



Figure 1. Screenshot of the MelodyMaker application

Figure 2. Composing Functions in the Software Application.

Function	Description	Code
Pitch	In Figure 1, a piano-style keyboard is visible at the top of the figure. When the user clicks one of the 'keys' the appropriate pitch will sound in their headphones. The note name will also appear in the centre section of the window, beside the text 'You have chosen the note...'. Rather than choose a pitch, the user may wish to consider inserting a rest (silence) into their melody. The rest button allowed them to do so.	NOTE REST
Duration	As for pitch, a number of options are available on the left hand side of the composing window. These range from quaver (half-beat note) to semibreve (four beat note). When any of these options is selected, the value chosen appears inside the text 'to last for x beats' (where x is the value chosen).	DURATION
Add note to melody	This function takes the candidate note and duration from the middle window and inserts them into the melody.	ADDNOTE
Play my melody	This function allows the user to play back their melody. They can do this at any point, regardless of how many notes have been inserted into the melody.	PLAYTUNE
Hear note	This function allows the user to hear the pitch and duration combination that is currently indicated in the middle window (e.g. the note C for 4 beats).	HEARNOTE
Try out note with melody	This function allows the user to hear the pitch and duration combination currently indicated in the context of the emerging melody. In other words, the user would hear their melody <i>as if</i> the current candidate note and duration had been inserted	TRYNOTE
Delete the last note from the melody	This removes the last note from the melody. By repeatedly initiating this function, the user can delete as many or as few notes as they wish.	DELETENOTE
I don't like that note	This function removes the information from the central area of the window, where the current note and duration choices are indicated.	REJECTNOTE
I want to start again	This function deletes the entire melody. It does not, however, initiate a new composing session; prior events are maintained within the observation log.	STARTAGAIN
My melody is finished	The user initiates this function when they think their melody is complete. This event is not recorded in the observation log for the composing session since, by definition, it (a) has to happen and (b) can only happen once.	

Figure 3. Independent Variables used in Analysis

Variable	Description
Age	This was self-reported by the participants and measured in years.
Instrumentalist status	Instrumentalist status was self-reported by participants in yes/no format. Participants entered 'yes' if they were currently receiving formal instrumental lessons on at least one instrument, either within school or with a private instrumental teacher.
Melody number	During the 20-minute composing period most participants composed more than one melody. Each melody-writing session in the dataset, therefore, was allocated a number depending on whether it was the first, second, third or fourth melody composed by that participant.

