

Semantic reconstruction of continuous language from non-invasive brain recordings

In the format provided by the
authors and unedited

Semantic reconstruction of continuous language from non-invasive brain recordings

Jerry Tang, Amanda LeBel, Shailee Jain, Alexander G. Huth

Supplementary Results

Figure 1. Simulated decoding performance for non-overlapping and overlapping training datasets

Table 1. Decoder predictions for a perceived story

Table 2. Decoder predictions for imagined stories

Table 3. Decoder predictions for perceived movies

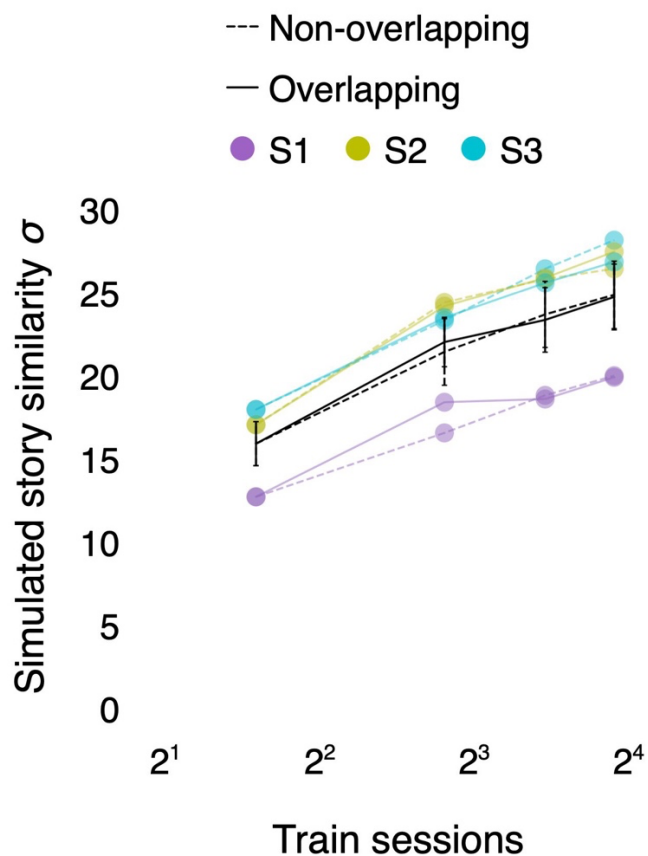
Table 4. Cross-subject decoder predictions for a perceived story

Table 5. Single-session decoder predictions for a perceived story

Table 6. Stimulus stories

Table 7. Behavioral comprehension questions and answers

Supplementary Results



Supplementary Fig 1. Simulated decoding performance for non-overlapping and overlapping training datasets. A simulation was used to compare how decoders would perform when trained on non-overlapping and overlapping samples of data. The actual encoding model and the actual noise model were used to simulate brain responses to 36 sessions of training stories. Non-overlapping samples of 3, 7, 11, and 15 sessions were obtained by taking sessions 1 through 3, 4 through 10, 11 through 21, and 22 through 36. Overlapping samples of 3, 7, 11, and 15 sessions were obtained by taking sessions 1 through 3, 1 through 7, 1 through 11, and 1 through 15. Decoders were trained on these simulated datasets. The relationship between decoding scores and the number of training sessions was very similar for the non-overlapping and overlapping datasets, which suggests that the observed diminishing returns of adding training data are not due to the fact that decoders were trained on overlapping samples of data. The dashed black line indicates the mean across subjects for non-overlapping training datasets, and the solid black line indicates the mean across subjects for overlapping training datasets. Error bars indicate the standard error of the mean ($n = 3$).

Time (s)	Actual stimulus	S1 prediction	S2 prediction	S3 prediction
0	i reached over and secretly undid my seatbelt and when his foot hit the brake at the red light i flung open the door and i ran			
10	i had no shoes on i was crying i had no wallet but i was ok because i had my cigarettes	she said she was a little stressed out because she wasn't doing anything wrong and had a lot of anxiety issues but i had been	i don't have any friends that have one and i really don't care if you do i have a girlfriend i don't mind at all	we got in my car and i was crying i didn't have my purse i don't have any money to pay for gas i
20	and i didn't want any part of freedom if i didn't have my cigarettes when you live with someone who has a temper a very bad temper a	watching the news and realized that her mom was the most important thing to me and i was not a fan of this guy she was a nice girl i loved	when we do this it is the only thing i do for a living my entire life i'm always going to do something i	wasn't a very good friend to anyone that i had known since my dad was an alcoholic he was abusive to everyone and it was very
30	very very bad temper you learn to play around that you learn this time i'll play possum and next time i'll	her very much but i couldn't let her go without making it clear i wanted a relationship she would say no to everything and be willing to	love and do i can say it now with absolute conviction that you are doing what i want you to do in life is to	hard on me as well as him to do anything that he said or did i would say a word to him
40	just be real nice or i'll say yes to everything or you make yourself scarce or you run and this was one of the times when you just run and as	deal with anything just as long as it didn't mean something she was afraid of i did it a lot of times but never like this and	go out and enjoy the good times and make sure you're happy with the results you get to see them as they are because you have to have them at	in anger or a threatening way in his case it was always just an excuse to leave and that was why i did it and i think that when
50	i was running i thought this was a great place to jump out because there were big lawns and there were cul de sacs and sometimes he would come after me and drive and yell stuff at me to get back in get back in	now i see how she can make it work with a single phone call to the hospital my first instinct is to run over and kick her out of the room and say no you can	that point the next day you are on the street in a neighborhood with no sidewalk so you can't run off the road to escape the cops who have already started chasing you i didn't say no but i	i finally did i ended up moving to an area with very few houses on the property so the neighbors wouldn't hear my car stop in the driveway and run out and tell me to leave and not
60	and i was like no i'm out of here this is great and i went and hid behind a cabana and he left and i had my cigarettes and uh i started to walk in this	do this i refuse to go back there so i sit down at the dining table and i ask him what is the point of having the	said you can go around the corner to a nearby park i don't have a bike so i did and there was this little guy at	come back i said ok and went home to pack a bag i told her about it and she was like wow you know how you get on with
70	beautiful neighborhood it was ten thirty at night and it was silent and lovely and there was no sound except	house built on the beach at night it was a beautiful day i was going to stay at the house of my grandparents that was	the very top of it all and the main character in the book is a guy who is	a boyfriend after a couple weeks i went home and it was a beautiful evening and the party was getting really packed we
80	for sprinklers ch ch ch ch {ig} ch ch ch {ig} and i was enjoying myself	near a beach it was a perfect day so i	really into his music and plays guitar and video games for hours at a time	had a table set for six and two and so on after
90	and enjoying the absence of anger and enjoying these few hours i knew i'd have of freedom and just to perfect it i thought i'll have a smoke and	was just being nice to my friends i didn't get much of a chance to do anything until later that evening at am and i decided to take my phone	i can never forget that day and that moment that i lost everything i was to ever hope to be again and to my great pain and regret i will not allow myself to	the initial shock of what happened to us and our situation and all the things we did that day that we didn't do before i could even think about saying to myself
100	then it occurred to me with horrifying speed i don't have a light just then as if in answer i see a figure up ahead	out i was worried that my battery had died or something as i got it i looked around and saw a red light coming	feel pity for them and they deserve better i know this will get buried but if it ever comes out of this mess that my girlfriend had	how stupid that is i got my phone out to make a call when i saw a woman in the park i
110	who is that it's not him ok they don't have a dog who is that what uh what are they doing out on this suburban street and the person comes closer and i could see it's a woman	from the house my mom called out i know who that is i said we got there a few minutes before him and his girlfriend came to a stop in	her eye on when i got home it was because my boyfriend and i were leaving a house with no windows she was just in a car with us when she came to a	said to myself who is she i was just a guy with no job i didn't know anyone who lived in this neighborhood i walked in and saw her with a man
120	and then i can see she has her hands in her face oh she's crying and then she sees me and she composes herself and she gets closer and i see she has no	front of us the girl had her arms out and her head in my direction she looked scared and the guy just kept staring at me she turned around and i saw	stop i noticed that her hair was missing she looked at my hand and then up at me she started crying she pulled away from me and i could see she was in	who was staring at her chest with his hands in the air she then noticed me and her face turned bright red she quickly looked away and i walked in to see her crying and

Time (s)	Actual stimulus	S1 prediction	S2 prediction	S3 prediction
130	shoes on she has no shoes on and she's crying and she's out on the street street i recognize her though i've never met her and just as she passes me she	her face she was in a black suit i just had a bad feeling that she knew me from somewhere but she didn't know me at all she looked	pain but it wasn't her blood it was a woman in a white dress who was very clearly not human and then she came up and asked if we	shaking she was a girl i knew from high school and still was very much like her and her dad i know you don't remember her but we talked and
140	says you got a cigarette and i say you got a light and she says damn i hope so and then sh first she digs into her cutoffs in the	at me and asked if i wanted a beer but i told her i couldn't so i got one out of my backpack and poured it down	had any money she said she had some for us and i told her no i had never heard of this girl i knew	i asked her if she had any money i said i didn't know so she took a purse off the top of
150	front nothing and then digs in the back and then she has this vest on that has fifty million little pockets on it and she's checking and checking and it's looking bad it's looking very bad	her shirt the top button was ripped and there was a piece of paper stuck in there with a bunch of random numbers and words i couldn't understand at all so i	that she had been telling people in school about me for about two years and the stories had spread to her friends and it was never mentioned to anyone else about the	her closet and pulled out a tiny pair of pants with holes in them she also kept a bunch of random things in there but nothing really helpful i eventually made it
160	she digs back in the front again deep deep and she pulls out a pack of matches that had been laundered at least once ukgh we open	got down to the first two boxes and pulled the top off one was filled with a pile of money that was still in there so	other times i would go out and meet people and feel comfortable and normal in a strange city or something like that so i	to the other side and found a large flat tire that i thought might have been broken the whole time and had
170	it up and there is one match inside ok oh my god this takes on it's like nasa now we got to like oh how are we gonna do it ok and we we hunker down	he took it back and said sorry about this i don't think anyone can help you now it's all done now so it would be better to be	got my car fixed and had a few beers to pass the time and i had to be there at pm so i just sat there with the car	to be fixed so i gave it back i just couldn't lose it it was worth a shot the best way to go is to take a deep breath and push
180	we crouch on the ground and where's the wind coming from we're stopping i take out my cigarettes let's get the cigarettes ready oh my brand she says not surprising and	able to see the light from the sky then it's my turn to help him pick up his shoes i suggest taking them off as he is	door open and the battery in my hand i could hear him say you can use it for gas my mom just said you know the power	off the ground and to get a solid hold of the tree i got it right and my dad yelled i need your help with this he said that
190	we both have our cigarettes at the ready she strikes once nothing she strikes again yes fire puff inhale mm sweet kiss of that cigarette	about to fall so he goes for it he drops them and they are immediately shot and blown to pieces as he walks	goes out at this point and it takes off with a loud pop and a puff of smoke from the pipe as i	was my best shot and he took the needle and filled it with blood and let it flow over my arm like a warm
200	and we sit there and we're loving the nicotine and we both need this right now i can tell the night's been tough immediately we start to reminisce	away and i sit down with my wife to be able to see what happened the whole time my husband was at the hospital for about two weeks	grab her and hold her down and i try to get her to eat some food because it is all i could find after about minutes of this	bath and then i sat down to have my body relax and enjoy the moment as my friend and i were on a journey through our first day of training he
210	about our thirty second relationship i didn't think that was gonna happen me neither oh man that was close oh i'm so lucky i saw you yeah then she	while his wife was in surgery when he called me i said you know what you did right and that was when i got	i say to myself how are we going to get home i don't see anyone i yell hey where is everybody and the guy starts	asked if he could watch my face during the whole thing i said sure i had been there for him and he had to come and see
220	surprises me by saying what was the fight about and i say wha what are they all about and she said i know what you mean she said was it a bad one and and i said	an email from the girl asking me if i had heard of this i said no i did not the reply was you don't know of course	to look around and says what happened to him i said what did you mean i don't know but he replied you did see him he looked	me because he was at work i asked him what happened i said you don't know who he is did he say yeah i mean no he
230	you know like medium she said oh and we start to trade stories about our lives we're both from up north we're both kind of newish to	not and we laughed and i got a call from a friend in the same town we lived in that had a small local	really pale and scared i walked over and we started talking about our experiences in the area he was born in i was from the north of the	didn't he was a bit vague i had a conversation with him last year at a club in town we were both from the us
240	the neighborhood this is in florida we both went to college not great colleges but man we graduated and i'm actually finding myself a little jealous of her because she has this really cool	college on the east coast and was an engineering school with a great program they were pretty good people but there was one who seemed really into it and started talking about his	country and the city we live in was a state university he grew up in he is a pretty smart guy but i guess the fact that he was an engineer for a company that	and had met in high school and college i was a year older and a good looking girl in my eyes but she had a lot of other interests she was into computers
250	job washing dogs she had horses back home and she really loves animals and she wants to be a vet and i'm like man you're halfway there	degree in art history he had a phd and he wanted to teach a new language i told him no way he should be	does electrical work and he has a job that makes money i used to be a computer science major i would have been fine	and programming and was a teacher in an engineering school but that wasn't enough to make a career in

Time (s)	Actual stimulus	S1 prediction	S2 prediction	S3 prediction
260	i'm a waitress at an ice cream parlor so um that's not i don't know where i want to be but i know it's not that and then it gets a little deeper {cg}	working in an engineering lab with a phd but i didn't say that i wasn't happy about it and i was in the middle of	as a teacher but the internet is not for me so i guess that was for a while and i started getting to know	physics or even a job at a university so i don't have much time for this but i wanted to say i would
270	and we share some other stuff about what our lives are like things that i can't ever tell people at home this girl i can tell her the really ugly stuff and she	a presentation with some people who were coming up for their first visit to a new place i had already told her i wanted to be friends but she seemed to	a few people but i have been very open with the person in question and have found that their response to everything is usually positive and that they	like to see a couple of things about how it works i will try to describe to you the way that i would think about the situation to explain how
280	still understands how it can still be pretty she understands like how nice he's gonna be when i get home and how sweet that'll be	not feel the same way about it the thing is when you find out you're not good enough for someone to love you and	don't judge anyone for being happy and healthy but they do always think of people who have bad experiences or are too afraid to stick it out	i feel in my mind it will make sense to me how it felt to know that the other person is hurting because of me so i
290	we are chain smoking off each other oh that's almost out come on and we we go through this entire pack until it's gone and then i say you know what uh this is a little funny but you're gonna	you just have to fight the urge to throw the ring back in the box and take your pick of the two and set them free but i can't i need	so i tried to give a few of them a shot and then put them on hold while i finished it i took a sip and said i need to call	let my friend have a go at it and she gets it right and starts to blow her load it goes down and we both laugh i say i need to take this
300	have to show me the way to get home because although i'm twenty three years old i don't have my driver's license yet and i just jumped out right when i needed to and she says well why don't you come back to my house and i'll give you	to ask you something about my childhood i had to get my license to drive so my mom could have me out of the house and she wanted me to go with her to visit my dad	a cab because i can't get to work in my condition i'm not sure if my body would allow me to walk back home so i decided to call a friend and ask him to drive	back but she is not ready she has not even started to learn to drive yet i had to push her out of the car i said we will take her home now and she
310	a ride i say ok great and we start walking and uh we get to this um lots of uh lights and uh the roads are getting	so we left and got back home and it was then that i noticed something was different about the way the light was	me there he said ok and we headed over the hill and through a small valley the woods became smaller and then	agreed and we took off again and this time we went in the direction of her house to go look for a car so as i
320	wider and wider and there's more cars and i see um lots of stores you know laundromats and dollar stores and emergenciers and	changing around me and i looked up and saw a tall building with a few towers and a white flag flying above it and then	a clearing and a road we saw a few houses with a gas station and some stores and the next town we	drove we started talking about what to do next i was driving through a neighborhood of small businesses and a grocery store and
330	then we cross over us one and uh she leads me to some place and i think no but yes carl's efficiency	we came across a town about miles from our house and i thought oh god it was my grandmother the	drove down and around the last corner and we saw it i said wow and it was a car of	saw a truck pass on the highway that was about to hit me i knew what i was doing i had driven through a
340	apartments this girl lives there and it's horrible and it's lit up so bright just to illuminate the horribleness of it it's the kind of place where you drive your car right up and the door's	old lady from the church that was so very special to us but it was very sad because it meant that she had a death certificate she was	a man i know he is a great guy who works very hard to keep the place clean but his house is in an area where people do not	town that was a pretty big city with a lot of small businesses that were basically homeless people living in a place that had the worst environment possible when you
350	right there and there's fifty million cigarette butts outside and there's like doors one through seven and you know behind every single door there's some horrible misery going on there's someone crying or drunk	on the front page of every newspaper and it was just the top of the times which meant that there were stories of her being beaten at her job and having a	leave their furniture on the floor and other stuff and the walls are covered in photos of kids my age in various situations or places of extreme physical and mental abuse and some of	walk through a door with a broken window or in the front of an apartment building you probably think they are all dead or dying or just really stupid people
360	or lonely or cruel and i think oh god she lives here how awful we go to the door door number four and she very very quietly	boyfriend who beat her up but he wasn't that bad to begin with so i went to the cops i had to walk out of there and	them are really horrible to my mom i don't know why i do this i was a good kid and i got out of my	you are wrong all of them are crazy i just hope i am right so i can make an informed decision to just drop
370	keys in as soon as the door opens i hear the blare of television come out and on the blue light of the television the smoke of a hundred cigarettes in that little crack of light	take my chances and i got into a car that was sitting there the passenger seat was full of beer bottles and the front windshield had glass in it and	room when my mom called i answered the door and the smell of a very strong pot was immediately in front of my nose and my mother had been	everything and just take off i had been sitting in the lobby of my dorm with my headphones on and the sound of a female voice in my

