

Messages Scanner Task

Cited Papers as of May 15th 2016:

Falk, E.B., O'Donnell, M.B., Cascio, C.N., Tinney, F., Kang, Y., Lieberman, M.D., Taylor, S.E., An, L., Resnicow, K., & Strecher, V.J. (2015). Self-affirmation alters the brain's response to health messages and subsequent behavior change. *Proceedings of the National Academy of Sciences*. Published ahead of print: doi: 10.1073/pnas.1500247112.

Kang, Y., O'Donnell, M. B., Strecher, V. J., Falk, E. B. (in submission). Dispositional mindfulness predicts adaptive emotional responses to health messages and increased exercise motivation.

Kang, Y., O'Donnell, M. B., Strecher, V. J., Taylor, S. E., Lieberman, M. D., Falk, E. B. (in submission). The association between prioritizing self-transcendent values and neural responses to threatening health messages

Task Description:

1. There were 5 types of health messages with the total number of 56. In addition, 2 types of control messages were included. Please see the stimuli document for a complete list of messages.

10 active_how: how one could be more active

10 active_why: why one should be more active

10 sedentary_how: how one could be less sedentary

10 sedentary_why: why one should not be sedentary

16 risk: messages highlighting the risk of being sedentary and not active

plus

10 control_how: how one could do other daily activities unrelated to physical activity

10 control_why: why one should do other daily activities unrelated to physical activity

2. In the Messages Task, all participants received 50 health messages and 20 control messages across two runs in even proportions. Each run contained 25 health messages and 10 control messages, as follows:

5 sedentary_how

5 sedentary_why

5 active_how

5 active_why

5 risk messages

plus

5 control_how
5 control_why

3. Participants were given a random selection of 10 risk messages from the pool of 16 risk messages.
4. Task timing for each message block
 - a. initial suggestion (5 s, audio accompanied)
 - b. a reason why participants should increase their activity or decrease their sedentary time, or how participants might think about implementing the suggestions, using simple text and pictograms (7 s, audio accompanied)
 - c. a brief reflection period in which they were asked to envision how they would apply the message in their own life (6 s)
 - d. Blocks were separated by fixation rest periods (2.5 s); every seventh block contained a longer (12-s) block of rest.
5. The risk messages were presented on a single screen for 10 seconds with accompanying audio.
6. The first six participants did 3 runs of the task instead of 2, but the messages were spread out in the same way.
7. We used a Latin-square to order the 'blocks' to distribute the message types across runs.

Risk Messages

1. Doctors have called physical inactivity "the biggest public health problem of the 21st century."
2. According to the American Heart Association, people at your level of physical inactivity are at much higher risk for developing heart disease.
3. A sedentary lifestyle increases the risk of developing diabetes, hypertension, colon cancer, depression and anxiety, obesity, and weak muscles and bones.
4. Being inactive puts you at risk for health problems related to lack of exercise.
5. On average, physically active people outlive those who are inactive.
6. Physical inactivity affects at least 20 of the most deadly chronic disorders.
7. Sitting for extended periods of time without breaks to move around does significant damage to your health.
8. Each hour spent sitting watching TV is linked to an 18% increase in the risk of dying from cardiovascular disease.
9. Sitting for several hours each day is bad for you, like smoking is bad for you, regardless of whether you do healthful activities, too.
10. The less you move, the less blood sugar your body uses, which causes health problems.
11. Research shows that for every two hours spent on your backside per day, your chance of getting diabetes goes up by 14%.
12. People who don't do regular physical activity are more likely to become depressed.
13. Bones, like muscles, require regular exercise to maintain their mineral content and strength.
14. Bone loss progresses much faster in people who are physically inactive.
15. People die from physical inactivity.
16. Sedentary lifestyles are one of the ten leading causes of death and disability in the world.

Control How (relevant only to fMRI analysis)

1. Try making your bed every day.
Put less stuff on your bed - the less you have to deal with, the more likely you'll be to make it each day.
2. Try keeping your desk or counter less cluttered.
Spend 5 minutes at the start and end of the day sorting through the items on your desk or counter.
3. Let calls go to voicemail during family time.
Turn off your phone and leave it in another room before you sit down for dinner with your family.
4. Recycle everything your community will allow.
Get a recycling bin that's easy to store and use it in your kitchen.
5. Use more coupons when you shop.
Sign up for email lists from your favorite stores - that way, coupons will be sent to you.
6. Try to turn off lights when you leave a room.
As you leave a room stop and look back to see if the lights are still on, and if they are, flip the switch.
7. Write letters to someone you love.
Have paper and envelopes on hand. Try drawing doodles that you think the person will like.
8. Grow a vegetable garden.
You can buy seeds, or actual plants from the farmer's markets - or you can save seeds from vegetables and plant them.
9. Set an example by never littering.
When you have trash on the go, wait until you find a bin to toss it, and encourage others to do the same.
10. Keep special photos where you can see them.
Put photos of fun events and people you love in places you can see often.



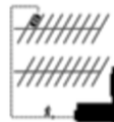
Control Why (relevant only to fMRI analysis)

1. Balance your checkbook and check your bank account for errors.
Keeping track of your checkbook helps you find errors or spot people misusing your account.
2. Using email folders will help you work more efficiently.
Sorting messages reduces search time and helps you track conversations.
3. It's illegal and dangerous not to wear your seatbelt.
Wearing your seatbelt sets a good example and might save you from getting a ticket.
4. Taking short breaks can improve your work efficiency.
Leaving work behind for a few minutes will help you focus better when you are at work.
5. Sun screen protects your skin from serious damage.
Skin which is often exposed to the sun ages more quickly and looks wrinkled and damaged.
6. Eating at home saves money and can be healthier.
Cooking at home is a lot cheaper than eating out - even if you're making a fancy meal for a special event.
7. Reading the newspaper makes you better informed and able to engage in conversation.
Reading the newspaper helps you stay up to date on what's going on in the world - whether in your area or far away.
8. Be mindful in everything you do, both at work and at home.
Being mindful at work could make work more interesting. It can also help you find things about your work to enjoy.
9. Candle light produces a relaxed and cozy atmosphere in your home.
Lighting candles can make your house or room feel special - whether it's for special events or for special people.
10. Turn off the lights when you leave a room.
Turning off lights when you leave a room saves money on your bills and is better for the earth.