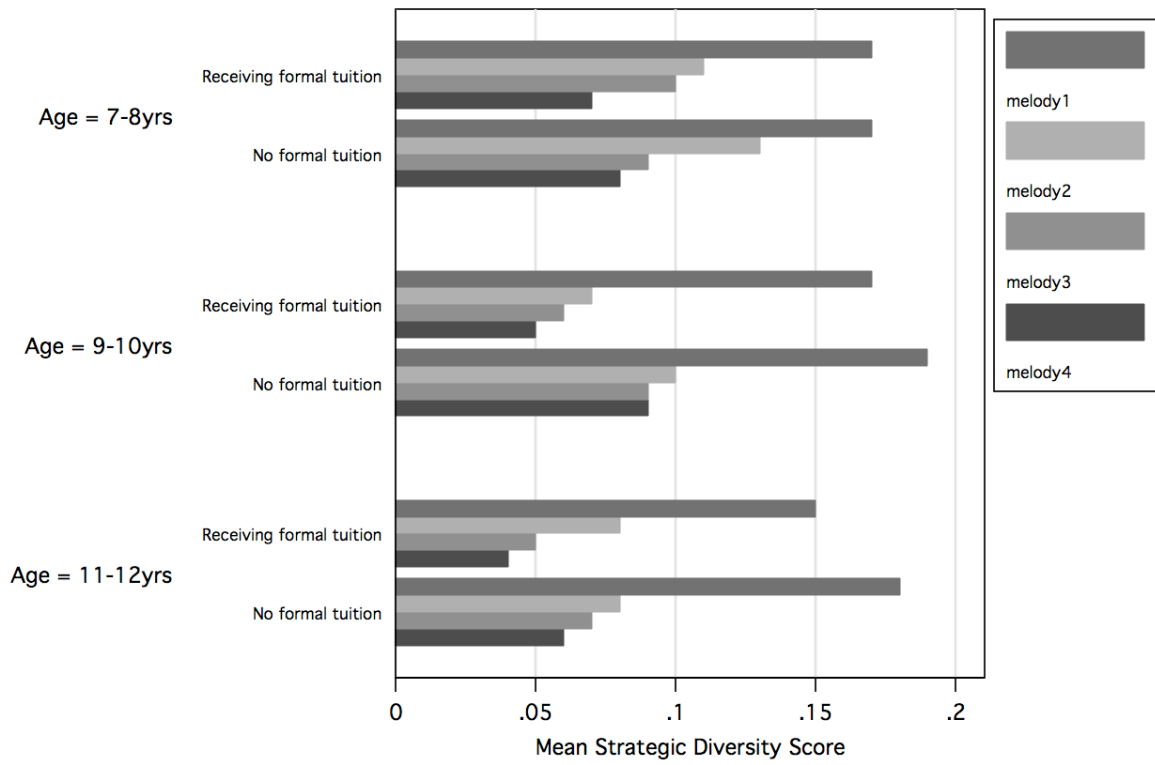


Figure 4. Mean scores on the Strategic Diversity measure by age, instrumentalist status and melody number