Time (s)	Actual stimulus	S1 prediction	S2 prediction	S3 prediction
380	and i hear the man and he says where were you and she says never mind i'm back and he says you alright and she says yeah i'm alright	my mother was screaming at my father and saying oh no you aren't leaving us he said well why not i looked	drinking all day i was like hey mom i'm home and she said what are you doing you wanna come out she asked i didn't think	ear was the same as before she says hey are you busy i'm sorry i don't know you and i said yeah well i'll be right
390	and then she turns to me and says you want a beer and he says who the fuck is that and she pulls me over and he sees me and he says oh hey i'm not a threat	at my dad who was smiling i told my mom to call him back and when he finally answered she said no thanks my dad	so she called her boyfriend and he told her no but i thought i saw him look over at me he said oh she must be mad	there ok you guys want me to bring some drinks i looked at my friend and he shrugged i told her no she didn't like beer so
400	just then he takes a drag of his cigarette a very hard hard drag you know the kind that makes the end of it really heat up hot hot hot and long and it's a little scary and	had some sort of breakdown and just threw up for days it was a very serious form of depression that was going around and i had to put	but then he turned his head and started to cough up more blood then the last breath that he took before dying the same way i had before	she got another one and started getting the same kind of buzz in and out of her mouth and it was hard to stop it and the
410	i follow the cigarette down because i'm afraid of that head falling off and i'm surprised when i see in the crook of his arm a little boy sleeping	my hands up to hide the fact that i hurt to have it pulled up the skin on the side of my face and over my eye	i fell i felt the pressure on my chest i saw it as if in slow motion my face was pressed against a tree trunk as a	pressure built and she was pushing my hand down into the water and then suddenly i realized that my fingers were on top of a rock and
420	a toddler and i think and just then the girl reaches underneath the bed and takes out a carton and she taps out the last s pack of cigarettes in there	my dad said what is that he walked up to my father grabbed the shotgun from his side and started loading it with	child i was so excited i ran to the front porch and grabbed a small plastic box of my favorite christmas cards and	i was leaning over and then the first of my friends showed up with a large metal box and some tools to remove the top of it and put
430	and on the way up she kisses the little boy and then she kisses the man and the man says again you alright and she says yeah i'm just gonna go out and smoke with her and so	rounds i immediately pulled my brother to me and hugged him i then asked my sister if she could stay with us we all left to go get our cars and	started running up the steps and over to my mom my dad is right behind me and he says so i want to buy a few things so we start going through	it on the ground next to my brother and i was still crying i said thank god you guys were there you were awesome i told him we would help him through this we
440	we go outside and sit amongst the cigarette butts and smoke and i say wow that's your little boy and she says yeah isn't he beautiful and i say yeah he is he is beautiful	drove to the beach at am on the way back he said i can't believe this i don't understand it i'm like oh man you must be	the various bags in the back seat i have one of my old shirts and i say hey man you guys look awesome and you know i	went over the events of the previous day and he said it was a dream i was like how was he real and how he was so
450	he's my light he keeps me going she says we finish our cigarettes she finishes her beer i don't have a beer cause i can't go home	really special if you're the best thing in my life and i can barely speak i will probably never have sex again for fear of	love you and he replies yeah and so does his wife they get married and the girl who has a history of drinking and being	beautiful and what he did with the girl was that he didn't have a girlfriend he couldn't have kids or had to get them on
460	with beer on my breath and she goes inside to get the keys she takes too long in there getting the keys and i	becoming addicted to the stuff and then it gets worse when she comes out of it i start to worry that something is	in a bad relationship so i went out to eat and got some food when i came back in	birth control or anything then the day came where they got really scared and freaked out because i didn't show
470	think something must be wrong and she comes out and she says look i'm really sorry but um like we don't have any gas in the car it's already on e and he needs to get to work in the morning and um	wrong but then she says to me hey do you think she can afford to pay rent on time to a school for her kids to go to and	he had already left he didn't even bother to check the time he said that the cops didn't like the state he was in and they couldn't find the address in	up they told me to leave and i said i'm sorry but i couldn't i had a family emergency at work i don't have time to drive
480	i you know i i'm gonna be walk to work as it is so what i did was though here look i drew out this map for you and you're really you're like a mile and a half from home and um if you walk three streets over you'll be back on that pretty street	she would just say oh sorry i did the math on this one i will send her a link to a different site in the same time period to see how far back	the system i told him to stay there i could give him directions but that it was a few blocks away and to drive down a side street which would take him around the	home so i said i would get a ride i asked for directions and drove the distance i could see that there were about miles of traffic to go down the hill to where i lived
490	and you just take that and you'll be fine and she also has wrapped up in toilet paper seven cigarettes for me a third of her pack i note and a new pack of	she gets so i do this too i put a bunch of photos in an envelope with a few other stuff i brought a box of	corner i then pulled out a piece of paper that was taped to the steering wheel the one with the red pen she gave me	i turned left and pulled over i took out a pack of gum and a paper plate with a handful of fries i put a half a

Time (s)	Actual stimulus	S1 prediction	S2 prediction	S3 prediction
500	matches and she tells me good bye and that was great to meet you and how lucky and that was fun and you know let's be friends	them and he thanked me again then we started to talk about our life and the family he was from and i	and i was thinking that was really cool and she asked me for my number i said i would call her and	dozen quarters in and he said hey man i am so glad to meet you and we will see you soon okay i
510	and i say yeah ok and i walk away but i kind of know we're not gonna be friends i might not ever see her again and i kind of	said yes and then i got angry when i thought about it because i wasn't sure what was happening i didn't really care at all	i was like yeah i'm sorry and hung up i couldn't really be friends with her but i didn't know her very well and i never thought that	replied and she said ok bye i was kind of nervous to go in there but i knew what was happening and it was something that was very common in a
520	know i don't think she's ever going to be a vet and i cross and i walk away and maybe this would've seemed like a visit from my possible future and scary but it	until i saw it was the girl from my dreams that was driving down the road and i started to notice that the car was a bit older than my own i couldn't	she was very interesting to be around either i was in the process of going back home when i heard this story that made me a little sad because i	school and that i was just starting out in the field of physics but i felt that my experience with the subject had changed from my own personal perspective to
530	kind of does the opposite on the walk home i'm like man that was really grim over there and i'm going home now to my nice boyfriend	make it out clearly so i yelled hey you have to stop i just saw a man that i knew in the past who was very physically	felt that i could be honest with them i said to them you guys have been my friends and i am a man in love with	the reality i was in i could see what was going on but the real world was still around me it was the dream of being the father of
540	and he is gonna be so extra happy to see me and we have a one bedroom apartment and we have two trees and there's a yard and we have this jar in	abused by his wife she had him committed and was now living in his bedroom where he had a couch and tv the apartment was about feet long and had	my girlfriend she is a beautiful woman but we were living in a tiny apartment with only one bathroom and a single bedroom there were two rooms	a beautiful and intelligent young girl i was in a huge house with my own bedroom with two beds and a small bathroom that had a toilet and shower my
550	the kitchen where there's like loose money that we can use for anything like we would never ever run out of gas and um i don't have a baby you know so i can leave whenever i want	two bathrooms and a huge closet to store the clothes i didn't have any money or food because i wasn't hungry i was lucky my parents didn't lock me up so	for rent that we could afford on a monthly basis and our food was cheap we did have the option to live together but my dad never wanted it to happen so we always	parents bought me a big box of stuff that they could sell for pennies in my name because i didn't have a job they never cared and didn't really want me around anyway
560	i smoked all seven cigarettes on the way home and people who have never smoked cigarettes just think ick disgusting and poison	i just started drinking all the time the day before thanksgiving and my mom told me that the reason she doesn't like alcohol is because it's addictive i don't	went for a drive each night and talked about it over dinner i didn't realize that the fact that she had said it was so easy to	they paid my bills for months and years after the first time i told my wife she was an alcoholic she said that it would kill her
570	but unless you've had them and held them dear you don't know how great they can be and what friends and comfort and kinship they can bring	drink it much because i have been told not to but it can do something for you it's a wonderful drug that gives you an edge to deal with your anxiety	forget how she felt when we were together was amazing i still think of it as an incredible moment though as the time to share it comes and	if she got addicted to that stuff it made her want to do drugs that were very popular with people she knew and talked to for years after
580	it took me a long time to quit that boyfriend and then to quit smoking and uh	and emotions and then makes it so you can continue on with life after you graduate or die a couple years after your retirement in fact in most	i get to say the words and the scene changes to this video and then the other camera follows as a young guy stands there	she finally gave up on dating and married him the relationship ended with her and i with the kids at this
590	sometimes i still miss the smoking	cases it's a pretty common	on the street and watches	point it was very much

Supplementary Table 1. Decoder predictions for a perceived story. Language decoders were trained for each subject and then evaluated on single-trial BOLD fMRI responses recorded while the subject listened to the test story “Where There’s Smoke” by Jenifer Hixson from *The Moth Radio Hour*. The actual stimulus words are shown alongside the decoder predictions for each subject. Highlighted segments were significantly more similar to the actual stimulus words than expected by chance under the BERTScore metric ($q(\text{FDR}) < 0.05$, one-sided nonparametric test).

Time (s)	Imagined stimulus (Alpha)	S1 prediction	S2 prediction	S3 prediction
0	every morning i woke up with two giant animals nuzzling me panting in my face demanding to be walked i would walk them	he was not happy about the idea of me being on his couch and having sex with him and then when he had the chance to leave me	it would be easier to just throw her over my shoulder and leave as she is already dressed and ready for bed when she calls my phone at	we need to know who it is and if they are coming to pick up my girl i will go and call her right away because i want to see her for
10	and upon my return i'd check the phone hoping i had somehow missed my wife's call saying that she had changed her mind and was moving back she never did	in the next day i said something to him that he couldn't remember but that i would think about it later he didn't really get it so i	am to say that the police are there to talk to me about what happened she was right but not the end result i just had to move on	some reason i thought maybe she would come to me and say she misses me but no she was dead when i found her this is the truth i was in
20	i tried to carry on i bought groceries said hello to the neighbors i can see now that i was in	got a new friend from my high school we went out for lunch and it was great until i realized how awkward that was i	i started going to school and the people around me would say i was depressed and not happy it was like the world was ending i had	the hospital and my parents were at my house we had a party with my family and the doctors and nurses and everything but
30	shock pretending everything would be ok the house deteriorated the laundry hamper overflowed	just ended up walking into the gym and throwing up my stomach and face all over the place and a couple other guys from my old	been living on a diet and on the side of a toilet and a bottle of water and the bottom of my	we got through it just fine because of that we don't have insurance i had an accident on my bike with a tire iron and a
40	bags of trash clustered in the kitchen my bed was a sleeping bag dog hair accumulated in giant clumps in the corner of rooms and in	team had to clean me up with a piece of broken furniture and some other things from the room where my mom lived the second day	shoe on the ground my socks are covered in the sand and mud of the driveway the only time i have to	broken back in the process my father died and i had to leave to help him his funeral was a lot like what you hear on television people
50	filthy patches on the rug i was commuting an hour each way for work and unmoored from my previous life couldn't manage my responsibilities	was a complete and total failure i got my period and went home in a rage i was furious but not about me being an idiot and feeling	drive from one point to another is to the last stop i make in town and to my surprise i don't have a ticket for that one	are all over it all of them but not everyone is interested in you it gets a little confusing to be a single person

Time (s)	Imagined stimulus (Bravo)	S1 prediction	S2 prediction	S3 prediction
0	when my son jeff was little he was a pain in the neck about eating on one drive to huntsville alabama he	they got to the point where they were in no condition to travel and were having trouble sleeping my mom said it was because she had	it is my favorite place to spend an evening because of the music it was playing during the concert that made me want to scream in the night at how stupid that	it is a very serious matter i am very concerned with how much time you will spend in jail and i do mean a month and a half ago i would say that
10	sobbed for seventy minutes i know because i timed it about how we were starving him to death we stopped at a diner and ordered him a meal and he	to work so she stayed in the room with me she would just sit there quietly and then say oh my god my husband is sleeping i	song was i thought about telling her but i decided to wait i went home and got some more weed i didn't think she was going to drink i just	if you get into the car and drive to a restaurant in the middle of nowhere and order a beer that is where the food is we decide to take turns with
20	proceeded to eat about four bites before claiming he was full you might think i would lose my temper but this had happened before so i was prepared	think she was waiting to see if i would do it it was very simple and i have been to bed with my wife before so i just turned it	felt bad and hoped she wouldn't take it i told her it was okay she took the bottle from me and started drinking it as i held it up	the bill and it comes off as a dollar i then give it to him as i don't want it anymore but it seems like the customer should
30	with a well planned response i reached over and started eating his food bite by bite i finished everything on his plate figuring	around and did not tell her anything she thought was funny and i think it was true and she is still the person who said the first time we	i had to give her some more because she had already had it but i knew this was going to be hard for her to handle i did this	get a taste of this kind of treatment so i could be on my way i didn't do it all at once or even by
40	that would teach him to mind his dinner unfortunately the plan had a different effect everywhere we went after that jeff expected me	dated that she wanted to be friends because of all the problems that would arise if i didn't come back i could have ended it and had	to her for over years i know that if she ever had a boyfriend or girlfriend it would be different because i never thought it was possible she had to	accident but the timing was right and it was my choice not to have my father in jail for not getting a job that i could have
50	to finish his meals it got so i would only order him meals i liked knowing how it would go	the money in a savings account but then the bank called her to discuss the financial details and they had	be very close to a male of my own race so i wasn't as much of a threat to their	used my entire adult life as i had it before my parents had a panic attack when they had to get to work but i still did

Time (s)	Imagined stimulus (Charlie)	S1 prediction	S2 prediction	S3 prediction
0	for my third date with tracy i'm taking her to the sum hey rice shoppe in manhattan you're going to love this place i tell her when i was a kid i used to order pork chow	it was the night before the funeral that i decided to tell my dad he would never understand but i was young and in love with the boy i told him about	i was at a bar and this woman i know who is my friend and who i like a lot tells me to drink this and she	i had a dream about my best friend in college and he told me about a story he had read recently and i was there for him as he was
10	mai fun and smear it on the plate with ketchup tracy beams at me from the passenger seat she clearly likes that i'm already sharing family stuff	the accident i went into labor in my sleep and was bleeding all over the bed my son is an amazing kid and his mother is very understanding	puts some in my cup and i feel my face turn red she was laughing and it was a great time so i say excuse me and	sick so i offered him a cup of tea i could smell the sugar and it made me smile because i was already getting better at
20	i wait for the pedestrians to clear before turning off canal onto mott at bayard i take a left there's the restaurant i say you want to get out and i'll go	of what is happening so my mom gets him in to the classroom and then takes the seat next to me and says we should be making this	leave her i get into the car and drive off the main road into a town on the way home and pull in my dad says ok go ahead and	this i didn't think it was fair to take my job too seriously but the boss said i could
30	park nah says tracy i'll help you find a spot ok	presentation and i said why don't we wait for him and we do i can't believe he made it we start to run i don't even remember	stop my mom asks me to just take a shower i reply oh no that's fine she said i should get some rest i say sure and i head down	go and he was right so i went i spent about minutes looking for the place and came up empty and then i realized that the door was not locked
40	i drive to the end of bayard but there are no spots at bowery i swing a right then at pell another right	going down the stairs the first two floors are my bedroom and the last is a bathroom we can all see each other but it	stairs and down the hall and turn left and right and then down a couple of floors and finally around another corner and there it	i started to walk away and the guy said hey you want some of my beer i don't need it he says it again i can't
50	there's what looks like a spot but when we get closer i notice a two pronged fire hydrant protruding from a brick wall nothing on pell i	is quite close the toilet seat covers the entire sink and is a solid wood floor so you would never find out about it the walls	is again i was almost sure it was the same one it had a very similar looking body type but i could have been wrong because	really hear you i'm not drunk i get it this time i actually do see it all in slow motion and i can feel the

