**JazzNets Experiment 1 Results**

**Melodic Similarity Analysis**

**Statistical Analysis Move to Method**

Our outcome variables were analyzed using logistic regression and polynomial regression models for response and RT, respectively, in R *v.3.6.0* (R Core Team, 2017). As responses to the relatedness judgement task were binary, a logistic regression was the most appropriate method for our analysis.

**Responses**

A logistic regression analysis with five predictors (*distance, musician status, distance\*musician status, hours a week spent listening to music, hours a week spent listening to jazz*) tested whether participants judged pairs of melodic sequences as related at distances 1, 2, 3, 4, 6, and 10 (removing trials where they judged the distance 20 stimuli). Overall, this model provided a significantly better fit than an intercept-only model, χ2 (5, *N* = 15248) = 691.17, *p* < .001. The model correctly classified approximately 57.6% of trials.

Controlling for other variables in the model, a 1-unit increase in distance decreased the odds a participant would judge a pair as related by a factor of .86, *z* = -18.71, *p* < .001, 95% CI [.85, .88]. Holding other variables constant, each additional self-reported hour spent listening to music increased the odds a participant would judge a pair as related by a factor of 1.01, *z* = 8.32, *p* < .001, 95% CI [1.005, 1.008]. Holding other variables constant, each additional self-reported hour spent listening specifically to jazz decreased the odds a participant would judge a pair as related by a factor of .97, *z* = -4.89, *p* < .001, 95% CI [.96, .98]. Controlling for other variables in the model, whether or not the participant was a musician was not reliably associated with the relatedness judgement, OR = 1.07, *z* = 1.05, *p* = .29, 95% CI [.96, .98]. The interaction between musicianship and distance was not significant, *z* = 1.91, *p* = .056. Taken together, these results indicate that for distances prior to 10, relatedness judgements decrease with increases in distance. Additionally, music listening habits are a more important factor in these judgements than musicianship at lower distances.

For participants who were musicians, information on their musical background was collected. As above, we analyzed these traits (*primary instrument proficiency, proficiency at improvising, hours currently spent playing music per week, hours spent playing jazz per week, percentage of playing time spent improvising*) separately for distances above and below 10. For distances 1-10 in the musician group, a logistic regression with these predictors, controlling for distance, tested how the musician group made relatedness judgements. This model provided a significantly better fit than one that just included distance, χ2 (5, *N* = 7109) = 128.89, *p* < .001. Holding other variables constant, each one-unit increase in self-rated proficiency on their primary instrument increased the odds a participant would judge a pair as related by a factor of 1.10, *z* = 5.31, *p* < .001, 95% CI [1.06, 1.14]. Holding other variables constant, each one-unit increase in self-rated proficiency in improvisation decreased the odds a participant would judge a pair as related by a factor of .93, *z* = -3.43, *p* < .001, 95% CI [.89, .97]. Holding other variables constant, each one-hour increase in hours spent playing music per week decreased the odds a participant would judge a pair as related by a factor of .95, *z* = -5.82, *p* < .001, 95% CI [.93, .97]. Holding other variables constant, each one-hour increase in hours spent improvising per week increased the odds a participant would judge a pair as related by a factor of 1.17, *z* = 8.65, *p* < .001, 95% CI [1.13, 1.21]. Percentage of total playing time spent improvising was not significantly related to the relatedness judgement, OR = .99, *z* = -.69, *p* = .49.

**Responses DISTANCE 1-4**

The stimuli pairs for distances 1 through 4 contain overlapping note content, with distance 1 pairs overlapping with each other by 4 notes and distance 4 pairs overlapping by 1 note. As such, we *a priori* designated these pairs as related. To see what participants were doing at these distances, a logistic regression for distances 1-4 was conducted, including the same listening and musicianship predictors as the larger models from above. This model provided a significantly better fit than an intercept-only model, χ2 (5, *N* = 10187) = 304.5, *p* < .001. The model correctly classified approximately 62.5% of trials.

Controlling for other variables in the model, a 1-unit increase in distance decreased the odds a participant would judge a pair as related by a factor of .76, *z* = -10.78, *p* < .001, 95% CI [.73, .80]. Holding other variables constant, each additional self-reported hour spent listening to music increased the odds a participant would judge a pair as related by a factor of 1.007, *z* = 6.55, *p* < .001, 95% CI [1.005, 1.009]. Holding other variables constant, each additional self-reported hour spent listening specifically to jazz decreased the odds a participant would judge a pair as related by a factor of .95, *z* = -6.67, *p* < .001, 95% CI [.94, .97]. Controlling for other variables in the model, whether or not the participant was a musician was not reliably associated with the relatedness judgement, OR = 1.21, *z* = 1.82, *p* = .068, 95% CI [.99, 1.49]. The interaction between musicianship and distance was not significant, *z* = -.55, *p* = .58.

**RT**

Prior to examining the reaction time data, trials were excluded from analysis if they were “incorrect” and did not align with whether the stimuli pair actually shared notes. For distances 1-4, “no” trials were excluded, while for distances 6 and 10, “yes” trials were excluded. While we *a priori* determined that distance 20 was unrelated (as the stimuli did not directly overlap), the above results from the participant responses and melodic similarity analysis suggested that we should also consider distance-20 trials which were judged as related. Therefore, we include both analyses in our discussion of the reaction time results.

**RT, 20 = Unrelated**

With trials at distance 20 that were judged as unrelated included, a regression analysis was conducted to predict reaction time from distance, musician status, the interaction between distance and musician status, hours per week spent listening to music, and hours per week spent listening to jazz. A model that included these predictors fit the data significantly better than an intercept-only model, *F*(5, 9967) = 28.67, *p* < .001, PRE = .014. Analysis of individual predictors revealed a significant effect of distance such that each 1-unit increase in distance increased reaction time by .01 s, *t*(9967) = 3.65, *p* < .001, PRE = .001, 95% CI [.004, .015]. Musicians and non-musicians were not significantly different in reaction time, *t*(9967) = 1.38, *p* = .168, PRE < .001, 95% CI [-.02, .17]. Weekly time spent listening to music significantly predicted reaction time such that each additional self-reported hour of music listening increased reaction time by .001 s, *t*(9967) = 2.51, *p* = .01, PRE = .001, 95% CI [.001, .002]. Weekly jazz listening significantly predicted reaction time such that each additional self-reported hour spent listening to jazz increased reaction time by .032 s, *t*(9967) = 8.54, *p* < .001, PRE = .007, 95% CI [.025, .04]. The interaction between distance and musicianship was not significant, *t*(9967) = -.22, *p* = .83.

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**RT, 20 = Related**

With trials at distance 20 that were judged as related included, a regression analysis was conducted to predict reaction time from distance, musician status, the interaction between distance and musician status, hours per week spent listening to music, and hours per week spent listening to jazz. A model that included these predictors fit the data significantly better than an intercept-only model, *F*(5, 10703) = 17.51, *p* < .001, PRE = .008. Analysis of individual predictors did not reveal a significant effect of distance, *t*(10703) = -.92, *p* =.36.

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**RT DISTANCE 1-4**