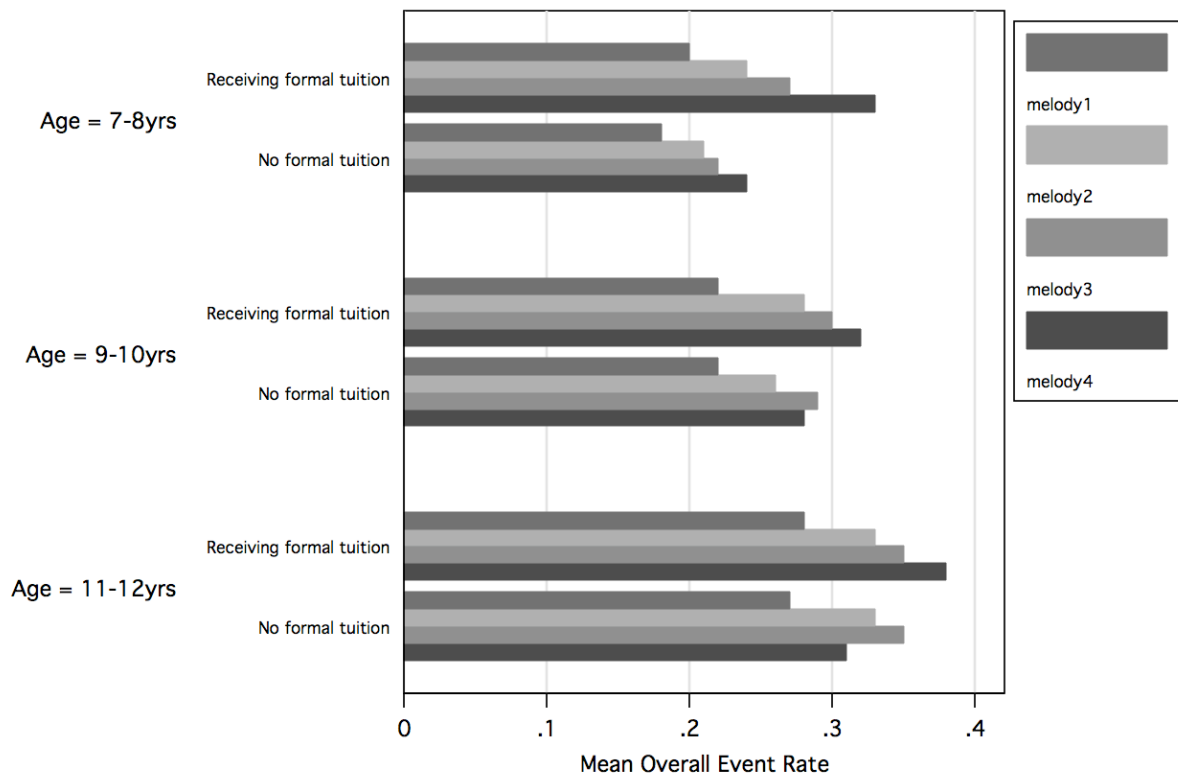


Figure 5. Mean scores on the Overall Event Rate measure by age, instrumentalist status and melody number

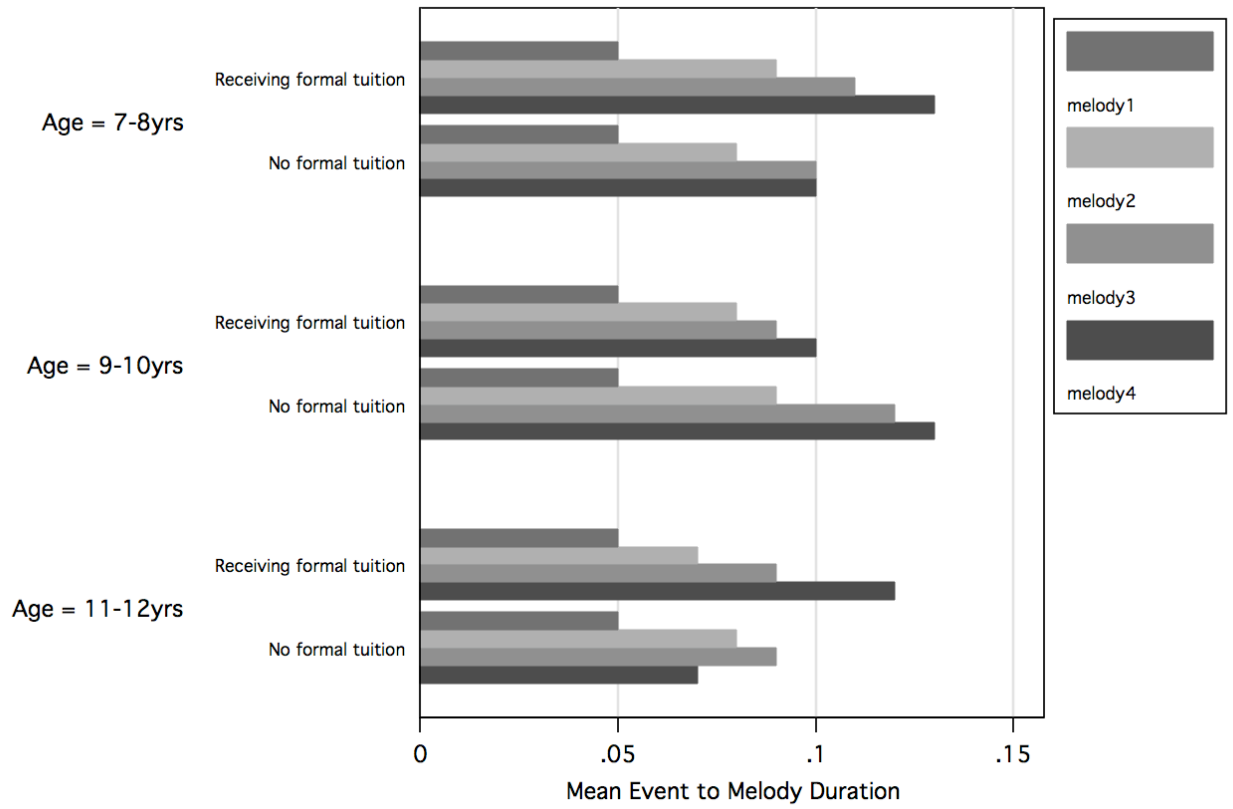


Figure 6. Mean scores on the Event to Melody Duration measure by age, instrumentalist status and melody number.