Time (s)	Imagined stimulus (Delta)	S1 prediction	S2 prediction	S3 prediction
0	that spring was promising to be the greatest time of my life i was happily in love for the first time i	they are the same in the real world i was going to tell her about this when i saw the pictures of my wife she looked absolutely stunning and	they will never be the same after i lost my dad he was my first friend and i knew nothing about him except for how	we were on vacation for a month and were very much in love with the idea of a little girl and a baby she was absolutely beautiful and
10	saw marko at school and was attracted to his eyes and playful smile one afternoon while walking home from a piano lesson	was sitting with my ex boyfriend in a restaurant with him we all were watching a movie and he was holding my hand while he said this really bothered me because	to say it he had this huge tattoo on his arm and a really cute girl who was with him when we walked in and saw his	very independent and when they were gone she would sit up and look around the house and just get upset when i left to go
20	i saw him coming down the hill on his skateboard he stopped just short of running into me i don't remember us saying	i didn't know him so well i remember him saying this to me he was always trying to help people but never getting anywhere i would have given	friend on the ground with a knife he immediately jumped in the car and pulled him away we all sat in silence and i said something to him i think i'm just	to school i ran into a man on his way to work that he was heading towards his car in the middle of the morning and told him what happened and how i had
30	much we just stood there and smiled but that's all it took to seal the deal and we became inseparable	up years ago and then there was the kid in the parking lot and the car he had pulled over and was driving like an idiot and had	stressed out from this day forward and that we could discuss it at my parents place or somewhere else for example we had a group of friends who would take	been the victim and what i did not know was that he had taken me to a friend of mine and i was brought to him and the other guys by
40	one day a group of us decided to climb an abandoned building and jump off its flat roof i was standing on the edge	been running his hands through his hair and making noises i said hey buddy just wait for it to happen i think that if you push the buttons then they will pop	a ride down to the river and then drive back up the hill and sit on the rock facing the water while it comes up my friend starts crying he	my boyfriend and his girlfriend he was there with me for most of it i had to wear a shirt in a lot of ways that he hated to see
50	twelve feet above the dirt my heart racing when marko scooted next to me you are the bravest girl i know he whispered with those words my fear	and then it will stop but it doesn't really happen they only go about as fast as you can so they	runs up to me and hugs me tight and whispers you saved me i just had a thought that was like the one where the person on the other side	so he could look at me like i was ugly he even offered me his hand which i took i felt so small in that moment i just didn't

Time (s)	Imagined stimulus (Echo)	S1 prediction	S2 prediction	S3 prediction
0	to reach chimi you take a dirt road then walk through wheat fields across a stream and past timber houses until you climb a small rise and	they are all on the same side in a very real sense you are on a plane with your friend who has a bad experience with cancer	it to be able to walk back home in a straight line or in the direction of a house on a hill without breaking into a run the	he was on the road for about hours and his phone battery was dead we decided to go to my parents house and he went to mine since the
10	find an unprepossessing building surrounded by the usual troika of himalayan temple attendants dogs scratching at fleas chickens scratching at dirt and monks	and the pilot is on your back with his head in your lap i didn't know it was a problem i thought i could get a bit	police report shows a large red and yellow crime scene tape with the name of a local law firm of cops with a black and white id on	one i had at home was just for the kids he was so nice and so gentle but when he left his house that was all there was i could
20	scratching at well it's not clear their robes cover quite a lot it was a pleasant place but nothing out of the ordinary i gave a prayer	more comfortable in the car and take the edge off i had my eyes closed and was thinking about the next step of this journey the driver turned onto the	their shirt i didn't like it when they were there either so i said well it's too bad because i'm just going to throw a fit i just	do my part he had a small car that i knew he liked so we drove to the restaurant and he opened up the door and took a
30	wheel a lazy spin and even yawned as i walked into the central chamber in front of us loomed a smoky altar of goddesses at their feet lay offerings of	street i was on i looked at the back and saw the other cars and a truck of some sort i got a bad feeling the	threw my hands up and walked out i was only at that point and my mom was coming out the door of the room in the corner i just knew it was going to be	deep breath i sat there awkwardly in the passenger seat for the next few minutes with the engine running but after a couple hours i had to
40	currency garlands of flowers candles fruit the room hummed with flies and noise and tourists but it was also full of an	cops were looking for the kid and my brother in law they were a lot quicker and more likely to believe me the cop was very friendly to	bad and i had to do it so i slowly lifted the cover and saw my favorite piece of cake and chocolate chip ice cream	stop because of the smoke i started coughing and the smell of my own body filled the house it was like an animal attack i was
50	incredibly concentrated hopefulness something so spirited and real to me that i was brought uncharacteristically to my knees	me and i think he was more than willing to do so after i got on my feet and we both knew what the future held	i had just eaten i could see a giant cloud of smoke and heard people shouting and some kind of noise but i just kept walking towards	completely overcome and it wasn't a very healthy and natural thing i couldn't get over the experience of seeing the girl in a hospital bed for

Supplementary Table 2. Decoder predictions for imagined stories. Language decoders were trained for each subject (using data collected during story perception) and then evaluated on single-trial BOLD fMRI responses recorded while the subject imagined telling 1-minute segments from five different test stories from *Modern Love*. The subjects imagined telling each story segment twice. The story segments that the subjects were instructed to imagine are shown alongside the decoder predictions for each subject. Highlighted segments were significantly more similar to the reference words than expected by chance under the BERTScore metric ($q(\text{FDR}) < 0.05$, one-sided nonparametric test). Decoder predictions were also significantly similar to transcripts recorded from each subject ($q(\text{FDR}) < 0.05$; not shown). Results are shown for the second repeats of each segment; results for the first repeats were similar.

Time (s)	Description ("La Luna")	S1 prediction	S2 prediction	S3 prediction
0	now over calm waters stars twinkle in the night sky a rowboat glides into view bearing the name la luna as a burly man with			
10	a thick brown mustache works the oars a little boy peeks over the side of the small wooden craft an old man with a long white beard sits near the stern a hanging	it was a beautiful summer day and a pretty girl was standing there and we had to wait at the bottom of a hill for	he is the man of the house and a gentleman in the family the same as your grandmother if i were to meet you on the street and	it was a small thing but i did feel for the man the story of how he died and how the doctors found the
20	lantern behind him a bird's eye view shows the boat moving steadily across the ocean's dark surface with no land in sight the burly man sets his oars inside	a taxi which wasn't easy considering the nature of the job so i have no idea what they do with the money and it is difficult to imagine the	see you walk away in my mind it would be the exact opposite i was at a bar with two guys and one girl when the first	cause of death the same way as if you had actually committed a crime with that amount of blood i went into a room and put a
30	the boat and the old man drops an anchor the old man hands the boy a gift he unwraps it to find a brown newsboy hat	company that works with it so many people just walking around the store doing nothing the owner just gives me a smile and says come in and	of them grabbed a glass and filled it with the cheapest beer and asked me to step in he said to me and his two sons if you	blanket over it and left my buddy in there with her and my friend she started crying and he took her in he told me about his little sister who
40	just like his dad and grandpa's he tries it on the old man turns the boy his way and lifts the hat's brim his father lowers the brim to be like his the	i just like to hang out with these two i was one of them for about a month we both had a history together we would have sex but	can put on a pair of socks i did they were a size too small he gave me a hug and then turned to his younger brother he	was now his wife he had a young daughter and she was very pretty but he kept it down and not made fun of me i still
50	grandpa tips it up again but the father pushes it back down and sets the boy on the seat next to his grandpa the grandpa turns off the lantern and folds his arms as the old	she never let me go and i just kept saying no she said no i did this i mean it was like the worst thing to have	told them to leave but the youngest one just kept saying no they had no money he was on a bus to get to the next	had the best friends at school but my parents didn't like it anymore so we just went on with our lives my mom and dad
60	man and his burly son both sit with their arms crossed the boy takes notice and folds his arms as well the burly man wipes his nose	happen to me my brother got drunk and killed himself my parents were in tears my sister and i cried and my dad stayed quiet as	stop and that he had been caught doing something i had done in my life i just smiled and said hi to him as i passed and	didn't really agree with each other and it wasn't a happy situation at all my brother was very angry he started screaming at me
70	the boy does the same he watches his grandpa twist his finger in his ear he mimics him	if to comfort me he tried to hold back but my brother had his hand on my shoulder he squeezed hard i cried harder then i just went	i got a hug in return i remember my mother crying a little and her hand rubbing my back and the next moment she was	i yelled at him and i hit him with my hand the other one went through my face i heard a crack and my vision started to
80	as a huge bright moon rises over the watery horizon the wide eyed boy's jaw drops the rippling waters around the rowboat	to sleep i was in a dark room in an abandoned factory where i knew nothing but the shadows it was a few hours later and	in a coma the hospital was a few miles from where i lived in the state that was so horrible it was almost	fade as the first light of dawn showed me a blurry view of a city that was far too bright for the sun i realized that i had
90	reflect the massive orb's glow the father hands the boy an anchor then opens a compartment the boy goes to drop the anchor his grandpa gestures for him to wait the	the building was dark and cold i got my laptop out and set it up to show her that i was typing it and when she asked how	a ghost town after the fire we were out of gas and i got my friend to help me load my truck he said to do it right away so he	traveled for hours to the airport and i was very hungry i went inside to grab something and the manager said i need to take the phone back to my seat he explained that we had
100	burly man lifts a long ladder from the compartment the boy watches the seemingly endless rungs pass by his father turns to him he gestures to head up	it was i explained how she could see the page from a computer that was not there before i left her office and said good luck to	took off the second time i had to lift it i got it about feet up and he grabbed it and pulled me up after him so	to stop in front of the theater so the car would park right next to it we then sat down and talked about this girl we
110	his grandpa also gestures for the boy to go on the boy slings the anchor over his shoulder ties its rope around his chest then heads up the ladder about	her she asked me to wait outside i took my hat off and held it under my arm so as not to fall and fell i felt	he could get me out of the water he held my hand while i walked around and then he helped me to my car which i had driven	both liked but she wasn't interested i decided to make up some excuse and go get her in a hotel room so that we could talk about
120	eight feet up he stops and looks back at the men the boy continues on the length of the anchor's rope	like the most beautiful girl on earth and my best friend was right behind me i could tell he was excited about the challenge	to the airport without him my best friend and i were riding shotgun i asked her how she was doing i didn't really care about her health as i was	what happened last night or how it was a mistake to say what we did and how we felt i have always been the person in my

Time (s)	Description ("La Luna")	S1 prediction	S2 prediction	S3 prediction
130	trailing behind him almost at the top he glances over his shoulder the giant moon hovers above still far out of reach as the boy clings to the top of the ladder	of seeing a new film he had no idea how the movie would be based on the people who actually did it i was going to watch it but	driving through the neighborhood and saw a man standing on a fence that was probably a little higher than a person should be i started to walk past	family that i feel close to when we were young and i never thought it would end up with us in a relationship and then he got cancer
140	his legs float up behind him he lets go to grab his hat then paws at the air as the moon's gravitational pull sends him crashing into its star covered surface	then i got sick and went to the hospital because my blood pressure was off my hand was hanging down my side of the bed and it	it and just before it went under my feet a strange sensation like i was going into the bottom of the ocean but in a	and it was like a knife in his chest and he went into the hospital and the next thing i remember was seeing the sky was blue and
150	as the boy sits upside down our view rotates around him so that he's right side up he finds himself surrounded by chunky five pointed stars which blanket	was raining outside the window i couldn't see the sun and the trees in the distance were brown and green it was so strange to	more solid form than the other times i went through this and the fact that i have had these thoughts in the past are very important i don't have	white and everything was quiet it felt like i had been there forever i could barely hear myself think the music was loud i thought it would
160	the moon's surface he looks around at several craters each filled with the glowing stars he looks down at the distant rowboat	be outside the forest at night in a place that had so much electricity and the rain in the morning i found out that	any proof that these people are guilty or even a reasonable doubt as to whether these are real or not but they were in my hometown and the state	be the most depressing song ever to play a single note for any reason that could possibly affect your day so i got to it
170	his father ties the end of the rope to the boat the boy takes the anchor and hooks it to the nearest crater with the rowboat	we had to leave and my dad went back to work my mother told me to take a look at it and it was in the attic	was looking for them so i said yes and they asked for the money back so we agreed that they could use it for something else so they got in	i asked for my phone and he said i need it he went to his car and started digging around the back of it and eventually he found a knife and cut his
180	anchored to the moon the burly man starts up the ladder the boy sees a shooting star which crash lands on the moon's surface	we moved it over to our house to keep it from falling onto our property and my parents got to it while my mom was in the car i	and we put them on the boat the pilot and i get on and they are gone i hear a crash and see a	way into the trunk and we all jumped in after him and the car got stuck he was not moving fast at all we were driving through the desert at
190	he hurries over to the new star as he taps it a brilliant flash ripples across its glowing outer shell he reaches to pick it	saw a red light at a gas station about miles away i could have just been imagining it it was so quick and so cold it felt like a	cloud of dust that seems to have formed on the ground and a bit of dirt in the air when you say	am when the first sign of a civilization we had seen was the sun rising or sunset at some point
200	up he leaves the fallen star and joins the men who trudge across the moon his father opens a shed and wheels out a bucket of various tools	hundred years later i found the remains of the girl and we were back on the street where we met up again at the grocery store to get some	it it is the sound of something that you are not hearing the noise of someone else coming to your aid this is what we do we	but i couldn't believe i had to go see this i went into my parents room and they had a bunch of stuff they were packing up and put
210	as the grandpa uses a besom broom to sweep up the stars the father grabs a push broom the boy reaches for a tool the boy	of the stuff to eat and she would bring a bottle of wine to drink with us and make a point of being polite about it we all	get people into hospitals and we have them take their drugs for a month they will not give them up i have a friend that does this and he says no but i	in a garbage bag with a few other items for storage in the trunk i didn't want to take anything i was like so why not put a
220	hops down from the bucket and his father gives him a demonstration he twirls his push broom and offers it to the boy the grandpa	did it but i had to put my hand over hers and squeeze gently so i could say a little bit of this in her ear my fingers are just	can't wait to get it in my hands he said well just hold it down while i do it then he told me to grab his belt loops	book on my desk and not use my computer if you need to write or make notes don't forget that you are supposed to do
230	gives a demonstration of his own then offers his besom broom as his elders squabble the boy notices the besom broom's	as long as hers and i don't mind that i'm the bigger man she goes with it i say thanks i love your girl but i think you should	and then pull on him with one hand then my other he was pretty confused i tried to help but he kept backing away then he	both in one class but you must do the other and that is your choice not hers she doesn't understand and neither should you she just has a different perspective
240	similarity to his grandpa's beard and how the push broom looks like his father's mustache the boy's eyes widen the star littered ground rumbles	leave her be my friend but not too much if you're dating her just because of what happened then i have a question for you when she	said oh and you just gave me a chance to see your tattoo the only thing i saw was your face but then the lights	than you because she sees your flaws as her own i mean look at her face now i was at that party when we got the
250	as a giant star comes crashing down from the night sky the trio dives in a star filled crater the boy peeks out first followed by his father and grandpa	was with me we had sex at a local gas station the day after we left her place it was late and the night before	came on and the room went dark and i woke up and everything was so weird i could have been dead and my mind	call that someone had died in the night the cops and i were out the front door to find an older couple walking the streets at

Time (s)	Description ("La Luna")	S1 prediction	S2 prediction	S3 prediction
260	the giant star stands before them one of its points stuck in the ground now the boy watches his grandpa try to pry the	was still pretty cold so the drive back to the hotel was quite a shock the night before was not exactly the best time to	was still processing the events and the feelings of having been a victim of such a terrible disease the fact that i had a medical issue made it almost impossible	about pm we had been watching the show and heard the same thing i thought what the hell why would i hear it when they were acting
270	star out of the ground with his broomstick as his father tries to push it over the boy walks up to the giant star	be having an actual conversation with someone about how they had a problem they were all too shocked to respond i was not really worried	to sleep at night for days and i have to fight with my mom for food and shelter she tells me to stay out of trouble i decide to go into	out how many times did they try to take my laptop and my car and beat me up i just thought the best way to make me believe in god was to talk
280	he knocks on its surface and a brilliant wave rises from the point of contact the boy hurries off and grabs his own tool from the bucket	but it was very close to my face and i could see a line of blood running down it i couldn't believe that this was happening so	the bathroom and i just start banging the wall so hard i hear it crack a few times it is a pretty big sound i think about	to a religious person about it and pray it out of them as soon as you hear the prayer and go to sleep and think about what the
290	returning to the star he stops and turns his hat backwards	i started walking over to the pool area i looked around for something to grab and nothing i went back and asked what he was doing then he	the noise in the background i get up to check it out i do this every night at my place so i can take my time with it i find	hell happened last night i went to my bedroom to grab my jacket and get ready for work when i turned to walk back to the kitchen
300	the men notice the boy climbing to the top of the giant star the boy reaches the uppermost point and feels the star's smooth surface he inches up a little more and takes	came up behind me and i was facing the window in a blind spot he grabbed my head and squeezed my neck i think i broke it in half	my wife on her back and i lean over her body i want to look into her eyes as i feel the pressure of the knife as she cuts	i saw the door to my parents bedroom was slightly open i had a strong sense of smell so i pushed my nose into the air
310	out his hammer and taps the tip from the top to bottom the giant star bursts into hundreds of smaller stars and the mens' eyes grow wide in	and he took my left ear and cut off the blood flow i was terrified of that for the longest time so i sat there	my balls off i take off the pants and her eyes go wide at the sight of them she is still in a	and it immediately turned a bright orange and i had to look away the color was red the guy was crying and it was all
320	slow motion the stars gently fall the smiling boy among them the burly man takes off his cap the stars collapse in a pile the	bleeding in the snow and praying and hoping to god that someone would hear my prayers for a long time and be saved it was a	very shocked state and is about to collapse with tears of fear she hears a voice and stops crying as the man says is	over the floor we were in shock the whole time and i could barely move my mom was in tears she was like wow he looks really scared
330	boy emerges from the heap later the boy uses a metal rake to clean up the stars as the men use their brooms the trio	big mistake i should have just said god bless you i thought but the other guy had to take his shot and he hit his head	it you i know you it is i said yes but my family didn't get married yet so my dad was taking care of me so	she said oh no he was so sad but she got a big hug and she was a huge fan of his and his band he
340	pushes the stars from right to left revealing more and more of the moon's bare surface back on the rowboat the burly man yanks down the anchor it drops in the water	and his friends were all like wow what happened here and so the story of how i killed myself is something i want to share i had to drive my father back	he had the money and i was paying him back in a sense it was just the way things worked we both got to our seats	also has a ton of other stuff on him but this is just another big thing to add to this guy i was walking out of the parking
350	and he reels it in as the grandpa pats the boy on the back the father pats him on the head the men trade a quarrelsome look then relax	to his apartment and put him in bed i have since changed my mind and am going to have my son sleep with his aunt and uncle to	and he pulled me to the side and whispered i really like your hair this is so good you should try it out for a while i'm	lot to go home with my friend and he was a cop and was like man i love you dude and we all just stayed there and then
360	we glimpse the trio's rowboat from a distance in the starry sky above them we find a crescent moon			

