to create the proper lag and frequencies between the remaining 36 poems. Those 36 poems, labeled critical poems were used in each of the 12 combinations of lag (4 levels) and frequency (3) so that each poem appeared once in each of the 12 conditions, with 3 of the 36 critical poems in each cell. There were 12 different Powerpoint™ presentations, one for each combination of critical poems. The student participants, randomly assigned to 1 of the 12 shows, viewed each slide for 5 s with 0.5 s between presentations.

After viewing the poems, half of the students completed a forced-choice recognition test with the 36 critical poems and the 18 filler poems typed in a test booklet where they indicated of the pair of poems (he original Haiku and the altered poem) was the poem they had studied. They simultaneously made familiar (the poem is very familiar to I know the poem was presented) judgments for the poems in attempt to separate the familiarity component from the identity component (Glass & Holyoak, 1988). The student continued in their test booklets by rating each of the poem pairs for liking-preference on a 6-point Likert scale. The other half of the students completed the liking judgments first and then the recognition and familiar/know judgments.

Results

As expected, frequency had a significant effect on recognition (M_2 = .802, M_3 = .8733, and M_4= .875), F (2, 82) = 10.06, p < .001, η^2 = .197. Likewise, lag produced a reliable effect on recognition (M_0 = .799, M_1 = .836, M_2 = .900, and M_3 = .865), F(3,123) = 7.07, p < .001, η^2 = .147. Like Ciccone and Brelsford, (1974), we found a complex relationship with both the linear and quadratic trends for lag significant, F(1,41) = 13.94, p < .001, η^2 = .253 and F(1,41) = 4.35, p =..043, η^2 = .096, respectively . There was a significant interaction between frequency and lag (see fig. 1), F (6, 246) = 2.411, p = .028, η^2 = ..056. Both frequency and lag reliably affected familiarity judgments. For frequency (M_2 = .650, M_3 = .733, and M_4= .768), F(2, 82) = 15.087, p < .001, η^2 = .269. And for lag (M_0 = .659, M_1 = .727, M_2 = .749 and M_3 = .733), F(3,123) = 4.84, p = .003, η^2 = .106. Again, the linear and quadratic trends for lag were significant, F(1, 41) = 8.34, p = .006, η^2 = .169 for the linear trend and F(1, 41) = 6.31, , p = .026, η^2 = .115. Lag and frequency interacted reliably (see figure 2), F (6, 246) = 4.90, p < .001, η^2 = .107. Finally, on the critical measure for the mere exposure effect, liking, there was **no evidence** that either lag or frequency affected liking (all F < 1) nor did lag and frequency reliably interact on liking, F (6, 246) = 1.455, p = .198,

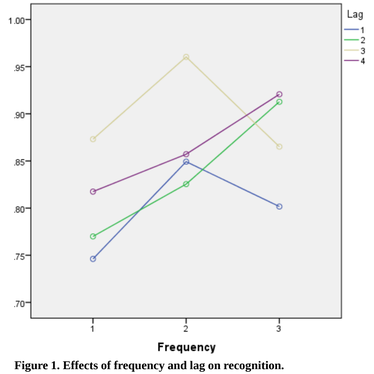

Figure 1. Effects of frequency and lag on recognition.

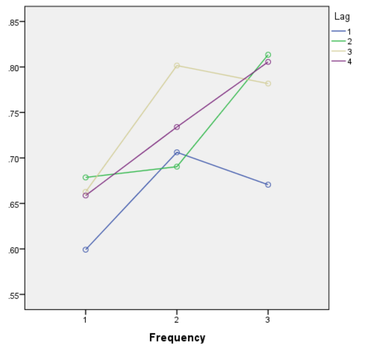

Figure 2: Effects of frequency and lag on familiarity

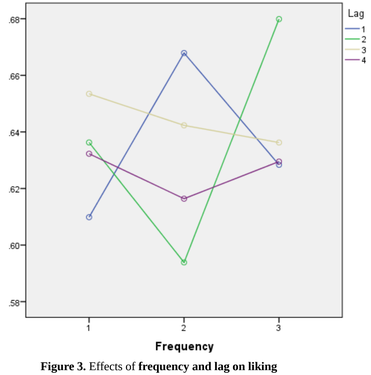

Figure 3. Effects of **frequency and lag on liking**

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