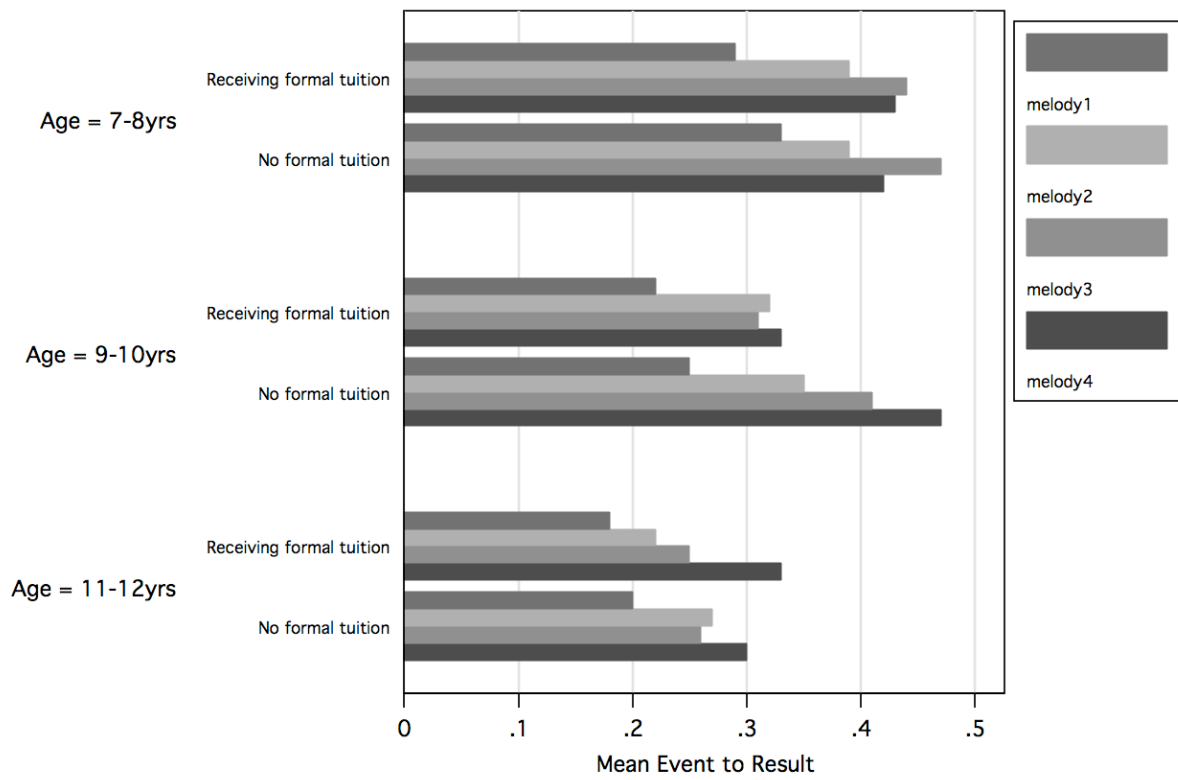


Figure 7. Mean scores on the Event to Result measure by age, instrumentalist status and melody number.

Figure 8. Behavioural events

Function description
Relative frequency of the [Add note] function
Relative frequency of the [Delete note] function
Hear note
Try note in melody
Play melody
Reject note
Delete melody

Figure 9. Mean frequencies for use of software functions while composing, by instrumentalist status and age group.