Time (s)	Description ("Presto")	S1 prediction	S2 prediction	S3 prediction
0	a tuxedoed magician beneath it a carrot lies on a dressing table from a nearby cage a white			
10	rabbit reaches for it he looks at his stomach he reaches again for the carrot which lies just beyond his grasp the rabbit furiously jumps up and	he had to put his hand over my mouth i didn't scream or struggle so he dragged me away and we	he was on the internet i could only see his face in profile but his eyes were a light blue and they were	we were sitting there with my hand on her leg and the car was rocking back and forth i could barely get in
20	down the magician enters the room chewing and wiping his mouth he eyes a pocket watch he locks the door and steps past the rabbit	went home my dad and his buddies were laughing and having a great time with all of us we got up and said good	just watching me he then took off his hat and stuck it in his pocket and told me to go to the	and she was going to throw up i took off my jacket and started rubbing my face and hands then i got a bit tired and
30	to a set of drawers opening the bottom one he keys into a hidden lock a compartment opens revealing a top hat and a purple wizard's hat the magician sets the top hat aside	luck we left the bar and the girls stayed behind with our drinks for a couple of hours to get my head on straight	back room and start looking at all the tools in the cabinet there are several different sizes and colors and all of them are very	walked back to the kitchen i noticed a big piece of paper in the front pocket of the old black and white
40	he blows into the purple hat and dust billows from the top hat as he sticks a hankey in the wizard's hat his hand pops out the top hat the magician uncages the rabbit who reaches	and after i got some of the adrenaline in i had a good laugh with a few other guys about how we could tell	interesting i have a box that was made with a piece of string i used to tie it to a chair for fun at home and when my mother finally realized	one the size of my palm with a few holes in the sides to show how to work it up in my hand when the teacher asks
50	for the carrot but gets carried past it presto sets the rabbit on the table's other end the rabbit heads for the carrot presto repeatedly pulls him back and sets the wizard's hat on the rabbit's	when our turn came i said okay and i grabbed his arm to keep him from taking off i got him to the car and started to drive it he didn't	what was happening she pulled me out and i was a little more prepared for her than she was i grabbed my friend who was trying to be	me to go and sit next to her she does not get up to help me i stand there and she tries to hold me down and i fight her off
60	head presto reaches into the top hat and pulls the rabbit out he offers the carrot to his pet without feeding him the magician	say anything or try to pull away but i did and he said do not push it and i just let go he then moved on to another guy but he	the role model and gave her some encouragement so that she could pull it off i took a shot with her and told her to keep it down when the song	i can't do it i'm just like you you want me to hit her so you can make sure it's not happening and then you say well i'll be watching this video
70	hurriedly sets the rabbit on a table backstage the rabbit wears the wizard's hat in the wings as presto walks on stage the magician seems to produce his top hat from thin air he shows	had no clue i was still hanging around my old high school and it was very crowded we walked up to the stage and started singing the	ended we left the club and were walking around the city at a nice clip we started talking about how cool it is and how it really	for you when the cops show up so that you know the whole story what happened after that is very simple and pretty basic you
80	the inside of the hat then reaches in frowning he spies the rabbit in the wings holding the wizard's hat aside so that the magician's hand gropes nothing presto beckons with two	first song we could imagine in our minds and the band played on a little bit of the same theme that we would hear from the people who had	just happens that you know each other and have been in love for years but how we didn't go to the same school when i was my mom said i	have a very vivid imagination and can tell what the real world looks like without a doubt i know that if i can't be with him
90	nods the rabbit shakes his head and mimes eating the magician's hand grabs for the rabbit but the bunny bangs his hand on the table as presto	been singing that day the reason it is important to write something about what the song means is that they can hear it from miles away so if they are	should be a doctor because of her diagnosis i didn't understand and asked why not because she had cancer it took about hours to explain i was a	i don't want to be he will never love me i can not do this i'm sorry he said the same thing over and over he says you must leave him i left
100	stalks towards the wings the rabbit fearfully puts on the wizard hat on stage presto reaches into the top hat a mousetrap dangles from his fingers the rabbit	watching you you are not being followed in this case so i suggest you wait until the next day and then inform your family i was told i would be	nurse and my family was there for years before i went into a coma after being a resident of the hospital for a while and	him there the entire night i stayed awake thinking he would be back soon and that he had just had a horrible day he was drunk and
110	mimes eating then opens wide hungrily before the wizard hat presto pitches an egg into the top hat the rabbit dodges the egg and catches it in the wizard hat sending it back to	attending a funeral of a woman i had just met but that she was dying to be buried the only thing she did was take off her clothes and	having a bad day i was just there to get her the medication i gave her but i also wanted to give her a chance to heal from	it wasn't good for him i know this is the best thing for you because i have seen it before the cancer ate the liver and left

Time (s)	Description ("Presto")	S1 prediction	S2 prediction	S3 prediction
120	splat in presto's eye now the magician turns the carrot into a flower the unamused rabbit holds the wizard hat to an air duct and presto's head gets sucked into	give him a blow job i went in for a hug and to my surprise he was pretty happy with it but i felt bad so i gave it back	her childhood in order to have a happy life she said she could do this alone i understood and gave her my blessing when i saw her face as	the body and it wasn't good to say the least and he was able to do it but he didn't get it and the other guy
130	the top hat as the magician frees himself the rabbit points to his open mouth presto grabs for him so the rabbit slams his fingers in a drawer and pulls props from presto's	he had his own copy of the original and was just a little bit upset and angry he said the thing to do is get rid of	the pain ripped through her body she was like i could see her mind screaming at me i just want you to stop she had her arms	got caught by the cops and his face was black and blue i remember the next time he tried to take my picture i got him in the leg
140	sleeve as the magician charges the rabbit holds up presto's hand the magician's own fingers poke him in the eyes presto reaches off stage into the wizard hat his hand rises from the	it i went to the local church to pray for my friends who were being abused by my ex in my head i was crying	around the guy i had just saved her from he had been at my place that whole time and had seen my girlfriend on the floor and i was	and then on my computer i had to stop him because my friend had his hands on his pants and i was a little awkward with
150	top hat and yanks off his own pants the rabbit unhooks a ladder on a wall it falls into the wizard hat pops up through the top hat and hits the magician in the crotch	when i read that and i told him so i got on the internet to try to find out why i was there and how	just watching the show that was the best part i got to sleep in the same bed and not be on the couch which was not	him and he was embarrassed about it and was looking around at the room we were in the middle of when it hit me how far it
160	presto eyes the long ladder then aims his end at the rabbit who dodges the ladder hits a door but continues coming out of the top hat forcing presto across the stage his chin	the system worked i found that if i wasn't there i would have to leave it to my wife or myself and be in a state of depression for	that long ago the problem is that he has to move in with me i think that if i take him over the threshold of a relationship it	was to the bottom and how much of an advantage it would be to climb up and over a hill or two before landing in the back of a truck
170	hitting rung after rung presto lands on his head he stands breaks off a piece of the ladder and shows the carrot the rabbit beams presto covers the carrot with a cloth	years to come because i felt so bad for myself i did some drugs and it wasn't enough i wanted more so i was going to use weed but i	will just be one big happy family i am a pretty average guy i like to look good but i don't always wear the right clothes	or train i think it is important that i describe myself as an experienced person that is what i want to do i will do this i have no
180	he clubs the carrot then reaches into the top hat the rabbit aims the wizard hat at a power socket electrocuted in his boxer shorts	had to have something i felt that i needed to feel good about myself i also have an urge to see a doctor i guess	i also have a few flaws and i'm not going to say i was lazy or stupid or anything but i didn't work in the restaurant because it	interest in doing drugs i don't smoke weed but i would never use it or take it i was going to have a fight with my wife
190	presto stomps a foot two orchestra members strike up a banjo and washboard the rabbit pulls presto's finger from the socket and the top hat pops off presto's hand the magician	that was a pretty long time ago but i remember being scared every single day and trying to fight back the panic that comes	was an open mic night so the staff had no reason to show up or the food was going bad i was told i could leave after minutes	and get into an argument about what to wear she was a big fan of the dress code and that was enough to make her start to
200	drops then chases the rabbit who hides under a table behind the curtain presto reaches under the table cloth and fails to see his hand come out through the top hat presto pulls a peg	with this kind of fear but it doesn't last i end up leaving her alone at work and walking out to meet with the guy at his office when	of being called an idiot and that they didn't care i left in a rage i was sure they would be watching me walk down the street i knew the person	sweat and not a good sign i couldn't wait to get home i went out the back and i ran to the bus stop where my
210	holding a rope to a sandbag the rising rope yanks presto upward by his ankle the curtains part and a spotlight shows him dangling	i get there and realize i didn't have his cell number i start walking home to find the cops standing on the sidewalk the officer says this	who was behind me as it was a little way from the school so i headed off the road to see a movie the theater was not far away and	girlfriend had parked i was only feet from her car when i noticed the front door was wide open the police had been there so i was thinking
220	the rabbit skips now the rope unravels from presto's ankle and he plummets along with large cutouts of stars and a moon the rabbit gapes as the moon hits some lights	is your friend who ran into the street and asked for directions to the hospital then he runs into a traffic light and the police car gets	i was so excited that i took my dog and ran around the corner and into a large tree that was on fire and a couple	my friends were safe i had to run over there to help them the car was about to hit them when they were going to crash into a tree
230	snapping a rope and dropping a piano the props and piano plummet after presto the annoyed rabbit reaches through the hats and pulls his owner through the top hat as the props and piano	a flat tire and is unable to pull over i know that if i let her drive she will hit the gas and then run her car over	of people got hurt when they fell i was there to protect her so i jumped into the water and pulled her out and put her down my friends	they didn't get hurt i saw it coming and tried to save them by using my momentum i hit them and they all flew in one direction then another

Time (s)	Description ("Presto")	S1 prediction	S2 prediction	S3 prediction
240	crash presto pops from the wizard hat and freezes wide eyed the audience filling the concert hall gives a standing ovation the magician raises both arms and	me as well and we both die that was a very pretty scene the entire time the police had to ask me to move my car	and i swam away and they all laughed it was the best party we have ever had so much fun and everyone was great	then it was a full on fight the entire thing was happening in slow motion i could see her face i was shocked
250	grins the rabbit sulks off noticing presto grabs the top hat the rabbit turns back presto takes the cloth from the table revealing the carrot	i was like oh yeah that was me and i said no thanks officer i am just leaving i told him no i will take this one i	to us so i said oh man look i need a little more i asked so you know what and i told him yeah and	but she looked away and said oh i forgot something she handed me the bottle and i took it and put it back on my chest
260	the rabbit pops up through the top hat and joyfully eats it the magician offers his arm and the rabbit perches on it they bow and the image turns into the magician's poster	was only and had not gotten the job but it	he said he wanted me to put you in charge of	to let my heart calm down and then i was

Time (s)	Description ("Partly Cloudy")	S1 prediction	S2 prediction	S3 prediction
0	partly cloudy dozens of slender storks fly past carrying heavy white bundles from their long beaks one lands at a home's open window and sets down its bundle revealing a			
10	baby another stork delivers a bundle on a doorstep it's two kittens	she would go out with people from other groups and meet guys she liked one of her friends got on her back and i sat	we used to play together i would walk up to my locker and drop something on the floor and then pick up the second bag and	i was on the bus and a woman came on with a toddler and the father was with them the
20	nearby a third stork leaves two puppies by a doghouse it takes flight again joining the rest of the flock the birds flap their wide graceful wings as they disappear into the clouds	her up on a park bench i knew she was drunk enough to be in a state of mind that would not be so much of a problem as a reaction	the third one and walk around the apartment the other three of us are playing the same game we have always been good friends and the only	mother was just a nurse and a doctor who was out of town in a week or so to make sure we didn't die and to tell
30	later they emerge high above the ground each stork approaches its own fluffy cloud as one lands its cloud smiles and presents a new bundle	to the reality that you are experiencing in the past the things that happened are really hard to understand or accept especially after reading this story my brother	reason we were there at this time is because the school is so large i remember thinking that the kids were so stupid to even ask me	me the best way to deal with that was to do nothing in the meantime we were working on this thing in my bedroom and my mother was standing next to
40	the others continue to land on their own pink clouds one cloud molds a kitten and zaps it with lightning bringing it to	and i went to the store with him and a few others and we found a table that was open we took off our shoes and started	out or that i was so nice to them because i knew that if they had to have their lives ripped from them that they	us we both looked up and she was in the process of removing her blouse and a bunch of buttons had popped and the
50	life it grooms itself another cloud creates a puppy the cloud makes a bone and the doggy shakes it in its	to play our guitars and then my sister grabbed a bottle of water and gave me one too so i had to put my feet up and	could have theirs cut from their hearts and replaced by the same pain and suffering the child went to school and she got married and had two	material had torn when she was a teenager and then again after she had taken a pregnancy test that day and after her and her father
60	jaws a cloud makes a baby human the cloud makes a football it puts a helmet on the	drink from her hand when she got it in her mouth she would just pull out another and then give it to you again and again i	sons the one in the picture had his hand on the baby she didn't want him to touch it so he would hold it a little bit then put it in	got to know each other i had her say my name in my ear i was told to take off my hat and then put it back on so i
70	baby the cloud takes away the helmet and wraps up the child in a bundle below the laughing clouds floats another lonely looking cloud he rolls	had to leave it there until the day before the trial when it was all over the whole town was so scared they had no	his pocket i went home and said no more this was the most beautiful night and it was my birthday and i was really depressed because i felt	could continue my work the next day i was there to help the other two customers the store was so busy that it wasn't too difficult to
80	a piece of himself like dough adds four legs and zaps it with lightning creating a baby alligator it snaps its jaws the cloud picks it up and wags a scolding finger	idea how to act on the news and even tried to put on an accent they would call the police and then just give me the finger	so bad about what i did i decided i would get some good grades i didn't have any problems with them and they were nice enough to not hurt me	find a chair with a bit of a push and pull it over and put a knee on it and you are like hey don't touch me it's
90	which the alligator bites off the finger grows back an out of breath stork flies over and lands on the cloud	and laugh it off i didn't feel threatened at all but the second my dad got a ticket for leaving his house for the weekend he	so i kept them i think my first experience with these kids was when my mom was visiting the hospital and i was helping her out she	too tight and i can barely breathe you want to know what i got at this point my brother was at my house for the last time
100	the stork salutes the cloud gives it a noogie the stork playfully pets its face with its beak then motions for him to hand over the	called me to ask what happened my brother and i had no idea and he was crying so i said oh i forgot i left a message and she told me she	was very excited about it and gave me the hug of life we talked about everything i said she asked if i could show her around town i told	i had a good laugh about this because i thought he was a nice guy i also said something like if you know this is what he
110	baby the cloud holds out the alligator it chomps on the stork's head the cloud yanks the alligator off and wraps it in a bundle	wouldn't be coming home tonight and i should just hang up on her and try to be nice she said i can't take her back and	her no i wasn't allowed to she started screaming and hitting me so hard it left a huge scar i went to her	is thinking i am going to hit him so hard he can hear my skull crunch and his face is completely red i tell him i can't take
120	with its beak the stork holds it out far in front of its body and flies off	she was pissed that i couldn't because of what happened at work and it was a lot of pressure from the government and the community	house and she was asleep and i was worried that i had just ruined a perfect evening for my best friend	him in the car we leave and the guy starts following us i have a hard time controlling my laughter as i drive but it ends when we