Active How

1. The best parking spots are the ones that are farther away.
Choose the last row of a parking lot or the top floor so you have farther to walk.
2. Stairs are a great way to get more active.
Take the stairs instead of the elevator whenever you can.
3. Think of ways to squeeze in a little bit more walking or biking.
Think about the places you go often and see if they're close enough to walk or bike.
4. You can add some more steps by choosing different bus stops.
Get off the bus a stop or two earlier and walk the rest of the way.
5. Taking longer to do certain things can help you become more active.
Carry laundry in small armfuls or groceries one bag at a time, so you take more steps
6. Dancing is a great activity, even if you don't know how.
Pick your favorite music, and just start dancing - it doesn't have to look good as long as you're moving.
7. Some types of entertainment are more active than others.
Bowling, roller skating, swimming, and ice skating are good things to do from time to time.
8. You might be able to include more activity into your weekends.
Visit places where you walk a lot - like the store, the mall, a park, or museum.
9. Yard work can be good exercise.
Get active in the yard- shoveling, raking, gardening, or mowing can help you get more exercise.
10. Doing work around your house can get you moving.
Put on some music while you tidy, do dishes, or dust, and dance around while you're working.



Active Why

1. Being more active can help with back pain.
More active people are stronger and have better posture, which helps manage and prevent back pain.
2. Being more active gives you a chance to learn how to do new things.
It takes about 3 weeks for your brain to get used to new physical skills - but after that, it's a lot easier.
3. Activity can help you feel more alert, positive, and energetic.
Physical activity helps your brain make chemicals that relax you, even after you're done working out.
4. You can feel proud when you reach your goals.
Being active feels good, gives you more energy, and makes you feel better about yourself.
5. Getting more activity can help you sleep better at night.
People who are active have an easier time falling asleep and staying asleep - they feel more rested in the morning.
6. Physical activity can sometimes help people's sex lives.
People who are active can get aroused more easily and may be able to stay aroused for longer periods of time.
7. If you find something you like, exercise can be fun.
Being active can help you connect with other people in fun, social settings - like a class, a team, or with friends.
8. Being more active helps build muscle.
Being stronger makes it easier to do everyday things and might help you feel more powerful in life.
9. Physical activity helps you live better as you grow older.
Staying active will help you reach, bend, carry, and move more easily, so you can continue doing things you like to do.
10. Exercise can help you deal with stress.
Being active can give you a mental break from what's troubling you, take a step back and make time for yourself.



Sedentary How

1. When you've sat for an hour, try going for a 5 minute walk.
Take a walk around the block, go upstairs and come back down, or walk the halls.



2. After an hour of sitting, try standing for 5 minutes.
Stand up while you read, watch TV, talk on the phone, fold laundry, or write an email.



3. When you go to the bathroom or get a drink, take the long way.
Walk to a bathroom that's farther away - for example, on a different floor.



4. After you've been still for a while, try to stand up and stretch.
Stretch everything you can think of - arms, legs, neck, shoulders, back, and ankles.



5. Go talk to someone instead of emailing or calling.
Instead of calling within your office, walk to where they are and talk to them



6. Think of activities you can do while you're on the phone.
While you're chatting on the phone, walk around, twist, stretch, or do deep knee bends.



7. Move more while you watch TV or watch less.
Exchange a portion of your TV watching for something more active - like going for a walk.



8. You might be able to make inactive hobbies more active.
Try standing, moving around, or sitting on a yoga ball while you do your hobbies or watch TV.



9. Make the time you spend with family more active.
Instead of sitting while you catch up with family, go for a walk while you chat.



10. Depending on how you do it, yard work can get you moving.
Instead of using a leaf blower, raking your leaves the old fashioned way to move around more.



Sedentary Why

1. Imagine what you'd fill your time with if you watched less TV.
People get more checked off their to-do lists when they don't watch TV
- imagine how good that would feel.
2. The more you sit, the more damage it does to your body.
When you sit for long periods of time, your body can't handle sugar and fat
- this can mean higher risk for disease.
3. Sitting for a long time can make you sore and tired.
After you've sat for an hour, notice how your body feels - then, stand up and
notice any changes you feel.
4. You might inspire others by moving more and sitting less.
It might be hard at first - to turn off the TV or to stand during meetings
- but after a while, others will thank you.
5. The more you get off your seat, the better your chances of having a healthier
body for longer. Having a healthier body means less worry, pills, and doctor's
appointments, and more time and energy to enjoy life.
6. A lack of activity can be linked to a shorter life.
By sitting less, you can help make sure you live longer
- to enjoy the things that mean the most to you in life.
7. People who sit less are at lower risk for certain diseases.
People who sit less are less likely to have diabetes, and heart disease than
people who are more active.
8. People who sit less have an easier time controlling their weight.
You don't need to turn into an athlete or join a gym - even sitting less
throughout the day can make a difference.
9. Sitting less can mean you have more energy to get you through your day.
Getting off your seat helps get oxygen to your heart, lungs, and veins
- your body feels better when it works better.
10. Sitting less over time might mean fewer pills.
When you sit less your body is better at lowering bad cholesterol,
blood pressure, and blood sugar.