Software function	Age Group					
	7-8 yrs		9-10 yrs		11-12 yrs	
	Instrumentalist Status		Instrumentalist Status		Instrumentalist Status	
	No	Yes	No	Yes	No	Yes
	Mean	Mean	Mean	Mean	Mean	Mean
Add Note	.22	.22	.22	.23	.21	.21
Delete Note	.01	.01	.01	.02	.02	.02
Hear Note	.10	.10	.08	.06	.06	.05
Try Note	.02	.02	.03	.03	.03	.03
Play Melody	.07	.06	.07	.07	.07	.07
Reject Note	.01	.01	.01	.01	.01	.01
Delete Melody	.00	.00	.00	.00	.00	.00

Figure 10. Mean frequencies for use of software functions while composing, by melody number

Software function	Melody Number			
	1	2	3	4
	Mean	Mean	Mean	Mean
Add Note	.19	.24	.25	.26
Delete Note	.02	.01	.01	.01
Hear Note	.11	.06	.05	.04
Try Note	.03	.02	.02	.02
Play Melody	.07	.07	.06	.06
Reject Note	.01	.01	.01	.00
Delete Melody	.00	.00	.00	.00

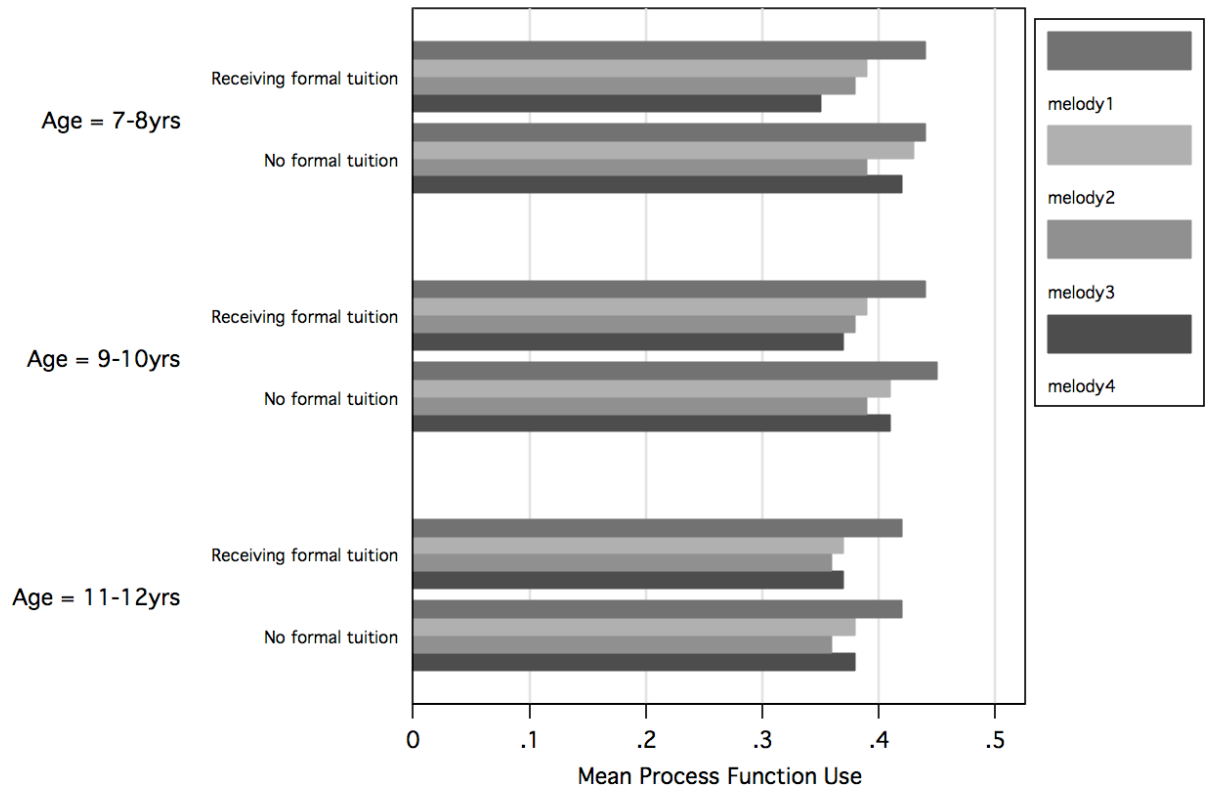


Figure 11. Mean scores on the Process Function measure by age, instrumentalist status and melody number.