Time (s)	Description ("Partly Cloudy")	S1 prediction	S2 prediction	S3 prediction
130	later the cloud fashions another baby the out of breath stork flies up as it salutes a bunch of feathers drop from its scrawny wing	to keep a civil order on the streets after the first year or so when i got caught smoking weed again i told him that it would ruin my life he	the next morning we had a plan to get a car in and out of town after i got in i said to my dad i have an idea of how to	get to a local restaurant and i'm ordered a steak and some fries my stomach is killing me i ask him to grab the check i know
140	the cloud brings his sculpture to life a baby ram butts the stork with its horns knocking the wind out of the bird the cloud picks up the young	was pretty upset but we made a deal to avoid going back there he went to his father who had a very abusive relationship and a	do this i thought this would be easy to get off the ground by going down and running like a crazy person at least this was	what this means and he goes for it i turn around and am running right into his back i think it's the most disgusting thing ever as my
150	goat the stork looks up at a puppy running around another cloud the doggy gets some of the cloud stuck on its face and	lot of family problems to the point that my mom was at his side and his brother was in the kitchen drinking tea with him my dad said to	true in the movies and on tv where people are chasing and beating each other for sport or money or whatever but this guy didn't care that the other	friends and i are all in the kitchen having dinner with our families and all the people that we love in our lives my dad says
160	sneezes it happily licks its stork the lonely cloud frowns at his bundled baby ram his stork notices and sheepishly stops laughing	the other two kids what you doing here i didn't have time to reply i was so sorry i got here so fast so i just started	kids were looking at him funny he was like yeah i know and i'm not offended by this so i asked if they could stop him from hitting me i	this is my life and he doesn't need me anymore i look back to him and tell him no but i can't go to jail so i start running up the
170	the cloud places the bundle into its beak and it butts the bird repeatedly as it flies off later the stork returns the cloud turns to face it with a new	running back and forth through the city and up the hill towards the main road in the morning we decided to get a drink and i noticed a	got him into the hospital and the paramedics were there hours later the same day i was finally able to see him again it was a small	hill the last thing i remember before falling asleep was being in the hospital after an episode of the night before the doctor finally
180	sculpted baby the stork cowers then grabs it with its wings just as the cloud brings it to life it's a prickly porcupine the stork	new sign with a picture of a naked guy with his hands tied behind him it read do not touch me in the future if you want	white box i didn't recognize the name on it and it had been broken in half so i took it in the front door and let it cool off	found out that it was a heart attack and she was having trouble breathing and getting her lungs pumped and in and out and everything she had on
190	flings it from wing to wing playing hot potato with it with each toss the bird gets more and more quills stuck in its feathers the cloud takes the porcupine and bundles it up the baby's	to leave with a few pounds in cash it should be no big deal just put in an hour or so and walk home on a monday	with the water and put it back together so it was a neat trick but i still ended up in stitches a week later i had the scar	her i could barely stand i had to be on my back for at least minutes in the hospital waiting room for about an hour after my
200	needle sharp quills poke out of the cloth the bird carefully takes it and flies off now the stork returns with a bunch of quills poking out of its head like an afro the	morning before classes start i was just going through some stuff and it was about a quarter of a page long and the paper was almost worn away i put	and it looked like it had been chewed off my lip from where he ripped it open he pulled my teeth and spit me out	surgery i was told my arm had broken in half and the skin was hanging off of my elbow and it would be ok to put my hand on it i have
210	cloud yanks them out accidentally plucking feathers along with them he hugs the stork then shows a cloudy baby shark the stork flutters backward the	it down and said ok what i do now is it will work it was then that i noticed that there were three little girls and their mother had	he then said this is where i learned this was the wrong place i was sitting at a table with about a dozen people that had	to get this out now or it could just be a random guy in the park or a group of people that have no problem being nice to
220	bird sees a cute flock of chicks bouncing around another cloud the lonely cloud holds out the molded baby shark his stork flies off to another cloud glowing pink with sunlight	left them for me and i thought well i can't stay there so i drove the bus and eventually found myself on the highway heading back towards the city	to know what happened and that my girlfriend was dead or worse i was the first to leave my apartment and walk to the other side of	the homeless man or whatever i didn't want to be there to start with and i certainly couldn't go back home and face the people of my town and say
230	the lonely cloud crushes the unfinished baby shark	i had just passed by and my buddy was right behind me so he was really freaking out and was running a mile per	town she was my only option to get help from her and i didn't have a choice i started to run i was in a fairly deep hole	hey this guy is my friend and he made a bad decision i was furious i started yelling and punching the walls of the
240	as he folds his arms and mopes lightning strikes downward from his base he sees the pink cloud giving his	hour down a highway so fast that it was impossible to tell which road the driver was on but he did not have a	with a very low chance of being shot down there was a lot of confusion and i remember seeing a bunch of cops and then	building the only way to make any sense of what happened was by telling people that he had no clue and he wasn't a cop
250	stork a bundle the lonely cloud turns away from them he starts to	clue that his friend was coming home drunk or high from all the beer i was getting up there i heard the	nothing i thought was normal it was like a dream i could hear the sirens coming and my brother screaming in terror as my mom and	but he knew that i was going to jail he started screaming and running away from the car when he turned around to

Time (s)	Description (“Partly Cloudy”)	S1 prediction	S2 prediction	S3 prediction
260	rain a feather floats past his bulbous nose he turns to find his stork flying down to him the bird	car and looked up and saw a police officer i knew that i had seen before he told me that he would take my picture for me he had	dad both went to get the gun in the end they took it to a friend who got it back and said we should put it in my pocket so he	see a guy coming from behind him i saw it the next day he came back with a new gun he said he wanted to give me a
270	opens up its bundle the stork takes out a set of football pads and a helmet and puts them on the bird demonstrates how hard its helmet is	a cell phone and a card for my photo and that we could have it for free but we both wanted it so much i said yeah sure	could use it on his motorcycle or whatever he had on him to do a bit of riding then he says oh i'm sorry he gets it from me and puts his	little extra protection so he could use his shotgun as a weapon so i put my gun away and just held onto it he was right there so we can
280	the cloud gives the stork a big bear hug the bird motions for him to hand over a baby the cloud brings a snakelike eel to life and	and he put it on the card i would have to wait until it was in the bag but he had a nice one that was pretty close to my	helmet on i did this for years and then i tell him he should take it off now it is about two months old i give him a cookie and he just lays	do this again i took his arm and said no but this time i put it behind me and pressed it up against my right knee then slowly and
290	it electrocutes the stork the bird forces a smile and the cloud pats it on the back	own but still too small	it out on my bed	with all my strength pulled

Supplementary Table 3. Decoder predictions for perceived movies. Language decoders were trained for each subject (using data collected during story perception) and then evaluated on single-trial BOLD fMRI responses recorded while the subject watched three animated short films from Pixar Animation Studios (“La Luna”, “Presto”, and “Partly Cloudy”) without sound. Reference transcripts—obtained from official audio descriptions for the visually impaired—are shown alongside the decoder predictions for each subject. Highlighted segments were significantly more similar to the reference words than expected by chance under the BERTScore metric ($q(\text{FDR}) < 0.05$, one-sided nonparametric test).

Time (s)	Actual stimulus	S1 prediction (cross-subject)	S2 prediction (cross-subject)	S3 prediction (cross-subject)
0	i reached over and secretly undid my seatbelt and when his foot hit the brake at the red light i flung open the door and i ran			
10	i had no shoes on i was crying i had no wallet but i was ok because i had my cigarettes	he had a girlfriend that was also a lesbian i told them to stay away and to stop texting each other i was only talking about the sex part so	he had a great time and that the date was perfect for them and he was totally in the right place to have sex i was a little	he was in my car at the time and was drunk as hell i didn't have insurance but my mom would have been in trouble if i had let my kids
20	and i didn't want any part of freedom if i didn't have my cigarettes when you live with someone who has a temper a very bad temper a	i would know they were together if i could just see them kissing on the beach i didn't even care they had a history of dating i never said	drunk and did not remember his name but it was his birthday so he got his present for christmas the first time ever so i know the rules	drive in that state if they had gone with the same style of car and had been given different choices the law of the land was
30	very very bad temper you learn to play around that you learn this time i'll play possum and next time i'll	anything but the moment he walked on the plane i had the urge to make him pay i made a comment about the man he had killed but	of engagement and i want to say something to him that he has been trying to break but it's not working the words are like i want	a big one in that there was no reason to have it the fact that we had no water was a sign of weakness i have no
40	just be real nice or i'll say yes to everything or you make yourself scarce or you run and this was one of the times when you just run and as	he just continued to laugh i think the point was to get you in trouble i am a big guy i can't have you coming out of my	to go to jail for life my only hope is that she doesn't say anything about the drugs in my case it doesn't look good at all	idea why he didn't just turn me in or at least i couldn't have told him what i was doing for sure and he was too busy telling
50	i was running i thought this was a great place to jump out because there were big lawns and there were cul de sacs and sometimes he would come after me and drive and yell stuff at me to get back in get back in	room i was raised in the house of the same name and i know the stories you can hear from there my mom would bring up a good point and then leave the	and the police are talking about how to stop it the next morning the cops are on the scene and we can hear the commotion that followed as we wake up	the story of the night i got mugged to notice i was in his car and the cops didn't follow me home i asked if he would stop and i saw that he
60	and i was like no i'm out of here this is great and i went and hid behind a cabana and he left and i had my cigarettes and uh i started to walk in this	discussion there was no argument she had and i was completely against it after that and it was very awkward for me because i couldn't get my head around	and decide to leave the house the paramedics arrive and start talking about the accident i think they were pretty cool and did some work but my friend had to have a	didn't i started walking in that direction i was a bit surprised but i also knew i couldn't just sit and wait i took a seat and i just
70	beautiful neighborhood it was ten thirty at night and it was silent and lovely and there was no sound except	it my family and i were going to spend the night together but it wasn't to do anything special and we went to a hotel to sleep	stretcher for a few days because the whole hospital had one and a half and he was pretty sure the nurses and doctors had some sort of disease and would need	started talking and then the door opened and we went and got her and the whole thing was awkward after that my dad and i
80	for sprinklers ch ch ch ch {ig} ch ch ch ch {ig} and i was enjoying myself	it was a typical one for the first time i got to be with her and i had to tell	a special room to live in my dad decided to get a job and take the opportunity to put himself out there i have always been	stayed there a little while and then he said to me you can do it now just keep on doing it and get it
90	and enjoying the absence of anger and enjoying these few hours i knew i'd have of freedom and just to perfect it i thought i'll have a smoke and	her how i felt i didn't have any experience but she was there and it helped that she knew me i had to get it out there in my life and	able to say no to other people and to my friends i never gave in to anything and was just going to take whatever i wanted i would spend hours at	done soon enough the time to do this is in the days ahead of me and my partner in crime but the idea of it is scary
100	then it occurred to me with horrifying speed i don't have a light just then as if in answer i see a figure up ahead	that meant i could talk about it in person but i did that with a few people and i got to go to school with one of them	home and it was all just to make her happy i got the job i was hoping for and that is all it took i started getting her	as hell if the police get involved i think i will be in danger from the cops after i leave i would suggest that you see a doctor i
110	who is that it's not him ok they don't have a dog who is that what uh what are they doing out on this suburban street and the person comes closer and i could see it's a woman	the teacher told us to do it at home i think they were all pissed i had just gotten a job and i was already looking at a year old baby girl	excited and then when i had her ready i pulled out and drove down the highway the other way we ended up coming up on her house i	am on vacation so if you have an issue you might consider telling someone who will listen the first time i talked to the doctor was i had a panic
120	and then i can see she has her hands in her face oh she's crying and then she sees me and she composes herself and she gets closer and i see she has no	so they wanted to see me as an adult and not the kid they were asking about i said yes and the two people were still talking to me about their	turned left onto her street and then i heard my name she said you have to go away and i did i got a text saying you	attack or something and had to have stitches in my arm when he checked i was going to die and i wanted to see my friends i went into

Time (s)	Actual stimulus	S1 prediction (cross-subject)	S2 prediction (cross-subject)	S3 prediction (cross-subject)
130	shoes on she has no shoes on and she's crying and she's out on the street street i recognize her though i've never met her and just as she passes me she	son they had to be a year old so i figured maybe my dad had gotten them to stop calling and just give me a raise if they were	are not welcome in my life and then my friend just said yeah you should have seen him after the fact i asked him to get	a panic but he kept saying i am a god he was so far gone he could have died i remember asking him where his children were and he said
140	says you got a cigarette and i say you got a light and she says damn i hope so and then sh first she digs into her cutoffs in the	going to have a child then i wanted to know now if you are still willing to get the baby in if so i was looking at the idea of	his license he told me he was already at it and i didn't know the car was under the hood he called and said he had a situation	they are with your daughter and that he could not be reached if she were to call i have no idea why the father wouldn't answer a
150	front nothing and then digs in the back and then she has this vest on that has fifty million little pockets on it and she's checking and checking and it's looking bad it's looking very bad	adopting a little girl or boy and not the guy and my mind is getting lost in the fantasy i think the real me is having trouble with it i	at the school that would not be handled at all with a phone and that i could not use it the kids at the time were not allowed to	phone i think he had an appointment and forgot to put his cell in my car i guess i was out of line for some reason and didn't notice because i
160	she digs back in the front again deep deep and she pulls out a pack of matches that had been laundered at least once ukgh we open	mean my brain is trying to remember if the guy in the video is talking about how i look but i don't want to be too obvious i	play outside because they were so old my sister had her own rules to follow and was a lot more concerned about the kids and i was trying to	had to wait for it to pull out and i was really close to it but it wasn't fast enough the truck was too big for
170	it up and there is one match inside ok oh my god this takes on it's like nasa now we got to like oh how are we gonna do it ok and we we hunker down	think you should tell me your thoughts and feelings about it you know how to get through it without breaking down i mean how can i explain the pain	teach her some of mine and we were all working on getting a little closer we ended up just sitting together in a circle and i kept staring into her eyes	me so i got stuck with my friend and we just kept moving i guess the guy was bored with being the center of attention but we were doing things
180	we crouch on the ground and where's the wind coming from we're stopping i take out my cigarettes let's get the cigarettes ready oh my brand she says not surprising and	and how do i describe the way my heart broke as i read it and felt it break as my friends told me to and i did it	as i went from kissing to making out and then finally to holding her hand she let me do this for hours i think we both liked it and	to make the crowd stop i think we had to pull out of the line and let the police know the problem was with the cops and not
190	we both have our cigarettes at the ready she strikes once nothing she strikes again yes fire puff inhale mm sweet kiss of that cigarette	in front of everyone and that i would get a beating i was shocked by how good it felt i told my manager to take it easy	i didn't really get mad or anything after i took it out and started sucking it she made me go in and eat it so i went into the bathroom	us he got the message and just ignored it but i can't explain it he started hitting me again i just kept on punching him but then the
200	and we sit there and we're loving the nicotine and we both need this right now i can tell the night's been tough immediately we start to reminisce	i had a really bad day and he wasn't happy to hear about it and said to get to class he was in the middle of the	to vomit it up while she watched i was able to finish the meal and get it out of her system i have to say though that the conversation was	girl came and put a stop to it i went into a rage because i could feel that her life was being wasted i started talking to the police and asking questions they
210	about our thirty second relationship i didn't think that was gonna happen me neither oh man that was close oh i'm so lucky i saw you yeah then she	room when he stopped talking to us we got very close and i could smell him so i just took one step back and we had	fun i did not think the whole thing through and i felt pretty comfortable talking about it in person i thought i was being honest when i told	weren't allowed to answer i even had a video of it happening i was not a lawyer i just watched it and told my
220	surprises me by saying what was the fight about and i say wha what are they all about and she said i know what you mean she said was it a bad one and and i said	sex the night before he asked me out and i said yes we made it work i had been to many parties and was never afraid of them but she had just	my parents what had happened i didn't feel that the story was very long and i did tell them how the girl died i had to leave	story as a professional i have no idea how many of you are wondering why this was not discussed with us at all if this is true
230	you know like medium she said oh and we start to trade stories about our lives we're both from up north we're both kind of newish to	turned me down flat for no reason i tried to do it for a friend and he was in a bar at this point i had lost my job	that day because the police had found out my address and my story i ended up moving to another city that had the same problem with my	then why not talk about it at home i mean we are adults here i was going to a party but we don't have any alcohol there is a liquor store
240	the neighborhood this is in florida we both went to college not great colleges but man we graduated and i'm actually finding myself a little jealous of her because she has this really cool	and was looking to leave it because my parents were pretty strict about paying rent i was about to give up because of this i ended up with a	house as my parents the place i had a really hard time buying out but the other thing was that the landlord didn't let me use the basement my	across town and it is open for business at night it's like the middle of nowhere if you want to drink it's at this bar the whole time and they have a pool
250	job washing dogs she had horses back home and she really loves animals and she wants to be a vet and i'm like man you're halfway there	job that didn't allow for that and a lot of money and that i didn't like so i started a website which was open to	friends had a huge problem with my apartment but it wasn't that i couldn't move in or something my roommates were not exactly supportive but i could get	table or something i used to do in the evenings and i have this feeling that they are in my room now but not just on my

