This study analyses the impact of the L1 on processing of L2 verb-noun collocations among returnees, which is a largely unexplored area in language attrition research. Participants are 30 child and 30 adult returnees who had lived in the US for an extended period of time and returned to their country of origin, Saudi Arabia, either in early childhood (RT1) or in adolescence (RT2). They are compared to 60 Saudi heritage speakers living in the US of the same age groups (HS1 and HS2). Receptive knowledge of English collocations is measured with a lexical decision task (LDT) consisting of English collocations which are either congruent or incongruent between Arabic and English, or belong to two types of non-existing collocations half of which are L1-based. Furthermore, a picture description task and a gap-filling task focusing on noun-verb collocations are used to measure productive knowledge of collocations, and a range of baseline tests are administered to test vocabulary and grammar knowledge. This includes a semantic fluency task which measures participants’ vocabulary size and lexical access in their L2. It was predicted that HS1 and HS2 would achieve higher scores and experience less influence from Arabic on all productive and receptive tasks and would process English collocations faster than RT1 and RT2, as the heritage speakers are exposed to more and a richer input in English, whereas Saudi returnees are rarely exposed to English input. However, preliminary results from a pilot study among 20 participants revealed significant differences in accuracy (but not reaction times) on the LDT (ANOVA, F(3,16)= 14.1, p< .001), with the HS1 obtaining the lowest score. Results on the gap filling task showed significant differences in accuracy (ANOVA, F(3,16)= 21.07, p < .001), and reaction times (ANOVA, F(3,16) = 3.82, p= 031) with the HS1 obtaining the lowest score. On the semantic fluency test (fruit and vegetables), the RT2 were able to access significantly more words in total than the HS2: t [8]= 2.615, p=.031). The returnees also outperformed the heritage speakers on the number of semantic clusters (F(3,16) = 8.451, p =.001), and the number of switches between clusters (F(3,16)=7.580, p = .002). Thus, the predictions were partially confirmed. The pilot study therefore reveals that returnees’ collocational knowledge and lexical access are less affected by attrition than might be expected and that new insights into the differences between heritage speakers and returnees can be obtained with the above tasks, which can lead to a better understanding of the specific language competencies of each group. A relatively small sample size N=20 (N=5 in each group) may affect the generalizability of the results. A large-sample size would yield a comprehensive and much clearer picture of returnees’ and HSs’ language competencies.