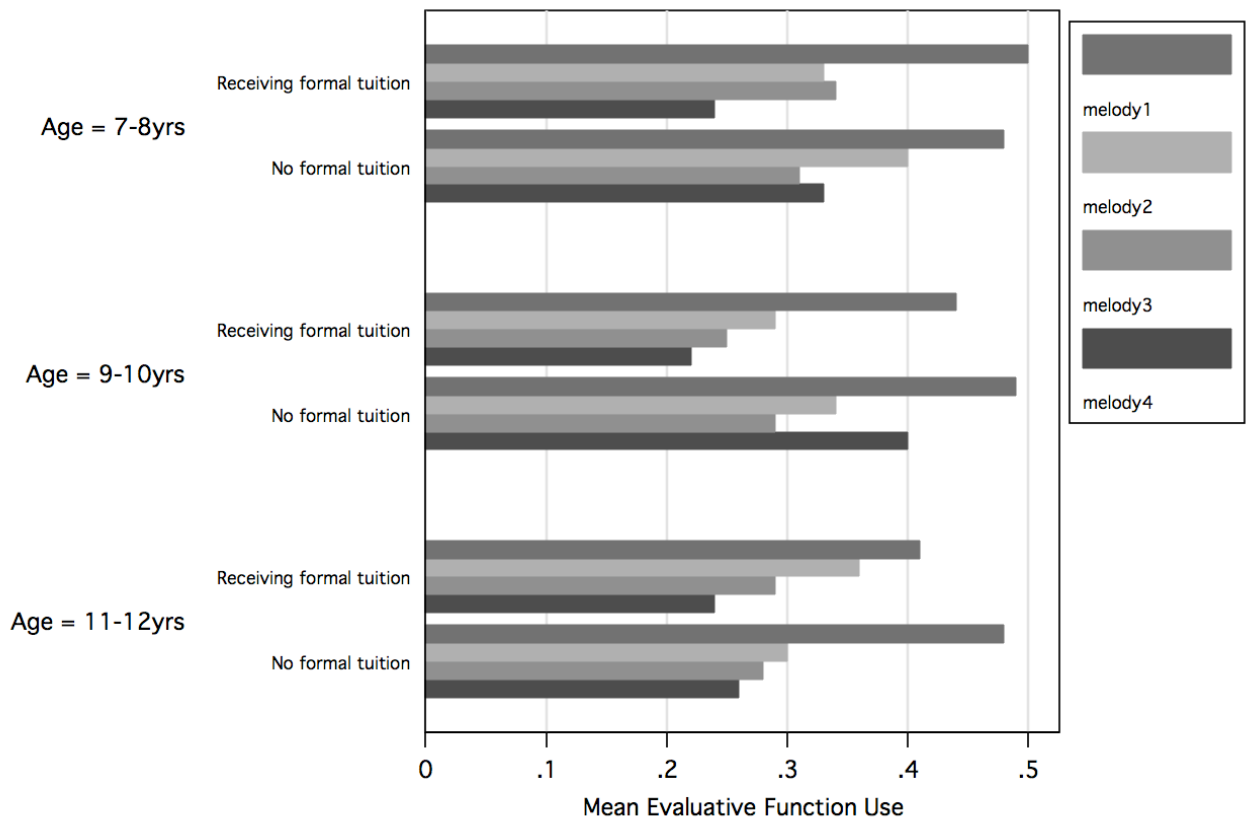


Figure 12. Mean scores on the Evaluative Function measure by age, instrumentalist status and melody number.