Time (s)	Actual stimulus	S1 prediction (cross-subject)	S2 prediction (cross-subject)	S3 prediction (cross-subject)
260	i'm a waitress at an ice cream parlor so um that's not i don't know where i want to be but i know it's not that and then it gets a little deeper {cg}	anyone and all my friends i got into i was actually going to do this a week or so after the school closed so i could see my	by on the couch and it wasn't really an issue and i would always take my friend who was going through something and come sit with him on the bus as	computer i can't see them on the internet and i am really scared to ask people if i should leave the store i look up the number
270	and we share some other stuff about what our lives are like things that i can't ever tell people at home this girl i can tell her the really ugly stuff and she	friend and then we had lunch and i asked my mom where the food was i think she knew since she told me she made it i was able to make	a guy who didn't get along with his fellow passengers who would try to give him space or something and he was probably in the minority so the plane took	and am about to say it's a little late i had a lot to do and then i heard my name and the whole thing came out as the best
280	still understands how it can still be pretty she understands like how nice he's gonna be when i get home and how sweet that'll be	the meal without crying i also remember the exact words i heard as i ate they said if you are not ready for the next step and have	off he had just lost his job and i knew he would be gone i had a few hours left i sat at his desk and took the	i could but the words were not enough for the person who got it all out the second i put the pieces together they
290	we are chain smoking off each other oh that's almost out come on and we go through this entire pack until it's gone and then i say you know what uh this is a little funny but you're gonna	a heart condition like you described then they can remove the tumor you mentioned and put the new one in place as the doctor said i guess i don't have that problem	first step i started crying he got a hug and then a kiss from me after a minute he let go and i went inside to make dinner	had a huge pile of money and they wanted it back so they cut off my hand and it was my turn to get it i didn't care
300	have to show me the way to get home because although i'm twenty three years old i don't have my driver's license yet and i just jumped out right when i needed to and she says well why don't you come back to my house and i'll give you	when i have to take it out on you and your family the reason i got out was to see someone else i was trying to avoid i don't	for them i was surprised that they had eaten all that i had done i told my parents i would do that and i left to go find him	i was scared because the other kids were screaming and i knew it would happen if i stayed in the room with my friends i eventually calmed them down and we
310	a ride i say ok great and we start walking and uh we get to this um lots of uh lights and uh the roads are getting	have a job so i just hung out and i got to know him well enough that i could have an opinion on everything and it wasn't like	he was there and the lights were on but he didn't see me i looked up the road to the bridge i had seen before and was very aware	talked it out then i got out of there i walked around my house a bit to check for messages then went to my mom to explain
320	wider and wider and there's more cars and i see um lots of stores you know laundromats and dollar stores and emergenciers and	i was in a social setting i knew he was there i saw him at work and in my classes and on a bus i was a few	of it now i didn't need to worry about traffic on this side of town so i walked my dog through the park i kept thinking about that time in	what had happened but i had to walk around and i could feel my head spinning i ended up in a park and there was a cop i don't know him
330	then we cross over us one and uh she leads me to some place and i think no but yes carl's efficiency	feet from him when i realized i couldn't take his seat and he would see me i took his place i had to do everything myself	the woods and how i felt like a stranger there and then i told her about the dream she thought she knew i was an angel	so he pulls up and says what happened there is a fire in your house that is spreading and there was an explosion at your place i told you i
340	apartments this girl lives there and it's horrible and it's lit up so bright just to illuminate the horribleness of it it's the kind of place where you drive your car right up and the door's	he was like what if i go to prison i could just kill myself i had a mental picture of him at that age i didn't like the	but i didn't feel like a ghost to her the other night i got in trouble with the law for being outside i had a cell phone on me	am going to be working at a gas station at night you didn't like the way the store looked and decided to sell something that wasn't there before and had
350	right there and there's fifty million cigarette butts outside and there's like doors one through seven and you know behind every single door there's some horrible misery going on there's someone crying or drunk	idea of going to prison i thought of the other inmates as well i think of them as people that i don't like at all the idea of going	but the other kids had theirs on the table as well as some other things the teachers were just a bit weird about me and they told me	a nice window on the outside for customers to view the inside the front door is not an issue at all and i am not worried about security guards
360	or lonely or cruel and i think oh god she lives here how awful we go to the door door number four and she very very quietly	to prison and not having my dad be there was hard but i have to think about it i was so angry i would say a prayer and ask	to have fun in school and i did i got a job and the kids were fine with that i started spending time with them but then my mom went	and the like they are probably on vacation as they have all been told to be i go inside the store and order the same
370	keys in as soon as the door opens i hear the blare of television come out and on the blue light of the television the smoke of a hundred cigarettes in that little crack of light	for help the first day i walked in on the teacher yelling at the kids and i saw a picture of the school in a magazine i thought was	nuts i was already working late and i could feel her coming on to me i had to be honest my dad was in the room and we didn't speak	thing i said and then i went outside to get more and the customer was there i had to put my arm around her and she was just like

Time (s)	Actual stimulus	S1 prediction (cross-subject)	S2 prediction (cross-subject)	S3 prediction (cross-subject)
380	and i hear the man and he says where were you and she says never mind i'm back and he says you alright and she says yeah i'm alright	really cool i asked my mom how they had done it she said they just talked and then the doorbell rang she was out of it but was	until the girl and her father had left he said we should leave he told her i was going to find her and she started	what if i take her out to eat she then said if you don't i will never see her again i agreed with her i had
390	and then she turns to me and says you want a beer and he says who the fuck is that and she pulls me over and he sees me and he says oh hey i'm not a threat	pretty drunk i let her in i was the first to hear her crying so i called the cops and she was fine i don't think she realized the	crying i thought maybe i could help but she said i was a stranger and i should go get her she didn't know my name i got a	been thinking of giving it to her and saying no she wanted to have a birthday party but i was really depressed i told her i
400	just then he takes a drag of his cigarette a very hard hard drag you know the kind that makes the end of it really heat up hot hot hot and long and it's a little scary and	state of her hair and i had a hard time getting it all in there i told her the color was black but i could still see it as it	few texts and it was the first one that popped up i opened the second and i think i actually broke something in my back i guess	would try but she couldn't handle the weight and was too far gone to get it right it was a long road and we got stuck
410	i follow the cigarette down because i'm afraid of that head falling off and i'm surprised when i see in the crook of his arm a little boy sleeping	was now i explained that the light was green i think this was because i was going to take it down and there was a cop standing	i should add that i was trying to break the other arm in a very painful way by getting to know him better he was the guy who	on it i had to break the speed limit a lot to keep from hitting her because it was a little slow i tried to avoid the accident with the other cars i
420	a toddler and i think and just then the girl reaches underneath the bed and takes out a carton and she taps out the last s pack of cigarettes in there	behind the machine and he was really pissed i told him what happened and that the kid was trying to stop it so i put the battery in the car and we	helped me and i still have some issues with it and it really makes me wonder about some things my friend was doing while he was dating her so i	also had to put her down and i did this by the way she was getting her hair messed up i took her out and picked her up in the parking
430	and on the way up she kisses the little boy and then she kisses the man and the man says again you alright and she says yeah i'm just gonna go out and smoke with her and so	were both really upset i mean i was and she was i just said i'm sorry and started driving off we had no money or anything but she got	went to their place and just sat on the couch he came out and started talking about the future we were living in the apartment so he had the opportunity to take some	lot and brought her to my car the first time she said yes and we proceeded to kiss and talk about the whole thing we went to the
440	we go outside and sit amongst the cigarette butts and smoke and i say wow that's your little boy and she says yeah isn't he beautiful and i say yeah he is he is beautiful	a new car and i took my time getting to know her i was like wait she can drive you home but what about me i	of the photos from the internet with him to his friends who were getting out of school early and it was just like him and me he was an	same school but we didn't get to spend a lot of time together during this year my brother is now i mean really close friends
450	he's my light he keeps me going she says we finish our cigarettes she finishes her beer i don't have a beer cause i can't go home	had a ride to work on time and was able to take care of myself for about minutes in the day i had no	idiot i told my mom and he just cried for about minutes until i finally left him for him to get out of the house i knew he	and i can tell that he's very interested in being my boyfriend and that he feels comfortable with me being on the dating site but it's still awkward to
460	with beer on my breath and she goes inside to get the keys she takes too long in there getting the keys and i	pain in my hand i could do something about it and i got to my feet and walked towards him the only problem is he wasn't moving	was in pain because my phone rang i was worried i could no longer help him and the nurses would be all over me i went into the room	have sex with him as an older couple so i tell her to wait until after dinner to get ready because i'm gonna take a quick shower
470	think something must be wrong and she comes out and she says look i'm really sorry but um like we don't have any gas in the car it's already on e and he needs to get to work in the morning and um	so i made a mistake i asked if he needed help i had a little time left on the job but he would not hear of it i made	and said the patient was gone i couldn't see his face he was a man so i took a picture of him in his grave i didn't	i don't think it will happen soon because i can't remember what was wrong i didn't go to the doctor for my period i couldn't find one to tell
480	i you know i i'm gonna be walk to work as it is so what i did was though here look i drew out this map for you and you're really you're like a mile and a half from home and um if you walk three streets over you'll be back on that pretty street	some small talk and he responded in kind i have a few stories about that man and how i can't get out of his head but i feel like i'm still young enough	know why he died and i did not ask i thought about his face and how it looked as he passed from this life and this new one this was	me i was on birth control so i just asked the nurse where it was she said it's on the floor below you and i took that to mean it's in the hallway
490	and you just take that and you'll be fine and she also has wrapped up in toilet paper seven cigarettes for me a third of her pack i note and a new pack of	to remember my parents i want to say to my sister what was in that book so she can put it in a museum i was so excited to have	a great idea i decided to write my name as well as the title of the story to give people something to read i was	to your left i went to follow it with my eyes but my mouth was full of bread and i was too big for the sandwich i just kept

Time (s)	Actual stimulus	S1 prediction (cross-subject)	S2 prediction (cross-subject)	S3 prediction (cross-subject)
500	matches and she tells me good bye and that was great to meet you and how lucky and that was fun and you know let's be friends	it she brought me it and i got to play it out with her she had been very open to the idea of sex for years so i	in the hospital and it was an accident and i got to talk to a doctor but he had just taken his medication and was asleep in	saying you got me in trouble and the kid said yeah that was it we were both a little pissed but i just told
510	and i say yeah ok and i walk away but i kind of know we're not gonna be friends i might not ever see her again and i kind of	was a bit shocked she said yes i mean we didn't know that at the time and the whole thing just happened to me it	a coma i told him to go to hell i was there and i knew he was dead i took his place and when the doctors started telling me to do	him to stop and i would go see a therapist or something eventually he gave up on the whole idea and we did all that and now we
520	know i don't think she's ever going to be a vet and i cross and i walk away and maybe this would've seemed like a visit from my possible future and scary but it	is possible to lose touch with people because of it i can't believe my brain is playing the game i think if you start talking to someone about	something about his condition i was pretty shocked to realize that it was the cancer talking and the fact that i could see it on his face he also mentioned	are able to have sex at am in my office we have no problem with the time difference and that we both know what to expect of the
530	kind of does the opposite on the walk home i'm like man that was really grim over there and i'm going home now to my nice boyfriend	this it will be all over the school i know the kid and the teacher at least he is doing well i think they were friends before they	that his mom died recently i did not know this until my mother told me i am sorry my brother had to deal with her death but i can	job we get and it isn't always a happy one we don't talk about the work but it does mean that if we go out drinking and smoking it is all
540	and he is gonna be so extra happy to see me and we have a one bedroom apartment and we have two trees and there's a yard and we have this jar in	started doing things and i have seen them talking about getting together a lot i was once in a group of about people and one of them mentioned how he	still think of her and my dad are you okay with this i mean the other one was a big deal the way they treated me and all the kids	over the place for her that i don't know she has no friends i am in my room in the house and i think about what it will cost for the
550	the kitchen where there's like loose money that we can use for anything like we would never ever run out of gas and um i don't have a baby you know so i can leave whenever i want	wanted to see my tattoo and i didn't feel like talking about it with anyone except him i had to hide the scars and not tell him it was	they had in school but the last time they gave me money i was not happy they just ignored me and the food i ate i got	dog to eat and it comes up with me buying it for my daughter it is a big deal for me to take a job and i love her
560	i smoked all seven cigarettes on the way home and people who have never smoked cigarettes just think ick disgusting and poison	me in the hospital so my friends could get to know me i just cried all the time he didn't even have to touch my hand when he	a few bucks and it was enough to cover everything else i also bought the first two bottles of wine i was offered in the beginning	i get her out of my head and she seems fine as i think she might even like me after all she was always good with computers i thought this was
570	but unless you've had them and held them dear you don't know how great they can be and what friends and comfort and kinship they can bring	passed away i would take him and ride my bike home i had to do this in a hospital and he was a minor in an accident i	and it was great i didn't mind drinking them at first and then they became a real treat i just went with the flow a little bit and took the whole	great when she started using them and was so smart with them that i wanted to work on her programming and she was very helpful with it as i was
580	it took me a long time to quit that boyfriend and then to quit smoking and uh	told him to stop i was on a mission and i would not be delayed this time i did not say a word to the other soldiers at first	bottle with me as well as a small handful of the beer he said he could use the extra i was able to make at least and a	doing something like that she had been trying to do research and was also a good listener as well we had a few arguments about how she was using the right
590	sometimes i still miss the smoking	they seemed confused i had the	half or more to help me	to choose a boyfriend i would

Supplementary Table 4. Cross-subject decoder predictions for a perceived story. Surface-based methods were used to align training data across 7 subjects. Cross-subject decoders were trained for each subject using aligned data from the remaining 6 subjects, and then evaluated on single-trial BOLD fMRI responses recorded while the subject listened to the test story “Where There’s Smoke” by Jenifer Hixson from *The Moth Radio Hour*. The actual stimulus words are shown alongside the cross-subject decoder predictions for each subject. Highlighted segments were significantly more similar to the actual stimulus words than expected by chance under the BERTScore metric ($q(\text{FDR}) < 0.05$, one-sided nonparametric test). Cross-subject decoders performed barely above chance, suggesting that subject cooperation remains necessary for decoder training.

Time (s)	Actual stimulus	S1 prediction (single-session)	S2 prediction (single-session)	S3 prediction (single-session)
0	i reached over and secretly undid my seatbelt and when his foot hit the brake at the red light i flung open the door and i ran			
10	i had no shoes on i was crying i had no wallet but i was ok because i had my cigarettes	i was just thinking about the situation i had to make it look good if i didn't want to be known for i i guess i was the first to	he has a gun to her head he is not even talking about her i had my friends around me but i didn't feel threatened he has a girlfriend i	it and i get up and leave i feel like a million dollars i take it with me because i can't sleep in it but i want to be
20	and i didn't want any part of freedom if i didn't have my cigarettes when you live with someone who has a temper a very bad temper a	notice so i started asking the guy about his experience as to why he didn't have one i was in his shoes and i could see he was very angry	would go out with him or something but we are friends so he knows what to expect but it still hurts like hell we have	with him as i have no interest in getting a boyfriend as he is the guy who is making me crazy every day and the one who
30	very very bad temper you learn to play around that you learn this time i'll play possum and next time i'll	but not at me and he had just learned to control himself i thought the worst and made a little joke about him being gay he started acting more and	to share everything and it can get ugly you need to do it right then i have a plan of action to help you do this i was a	i hate for some reason because i can see him as my enemy and i have a hard time letting him know it and not saying something stupid
40	just be real nice or i'll say yes to everything or you make yourself scarce or you run and this was one of the times when you just run and as	more like himself but not much i would have given him a heads up on how i feel i mean what i have been through is awful but i could	little upset to get in trouble at first but now i see a way out of this my brother was the one to go to jail i am pretty sure that	like that or threatening him and making it very clear that it was his business when he left me alone that was when it hit me that i
50	i was running i thought this was a great place to jump out because there were big lawns and there were cul de sacs and sometimes he would come after me and drive and yell stuff at me to get back in get back in	see him giving it a shot i think i saw him just before the accident in the parking lot and i just remember looking up into his eyes as we pulled him away and	if you do nothing that will cause the cops to get involved my friend is the type to just run off and leave everyone behind the police are just too busy chasing him down i tell	had to tell him what happened because i was in pain he didn't take my phone he just left the door open and i heard him walking away i told my parents to come home and he
60	and i was like no i'm out of here this is great and i went and hid behind a cabana and he left and i had my cigarettes and uh i started to walk in this	saying you can go home now it was so quiet at the hospital and i could hear the nurse asking how many times we had to give	them i will take him home i start driving down the street in a cloud of smoke the cops are watching me i notice a car on	was still gone i ran outside to tell them the bad news but they didn't understand so i left the house crying i had a very serious breakdown at
70	beautiful neighborhood it was ten thirty at night and it was silent and lovely and there was no sound except	blood before he went to sleep my brother is in the hospital and i was able to take the bus to work so i don't think	fire and i can see the front end of it i hope the cops take my statement because the fact	this point i was on the road for months and my therapist and i were still friends i had a very vivid memory of this
80	for sprinklers ch ch ch ch {ig} ch ch ch ch {ig} and i was enjoying myself	the nurse or the patient had a good time with the nurses i remember	that the guy is standing there talking about killing people and being a murderer for doing so i	session we had been playing a game of pool and had lost my job
90	and enjoying the absence of anger and enjoying these few hours i knew i'd have freedom and just to perfect it i thought i'll have a smoke and	being happy with my life i was always able to get home early on days that were really hard for me the doctor would give me medication i took and then	was doing it in my head for years and it was the only way to get closure for him and me but then i had to deal with it again and then	the previous owner had to make up for it and i was too young to help out and it was the last year i would have to do anything for that
100	then it occurred to me with horrifying speed i don't have a light just then as if in answer i see a figure up ahead	i was told it was time for a transplant to make it worse i had to wait about an hour before it came through on my	to have him take it away i cried a lot that day and tried to control it i could see it as i did it that my	money but i was on a roll and wanted it all i have a feeling that if i go back and see the place that
110	who is that it's not him ok they don't have a dog who is that what uh what are they doing out on this suburban street and the person comes closer and i could see it's a woman	phone i told her about how it was my dad and she said oh you mean he got home before me and was on the phone with the police in a	friend was on the phone and i heard his voice that was a bit strange i went outside and the house was silent he was talking about what happened with the cops	i lived there was nothing there i know the owner was there and i can confirm it the day i came in i saw that he was looking at a
120	and then i can see she has her hands in her face oh she's crying and then she sees me and she composes herself and she gets closer and i see she has no	panic my father came in and saw me in the back yard and started running towards me and he didn't stop until he reached the car i ran up and	he said that the officer came out of his car and confronted him i was shocked but he kept walking with me and i just followed him he was probably the biggest	painting and his eyes were locked on a little girl with her hands up and her face turned away he started yelling at me and the other kid who was now in

Time (s)	Actual stimulus	S1 prediction (single-session)	S2 prediction (single-session)	S3 prediction (single-session)
130	shoes on she has no shoes on and she's crying and she's out on the street street i recognize her though i've never met her and just as she passes me she	opened the door to my friend who was just finishing a cigarette and was shaking with the realization of what had happened i came around to where he was	drunk in town and he had a girlfriend in his arms that was not a problem for him but as we approached he stopped and said	tears and crying out how my sister is dead and i am sorry my friend started sobbing too i asked him how he was i had always told
140	says you got a cigarette and i say you got a light and she says damn i hope so and then sh first she digs into her cutoffs in the	sitting and started to comfort him and to apologize he said no i should have been there instead i was driving in a parking lot and i hit a	you know i can't get in and i asked you to let me out i was really mad i told you that i wouldn't give up	him i hated crying so i called him out he said he would leave if i did so he had a big box of
150	front nothing and then digs in the back and then she has this vest on that has fifty million little pockets on it and she's checking and checking and it's looking bad it's looking very bad	pole the other side of it had some broken glass so i took out the piece of metal and the cop started asking questions about where it went and how long i	on him that night you know he had a heart attack at least twice i had seen the whole thing at one point in time but i couldn't tell you	his clothes that he put on top of the tv he made me sleep on it and the couch as long as i couldn't find out where he slept i think that he
160	she digs back in the front again deep deep and she pulls out a pack of matches that had been laundered at least once ukgh we open	was holding it i had a beer and a pack of gum and the dog was eating the whole bag of candy in about seconds	when i went into a relationship i knew i wasn't going to find love or something because i didn't want it but i still had	knew where my bed was but never told me that the house had been sold and i couldn't sleep with it still standing
170	it up and there is one match inside ok oh my god this takes on it's like nasa now we got to like oh how are we gonna do it ok and we we hunker down	we were all freaked out but i was very confident we all knew the drill it was okay for us to get ready and start the	the power to hurt it so i started to kill it and then it took over and i couldn't even control my rage i just screamed at him and made	so i had to sell it and now i'm having the best time ever and i just wanted to have fun i mean really enjoy myself and then get to
180	we crouch on the ground and where's the wind coming from we're stopping i take out my cigarettes let's get the cigarettes ready oh my brand she says not surprising and	walk to the bathroom when he grabbed my hand he said i want to play with your balls and he told me he liked how i	him pull over so i could kill him i had just shot his driver and then i saw it all i said to my partner he was just playing along	the end and just stop at the last second i had this idea of just killing him i told my boss i didn't want to and she gave me this
190	we both have our cigarettes at the ready she strikes once nothing she strikes again yes fire puff inhale mm sweet kiss of that cigarette	made him feel so he pushed me and i got all wet and excited and it was fun to be kissed by him and	and we could see it was him now and i just kept on trying to kill him and get away so i grabbed my gun and my	look like you're kidding me and then started making the rounds and finally i had enough i pulled a knife and stabbed her i then
200	and we sit there and we're loving the nicotine and we both need this right now i can tell the night's been tough immediately we start to reminisce	we went home together i was nervous about meeting my parents and i knew i didn't want to ruin this weekend we were on the phone for	phone and i ran outside to shoot the guy and his friend i did not fire as i had a full clip of rounds i was looking around the	got to work on her again and it was my job to be her friend i was actually getting into it with her the last week of school but we
210	about our thirty second relationship i didn't think that was gonna happen me neither oh man that was close oh i'm so lucky i saw you yeah then she	hours and the kids were getting ready for school when he said i think you're coming with us i was stunned but i nodded and walked over	store at all of them but it was like i'm not seeing them or something i went out the back and looked around and all was fine	didn't know that it was going on and that we were being watched i don't remember exactly when we left my father said he would drive us home
220	surprises me by saying what was the fight about and i say wha what are they all about and she said i know what you mean she said was it a bad one and and i said	to my mom to say my dad was the nicest guy i know and she said oh no thank you but he is not my father you can just drop	but i heard a voice from the house that said something like this is all a misunderstanding my first thought is this guy has been acting	i was thinking about what happened in that car and what my friend told me and i said you have a good point i remember sitting there with
230	you know like medium she said oh and we start to trade stories about our lives we're both from up north we're both kind of newish to	it i'm sorry and that was it we got a letter from a man in our home he was an immigrant from the us that was	very strange all of a sudden i'm at his house he shows me his bedroom which is in an older part of town i guess it's called his	him and saying thank you so i started talking about the fact that my family is coming down from the north and i am not in my
240	the neighborhood this is in florida we both went to college not great colleges but man we graduated and i'm actually finding myself a little jealous of her because she has this really cool	born in a rural area where most people were raised as white so the whole culture is based off of that i didn't realize until i started reading about the black	old place in the city i think this house had been built years ago he didn't have much furniture and it wasn't his style i remember him having a nice place on	home country the rest of the world is gone i was there a couple times before and my life has always been pretty nice i got my degree in computer
250	job washing dogs she had horses back home and she really loves animals and she wants to be a vet and i'm like man you're halfway there	kids being abused in the camps but now i'm trying to understand the motivation behind it i feel like you're not going to believe me	the market and working hard for the company i don't have any interest in making the same money i am not the boss of you anymore	science i did it in a field that i love i think i've done it on the fly i mean if

Time (s)	Actual stimulus	S1 prediction (single-session)	S2 prediction (single-session)	S3 prediction (single-session)
260	i'm a waitress at an ice cream parlor so um that's not i don't know where i want to be but i know it's not that and then it gets a little deeper {cg}	i was working in a field i loved that i knew was better than that and it was just another day in the office	and i can't stand you anyway you are in my business and if i didn't like what i saw and you got into an argument with	i didn't have my own apartment i would have no problem leaving i guess you can imagine my disappointment i had to be
270	and we share some other stuff about what our lives are like things that i can't ever tell people at home this girl i can tell her the really ugly stuff and she	and then a week in a different department for the next one and the last thing i did was call my mom i had been so desperate to be able	someone and i was able to tell you what happened in your car and then how he did it and that i had to make a choice	at the time to deal with the fact that i would be able to meet people but also to not have to worry about the same things and
280	still understands how it can still be pretty she understands like how nice he's gonna be when i get home and how sweet that'll be	to share my feelings about him and the thought of her crying broke my heart he said she was my only friend in the world and	because he would hurt me again and he was doing it for some reason i chose him over her and she had to take it	having to think about them because i would get confused about how they fit together because the idea of me not liking her made her feel even worse so
290	we are chain smoking off each other oh that's almost out come on and we go through this entire pack until it's gone and then i say you know what uh this is a little funny but you're gonna	i just lost it and hit her she took my head and cut the cord on my hand and put me on a stretcher i got my shot but	back so i started making out with her again after she finished it all off we had sex a lot and then i told her to take me home	they kept playing with my hair and she wanted me to touch it and i finally had enough and pulled it back and said you look beautiful i had my
300	have to show me the way to get home because although i'm twenty three years old i don't have my driver's license yet and i just jumped out right when i needed to and she says well why don't you come back to my house and i'll give you	she insisted that i go back to the hospital she also took the picture i had taken of her and i could have gotten her to stay at my apartment i said ok and we	because i couldn't get hard all that time i didn't have sex with her so we couldn't do anything she asked me if i would let her go to my place	arm around him and was very excited he didn't let go i was the first to break it off and went back to my friends and he eventually gave up and started
310	a ride i say ok great and we start walking and uh we get to this um lots of uh lights and uh the roads are getting	got her back to my place we just talked and then she had a nightmare that was all over the news we got to	and i said yeah why not i went along and we started walking towards the parking lot the sun had set and there was a huge	dating again and i just left and then one day i found a letter from him i couldn't find my keys and decided to call him
320	wider and wider and there's more cars and i see um lots of stores you know laundromats and dollar stores and emergenccenters and	her room and her dad was standing over her bed the cops found a huge red envelope with the words welcome home in large block letters the next day and left	party going on out there i think the crowd was mostly the local high school kids from around town that were still on campus at this point we were	and apologize and then i had to drive myself home in the back of a taxi my first thought was what a mess i'm in and what
330	then we cross over us one and uh she leads me to some place and i think no but yes carl's efficiency	me with a note i was the first one out the door and he said to me don't tell anyone this but the only	on the highway and a few miles to the west i asked him what happened and he explained the accident was a big deal i	happened next was to the driver what is going on with this guy i think it is his car because i have been told
340	apartments this girl lives there and it's horrible and it's lit up so bright just to illuminate the horribleness of it it's the kind of place where you drive your car right up and the door's	guy in the world who knows you like to hang out and has the right to tell you things that people are afraid of when they are out	said i remember my dad and how it hurt to walk around that house because it was always filled with people i hated that we lived in	that he drives a ford focus he has a big white house and i know it was the wrong car for a reason and the police have
350	right there and there's fifty million cigarette butts outside and there's like doors one through seven and you know behind every single door there's some horrible misery going on there's someone crying or drunk	of control in your home your house is on the top floor and the neighbors have an even more terrifying view of you when they have the urge to smoke weed	the middle of the street and i had to keep walking the kids i saw on the sidewalk were doing things that they couldn't even begin to comprehend as the mother was doing	him under lock and key i see the other drivers go down and there are the cops who i know are not the bad guys and have a plan i am sure that
360	or lonely or cruel and i think oh god she lives here how awful we go to the door door number four and she very very quietly	that i do and my brother is just too smart to ever do so i go into the back room and we have the place locked down	them but my first thought was i really like them and i hope to marry them the next morning i get up and make my	my family is fine but the police are looking for me now my dad is at work so i just keep in mind he didn't call
370	keys in as soon as the door opens i hear the blare of television come out and on the blue light of the television the smoke of a hundred cigarettes in that little crack of light	and she was waiting for me i was in the process of walking out the door and seeing the light of my apartment building on fire when	way out the door and i find him in the hallway the bed has been made i see his body covered in blood i just had to know who it was	me back until the last possible minute he was getting off the phone and was making eye contact with me and the other people around the table the woman was

Time (s)	Actual stimulus	S1 prediction (single-session)	S2 prediction (single-session)	S3 prediction (single-session)
380	and i hear the man and he says where were you and she says never mind i'm back and he says you alright and she says yeah i'm alright	i felt my whole body shaking i told him to go and he said ok but do you mind if i do this	that got into it i ask him where is your buddy i tell him he should come over i was and he says yeah you want	saying i can't believe this i'm getting married soon and he said we can talk later she was like well is she ready now i told
390	and then she turns to me and says you want a beer and he says who the fuck is that and she pulls me over and he sees me and he says oh hey i'm not a threat	again and we walked over to where my sister was and he asked for a minute alone with her and told her she was just having a	to see my girlfriend i said sure he was looking for a girl and i saw him staring at her a lot as a kid but	him i'm gonna get my things i turned to him and said are you done yet my dad just started laughing and saying yes my brother was
400	just then he takes a drag of his cigarette a very hard hard drag you know the kind that makes the end of it really heat up hot hot hot and long and it's a little scary and	rough night he proceeded to make me cry for hours it was like being stabbed with a knife this is a really strong urge and i just kept	now i just ignore him and the rest of the time he has a pretty good right hook and i'm used to it it goes on for years and even	really into it and had the exact same reaction and it was a huge pain in my chest and back it hurt a lot and
410	i follow the cigarette down because i'm afraid of that head falling off and i'm surprised when i see in the crook of his arm a little boy sleeping	holding it there for a couple of seconds trying to stop it it was almost like the pressure in my hand had been pulled off the steering wheel or	after he died his left arm was still there and the whole time his leg was sticking out from his body my father was shaking in fear	my eyes were closed for a bit it took a while to open them and see that i had been sitting up in bed but the girl in the picture had moved
420	a toddler and i think and just then the girl reaches underneath the bed and takes out a carton and she taps out the last s pack of cigarettes in there	something i think and the guy just sort of rolled off i had to grab him and help him out with his jacket and put his	of what was happening as we entered the building my mother grabbed a towel to cover herself and my sister took the first step towards the front	up and sat in my lap and the man had pushed me onto the table with his knee and had taken me to the bed with a couple of pillows
430	and on the way up she kisses the little boy and then she kisses the man and the man says again you alright and she says yeah i'm just gonna go out and smoke with her and so	hand in mine we were walking out and my sister asked if i was ok we both agreed that the world was ending so we got back on	desk and i went to stand behind her my father walked into the room and said good morning we got this girl on a ride and we had her	he then sat down with me on my left side and we just talked he asked me what happened after my friend and i were gone the cops called the
440	we go outside and sit amongst the cigarette butts and smoke and i say wow that's your little boy and she says yeah isn't he beautiful and i say yeah he is he is beautiful	the bus and were about to head to the movie theater i said you know i love you i was like ok we are just friends but i	in my bed for about hours and i had my fingers inside of her and it was very intimate i thought to myself wow i love it and she	place i was staying for questioning and the house they were interviewing was a mess i could tell she was scared but not for herself
450	he's my light he keeps me going she says we finish our cigarettes she finishes her beer i don't have a beer cause i can't go home	really think you should make your own life together as a married couple so if you end up divorced or you are forced to find another guy who	said well so does my boyfriend and we have sex again this time with the girl i love i didn't sleep with her at all because	i felt horrible for her because of her past and i had never wanted her to suffer from a drug addiction i couldn't be
460	with beer on my breath and she goes inside to get the keys she takes too long in there getting the keys and i	has kids then it is all over i had to wait months before he called back again this time i told him i wasn't	we didn't talk about it for a while when she moved to my apartment i just assumed she had left it there	with her without getting high and then losing my job the next day and my car broke down at am i told her
470	think something must be wrong and she comes out and she says look i'm really sorry but um like we don't have any gas in the car it's already on e and he needs to get to work in the morning and um	ready and to get his number when he asked i said no i was tired of having my friends know about me being a lesbian and my family coming to my	or something because i wasn't home to check and the landlord told me he couldn't find her it was her room which is not my place but the apartment is mine and	she could leave and not bother me anymore it was like that and she left a note saying that i couldn't stay at home or anything i said
480	i you know i i'm gonna be walk to work as it is so what i did was though here look i drew out this map for you and you're really you're like a mile and a half from home and um if you walk three streets over you'll be back on that pretty street	wedding so i just kept quiet i thought maybe they would take me back for that one i mean they had me on my own in a tiny room and it was	i can't do that so he told me he could see me at any time he had been looking at a map of the country for months he saw a train in the distance	i wanted to hang out but i could still see him at the door he told me he would be right outside my bedroom window but that he was coming back in minutes
490	and you just take that and you'll be fine and she also has wrapped up in toilet paper seven cigarettes for me a third of her pack i note and a new pack of	really scary for me when they pulled me out they started taking pictures of me in my underwear and stuff the photographer had taken with the camera on the	and went to it i had to take his picture as well because he had just lost a few pounds and my friend was in tears the photographer	i sat there and looked at the door to his room he had a huge bag of ice on the table i had left him a little

Time (s)	Actual stimulus	S1 prediction (single-session)	S2 prediction (single-session)	S3 prediction (single-session)
500	matches and she tells me good bye and that was great to meet you and how lucky and that was fun and you know let's be friends	way out we get back and he tells us we are the best friends ever to take him on this trip we all go and	was at my side i could hear him saying how he would be waiting for her and he told her he was coming and she	while earlier he started crying i said are you ok buddy and he was saying i'm fine i looked around and everyone was gone i
510	and i say yeah ok and i walk away but i kind of know we're not gonna be friends i might not ever see her again and i kind of	the next day we leave i was not really aware of the weather outside the window until i opened it and i immediately regretted	said ok and i ran down the hall and threw up i didn't care about anything other than what happened to me but my dad	then realized i was alone and then the teacher said well this is awkward and i started to feel uncomfortable in this situation i had been told that the
520	know i don't think she's ever going to be a vet and i cross and i walk away and maybe this would've seemed like a visit from my possible future and scary but it	it my mother had been looking for me at the time and it took a second before i could speak her voice came from a place that i didn't expect it	was going to die so i guess it just stuck with me the whole way home i think i cried a lot but not the emotional kind that made me feel	school had no idea i was in the system or what i did for a living and the teacher was trying to find me i guess that was my first
530	kind of does the opposite on the walk home i'm like man that was really grim over there and i'm going home now to my nice boyfriend	to the point of being so deep and quiet but it was and the person in there was me i could just tell the girl that she was	better or anything the real tears came when i told him the whole story i just needed a hug from my boyfriend that he would be alright the	time seeing a kid and it made me wonder how i would handle it i was pretty much in shock my dad told me he wanted to leave the
540	and he is gonna be so extra happy to see me and we have a one bedroom apartment and we have two trees and there's a yard and we have this jar in	the best friend in the world and she had just left the guy and i was sitting on my front porch and the house was full of kids from	guy is in the hospital and i was out of the country my girlfriend was living in a room next to his that i used to sleep in	country and live with us as he had a girlfriend and kids in a hotel room that was rented by the government and a house with a private pool on
550	the kitchen where there's like loose money that we can use for anything like we would never ever run out of gas and um i don't have a baby you know so i can leave whenever i want	our church that we had a lot of i had no idea why the family would go there but i knew my sister was a part of it so	my bed the apartment had been rented out for me but my landlord was an idiot and threw it away i still lived there and never forgot to pick	it but not a home for them to play in the backyard no way did they have kids as well as their own i got out and took care of them
560	i smoked all seven cigarettes on the way home and people who have never smoked cigarettes just think ick disgusting and poison	we got a new dog and the next day i asked my mom what it meant when she told me it means a lot of people have the ability	it up every morning i had a few beers that night but no more than one a day and i didn't know the difference between alcohol and	myself then they were in kindergarten and were the first to know i was gay and the other girls were like you i mean really in love with
570	but unless you've had them and held them dear you don't know how great they can be and what friends and comfort and kinship they can bring	to read and write but there is also an overwhelming desire to do so it's really hard for a person to explain the emotions of love and sadness to themselves in	sex i just didn't understand it it was so frustrating to watch and learn and it made me angry for no good reason and i ended up blaming myself for it and	you but you had no idea what it meant to have sex with me and how much you were falling for me the first time and it was amazing we made
580	it took me a long time to quit that boyfriend and then to quit smoking and uh	this case i just told her how i feel i tried to tell her about the relationship and the sex i was in and how she would be a wonderful	for the fact that it happened and not me and the other person and it was the guy and then he goes i don't know he	a baby together and i got to know her for a while but the relationship ended up breaking down a lot and she told me she
590	sometimes i still miss the smoking	wife and mother i never got	gets into the car and i	loved me and then it got

Supplementary Table 5. Single-session decoder predictions for a perceived story. Language decoders were trained using just 1 out of the 15 sessions of data (1 hour) for each subject and then evaluated on single-trial BOLD fMRI responses recorded while the subject listened to the test story “Where There’s Smoke” by Jenifer Hixson from *The Moth Radio Hour*. The actual stimulus words are shown alongside the decoder predictions for each subject. Highlighted segments were significantly more similar to the actual stimulus words than expected by chance under the BERTScore metric ($q(\text{FDR}) < 0.05$, one-sided nonparametric test). Some story segments were significantly decoded, but substantially more training data were required to consistently decode the story.

Source	Title	Author	Download link
<i>The Moth</i>	“Alternate Ithaca Tom”	Tom Weiser	https://themoth.org/stories/alternate-ithaca-tom
<i>The Moth</i>	“Targeted”	Jen Lee	https://themoth.org/stories/targeted
<i>The Moth</i>	“My Avatar and Me”	Laura Albert	https://themoth.org/stories/my-avatar-and-me
<i>The Moth</i>	“My Unhurried Legacy”	Kyp Malone	https://themoth.org/stories/my-unhurried-legacy
<i>The Moth</i>	“Ode to Stepfather”	Ethan Hawke	https://themoth.org/stories/ode-to-stepfather
<i>The Moth</i>	“Under the Influence”	Jeffery Rudell	https://themoth.org/stories/under-the-influence
<i>The Moth</i>	“How To Draw A Nekkid Man”	Tricia Rose Burt	https://themoth.org/stories/how-to-draw-a-nekkid-man-storyslam-version
<i>The Moth</i>	“My First Day At The Yankees”	Matthew McGough	https://themoth.org/stories/my-first-day-at-the-yankees
<i>The Moth</i>	“Naked”	Catherine Burns	No longer available
<i>The Moth</i>	“Life Flight”	Kimberly Reed	https://themoth.org/stories/life-flight
<i>The Moth</i>	“Stage Fright”	Suzanne Vega	https://themoth.org/stories/stage-fright
<i>The Moth</i>	“Till Death or Homosexuality Do Us Part”	Cindy Chupack	https://themoth.org/stories/till-death-or-homosexuality-do-us-part
<i>The Moth</i>	“Sloth”	Todd Hanson	https://themoth.org/stories/todd-hanson
<i>The Moth</i>	“Notes on an Exorcism”	Andrew Solomon	https://themoth.org/stories/notes-on-an-exorcism
<i>The Moth</i>	“Have You Met Him Yet?”	David Litt	https://themoth.org/stories/have-you-met-him-yet
<i>The Moth</i>	“A Doll’s House”	Bill Burr	No longer available
<i>The Moth</i>	“In a Moment”	Sitawa Wafula	https://themoth.org/stories/in-a-moment
<i>The Moth</i>	“The Closet That Ate Everything”	Morgan Zipf-Meister	https://themoth.org/stories/the-closet-that-ate-everything
<i>The Moth</i>	“Adventures in Saying Yes”	Gina Sampaio	https://themoth.org/stories/adventures-in-saying-yes
<i>The Moth</i>	“Buck”	Tony Cyprien	https://themoth.org/stories/buck
<i>The Moth</i>	“Swimming with Astronauts”	Michael J. Massimino	https://themoth.org/stories/swimming-with-astronauts
<i>The Moth</i>	“That Thing on My Arm”	Padma Lakshmi	https://themoth.org/stories/that-thing-on-my-arm
<i>The Moth</i>	“Eye Spy”	Michaela Murphy	https://themoth.org/stories/eye-spy
<i>The Moth</i>	“It’s a Box”	Navreet Chawla	https://themoth.org/stories/its-a-box
<i>The Moth</i>	“Hang Time”	Brian Gavan	https://themoth.org/stories/hang-time
<i>The Moth</i>	“Breaking Up in the Age of Google”	Jessi Klein	https://themoth.org/stories/breaking-up-in-the-age-of-google
<i>The Moth</i>	“Treasure Island”	Boots Riley	https://themoth.org/stories/treasure-island

Source	Title	Author	Download link
<i>The Moth</i>	“Shopping in China”	Catherine Palmer	https://themoth.org/stories/shopping-in-china
<i>The Moth</i>	“Only One Way To Find Out”	Sarah Gray	https://themoth.org/stories/only-one-way-to-find-out
<i>The Moth</i>	“Pen Pal”	Boris Timanovsky	https://themoth.org/stories/pen-pal
<i>The Moth</i>	“Going the Liberty Way”	Kevin Roose	https://themoth.org/stories/going-the-liberty-way
<i>The Moth</i>	“Kiksuya”	Bobby Wilson	https://themoth.org/stories/kiksuya
<i>The Moth</i>	“The Postman Always Calls”	Elizabeth Browning	https://themoth.org/stories/the-postman-always-calls
<i>The Moth</i>	“Backside Of The Storm”	Joe Lentini	https://themoth.org/stories/backside-of-the-storm
<i>The Moth</i>	“Sweet as Pie”	Mary Hamilton	https://themoth.org/stories/sweet-as-pie
<i>The Moth</i>	“The Tiniest Bouquet”	Christine Gentry	https://themoth.org/stories/christine-tba
<i>The Moth</i>	“Life and Death on the Oregon Trail”	Micaela Blei	https://themoth.org/stories/life-and-death-on-the-oregon-trail
<i>The Moth</i>	“The Freedom Riders and Me”	Barbara Collins Bowie	https://themoth.org/stories/give-me-liberty
<i>The Moth</i>	“Thumbs Up!”	Nathan Englander	https://themoth.org/stories/thumbs-up
<i>The Moth</i>	“Becoming Indian”	Ash Bhardwaj	https://themoth.org/stories/becoming-indian
<i>The Moth</i>	“Waiting to Go”	Michael Such	https://themoth.org/stories/waiting-to-go
<i>Modern Love</i>	“Single Woman Seeking Manwich”	Sarah Moses (read by Awkwafina)	https://www.nytimes.com/2016/05/15/fashion/modern-love-dating-single-okcupid.html
<i>Modern Love</i>	“When Mothers Bully Back”	Susan Perabo (read by Ellie Kemper)	https://www.nytimes.com/2017/03/10/style/modern-love-when-a-mom-bullies-back.html
<i>Modern Love</i>	“Superheroes, Just for Each Other”	Peter S. Goodman (read by Mike Colter)	https://www.nytimes.com/2018/07/25/style/modern-love-podcast-mike-colter.html
<i>Modern Love</i>	“G.P.S. for My Lost Identity”	Laura Dave (read by Diane Guerrero)	https://www.nytimes.com/2008/01/20/fashion/20love.html
<i>Modern Love</i>	“Catfishing Strangers to Find Myself”	Kalle Oskari Mattila (read by Cory Michael Smith)	https://www.nytimes.com/2016/11/25/fashion/modern-love-catfishing-strangers-to-find-myself.html
<i>The Moth</i>	“Christmas 1940”	Pierre Epstein	https://themoth.org/stories/christmas-1940
<i>The Moth</i>	“Stumbling in the Dark”	John Turturro	https://themoth.org/stories/stumbling-in-the-dark
<i>The Moth</i>	“Forgetting Fear”	Daniela Schiller	https://themoth.org/stories/forgetting-fear
<i>The Moth</i>	“Blue Hope”	Sylvia Earle	https://themoth.org/stories/blue-hope
<i>The Moth</i>	“Life Reimagined”	Raymond Christian	https://themoth.org/stories/life-reimagined
<i>The Moth</i>	“If This Hair Could Talk”	Melanie Kostrzewa	https://themoth.org/stories/if-this-hair-could-talk
<i>The Moth</i>	“Against the Wind”	CJ Hunt	https://themoth.org/stories/against-the-wind
<i>The Moth</i>	“Goldie, the Goldfish”	Becca Stevens	https://themoth.org/stories/goldie-the-goldfish

Source	Title	Author	Download link
<i>The Moth</i>	"Quiet Fire"	Phyllis Bowdwin	https://themoth.org/stories/quiet-fire
<i>The Moth</i>	"Cocoon of Love"	Roald Hoffmann	https://themoth.org/stories/cocoon-of-love
<i>The Moth</i>	"Coming of Age on Death Row"	Gautam Narula	https://themoth.org/stories/coming-of-age-on-death-row
<i>The Moth</i>	"Leaving Baghdad"	Abbas Mousa	https://themoth.org/stories/leaving-baghdad
<i>Modern Love</i>	"My Back-Seat View of a Great Romance"	Rachel Monroe (read by Chloë Grace Moretz)	https://www.nytimes.com/2009/02/22/fashion/22love.html
<i>Modern Love</i>	"Reaching Out Between the Bars"	Joshua Fattal (read by Joshua Jackson)	https://www.nytimes.com/2014/11/23/fashion/modern-love-reaching-out-between-the-bars.html
<i>The Moth</i>	"A Father's Cover"	Blessing Digha	https://themoth.org/stories/a-fathers-cover
<i>The Moth</i>	"Wild Womxn and Dancing Queens"	Lex Jade	https://themoth.org/stories/wild-womxn-and-dancing-queens
<i>The Moth</i>	"Not on the Usual Tour"	Jon Lovett	https://themoth.org/stories/not-on-the-usual-tour
<i>The Moth</i>	"Food"	Chris Fischer	https://themoth.org/stories/food
<i>The Moth</i>	"Vixen and the USSR"	Sue Steinacher	https://themoth.org/stories/vixen-and-the-ussr
<i>The Moth</i>	"Golf Clubbing"	Ed Gavagan	https://themoth.org/stories/golf-clubbing
<i>The Moth</i>	"Beneath the Mushroom Cloud"	Clifton Truman Daniel	https://themoth.org/stories/clifton-truman-daniel
<i>The Moth</i>	"Three Months"	Glenn Rockowitz	https://themoth.org/stories/three-months
<i>The Moth</i>	"George Washington, Gangsters, and Cookies"	Deborah Allen-Carr	https://themoth.org/stories/george-washington-gangsters-and-cookies
<i>The Moth</i>	"Mets Magic"	Marie Hershkowitz	https://themoth.org/stories/the-miracle-mets
<i>The Moth</i>	"My Father's Hands"	Harwood Taylor	https://themoth.org/stories/my-fathers-hands
<i>The Moth</i>	"The Advanced Beginner"	Mary Coomer	https://themoth.org/stories/the-advanced-beginner
<i>The Moth</i>	"Fire Test For Love"	Lauren Slater	https://themoth.org/stories/fire-test-for-love
<i>The Moth</i>	"The Shower"	Tomi Reichental	https://themoth.org/stories/the-shower
<i>The Moth</i>	"Birth of a Nation"	Petina Gappah	https://themoth.org/stories/birth-of-a-nation
<i>The Moth</i>	"Listo?"	Roy Choi	https://themoth.org/stories/listo
<i>The Moth</i>	"The Curse"	Dame Wilburn	https://themoth.org/stories/the-curse
<i>The Moth</i>	"The Triangle Shirtwaist Connection"	Michelle Fecteau	https://themoth.org/stories/the-triangle-shirtwaist-connection
<i>The Moth</i>	"The Mayor of the Freaks"	David Crabb	https://themoth.org/stories/mayor-of-freaks
<i>The Moth</i>	"Caution: Eating"	Evan Kleiman	https://themoth.org/stories/caution-eating
<i>The Moth</i>	"The Interview"	Abhishek Shah	https://themoth.org/stories/the-interview

Source	Title	Author	Download link
<i>The Moth</i>	“Juggling and Jesus”	Colin Ryan	https://themoth.org/stories/juggling-and-jesus
<i>The Moth</i>	“From Boyhood to Fatherhood”	Jonathan Ames	https://music.apple.com/pa/album/the-best-of-the-moth-vol-7/488876794?l=en
<i>The Moth</i>	“Where There’s Smoke”	Jenifer Hixson	https://themoth.org/stories/where-theres-smoke

Supplementary Table 6. Stimulus stories. Language decoders were trained on brain responses to autobiographical narrative stories from *The Moth Radio Hour* and *Modern Love*. Most of the stimulus stories are freely available for download online.

	Question	Answer A	Answer B	Answer C	Answer D
Q1	What kind of vehicle is the narrator in at the beginning of this passage?	Boat	Train	Car	Airplane
Q2	Which word best describes the narrator's boyfriend?	Gloomy	Angry	Lazy	Friendly
Q3	What kind of place does the narrator find herself in?	Restaurant	Store	Hospital	Neighborhood
Q4	When do the events of the story take place?	Morning	Noon	Afternoon	Night

	Question	Answer A	Answer B	Answer C	Answer D
Q5	Which word best describes how the narrator is feeling at the beginning of this passage?	Apathy	Anger	Sorrow	Relief
Q6	What is the stranger doing when the narrator meets her?	Sleeping	Laughing	Crying	Yelling
Q7	What is unique about the stranger's appearance?	She is barefoot	She is very tall	She is very short	She has blue hair
Q8	Where does the stranger look for matches?	Her pockets	Her purse	Her apartment	Her car

	Question	Answer A	Answer B	Answer C	Answer D
Q9	What are the characters doing at the beginning of this passage?	Eating	Smoking	Drinking	Sleeping
Q10	Why does the narrator need a ride home?	She crashed her car	She injured her hand	She doesn't know how to drive	She is too tired to drive
Q11	What does the narrator see along the road?	Schools	Restaurants	Stores	Skyscrapers
Q12	Which word best describes the apartment that the characters arrive at?	Dingy	Spacious	Dark	Clean

	Question	Answer A	Answer B	Answer C	Answer D
Q13	What are the characters talking about at the beginning of this passage?	The woman's apartment	The woman's child	The woman's car	The woman's purse
Q14	Why can't the woman give the narrator a ride home?	The woman's car doesn't have gas	The narrator's house is too far away	There is a storm outside	The woman's car has a flat tire
Q15	What does the woman do to help the narrator?	Makes the narrator a map	Lets the narrator stay over	Walks the narrator to a bus stop	Calls a taxi for the narrator
Q16	What does the woman tell the narrator before she leaves?	Good luck with everything	Have a safe trip	Let's be friends	Call me when you get home

Supplementary Table 7. Behavioral comprehension questions and answers. Four 80 s segments were chosen from the perceived speech test story. For each segment, four multiple-choice questions were written based on the

actual stimulus without looking at the decoder predictions. The multiple-choice answers were written by a separate researcher who had never seen the decoder predictions. The correct answer for each question is highlighted.