



Does mental rehearsal increase intrinsic motivation to change behavior?

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Flow Genome Project Capstone Project 2019



BlueChipMINDS

Introduction

I chose this research Project where I am attempting to answer the question **“Can mental rehearsal increase intrinsic motivation and the rate of behavior change”** as I had noticed in my own practices when I visualised or meditated from a state of “being” or “acting as if” I already possessed a new behavior or trait, my motivation to adopt new habits increased and the new habits became automatic in a short period of time. I wanted to test whether this phenomenon happened for other people who were looking to adopt new productive behaviors.

Background



According to research into Habit formation conducted in 2010 by Phillipa Lally, Cornelia H. M Van Jaarsveld, Henry W. W. Potts and Jane Wardle and reported in the European Journal of Social Psychology it takes on average 66 days to form a new habit (depending on it's complexity). The group set out to investigate the process of habit formation in everyday life by measuring the number of days it took for a new behavior to become consistent and automatic.

(<https://onlinelibrary.wiley.com/doi/10.1002/ejsp.674>)

Further research conducted in 2004 titled "From mental power to muscle power--gaining strength by using the mind." and completed by Ranganathan VK1, Siemionow V, Liu JZ, Sahgal V and Yue GH. where they set out to determine whether mental training-induced strength gains (without performing physical exercises) in the little finger abductor as well as in the elbow flexor muscles. (<https://www.ncbi.nlm.nih.gov/pubmed/14998709>)

My aim is to see whether the combination of these two studies, Mental Rehearsal and Habit formation can increase motivation and the speed at which a new habit can be formed, regardless of it's complexity.

Method

Participants

The study was advertised via Social Media. Interested participants (n = 31) received an email explaining the requirements of whom 30 chose to participate in the study. Participants were a mix of male and female of 30+ years of age with a mix of locations including Australia, India, United States of America, Canada, France, Germany and the United Kingdom.

Procedures

Participants had to nominate a specific habit they wanted to form and commit to completing a daily 3 minute survey each morning for 28 days. The subjective survey measured their daily **level of inspiration** and the **automacy of the new behavior**. I wanted to see whether inspiration (intrinsic motivation) levels dictated habit formation and whether methods taught in "Self Help" circles such as affirmation writing and mental rehearsal (Visualisation) impacted intrinsic motivation and the speed of habit formation.

Participants were randomly placed into one of the following 3 research groups:

CONTROL GROUP (n = 10) Participants set out to change/create the new behavior without any intervention.

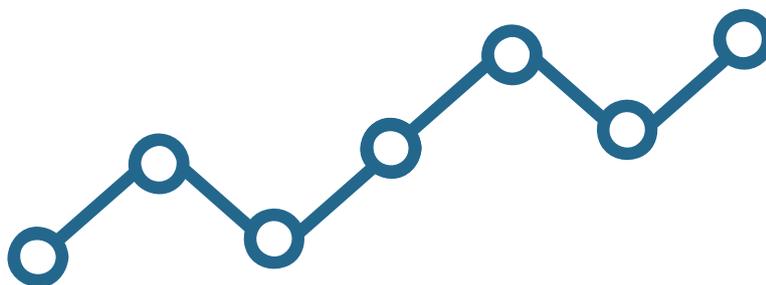
WRITING GROUP (n = 10) Participants set out to change/create the habit by writing a brief present tense description of themselves already identifying as a person who automatically has the desired behavior. This is written daily at the start of the day.

MENTAL REHEARSAL GROUP (n = 10) Participants set out to change/create the habit by first writing a clear description of themselves already doing the behavior on day 1. Then review their description briefly before listening to a 16-minute guided mental rehearsal each day.

Measures

Days 1 (start), 14 (midpoint) & 28 (end) : Scores were derived from a subjective 8 item questionnaire answered on a 5 point Likert Scale, with higher scores indicating higher levels of inspiration and automaticity of their habit.

All other days: Scores were derived from a subjective 2 item questionnaire answered on a 5 point Likert Scale, with higher scores indicating higher levels of inspiration and automaticity of their habit.



Analysis

The hypothesis in this study was that by mentally preparing for behavior change, by either writing a positive affirmation or the practice of mental rehearsal a person could increase motivation and speed up the rate a new behavior becomes automatic.

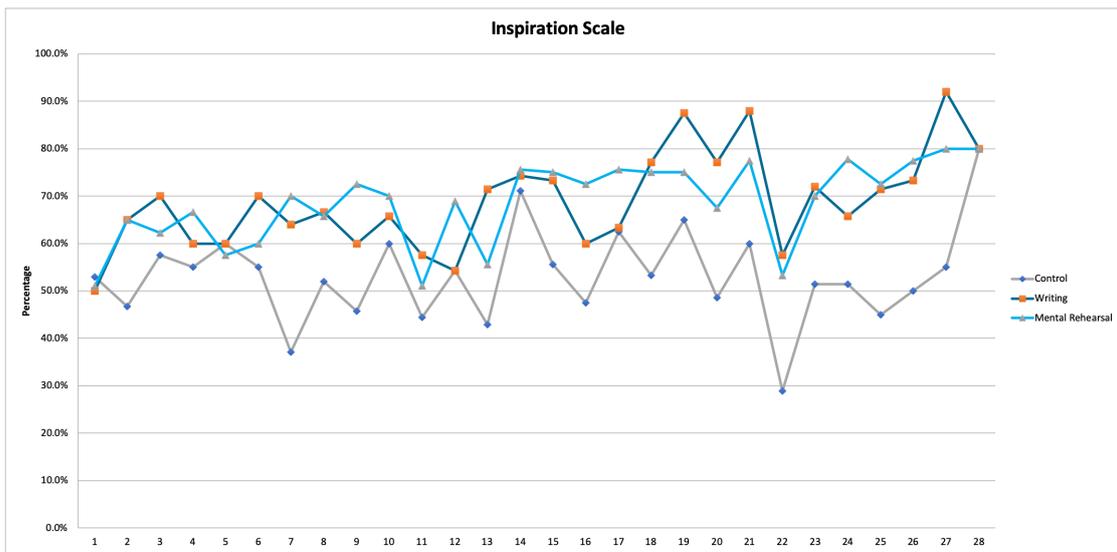
The study was conducted over 28 days. The 2010 habit formation study concluded that the average modeled time to plateau (habit becomes natural) was 66 days, with a range of 18 - 254 days, we set out to see if habit formation could be sped up with more motivation through mental rehearsal and/or affirmation writing.

By day 28 of our study each groups habit automation was:

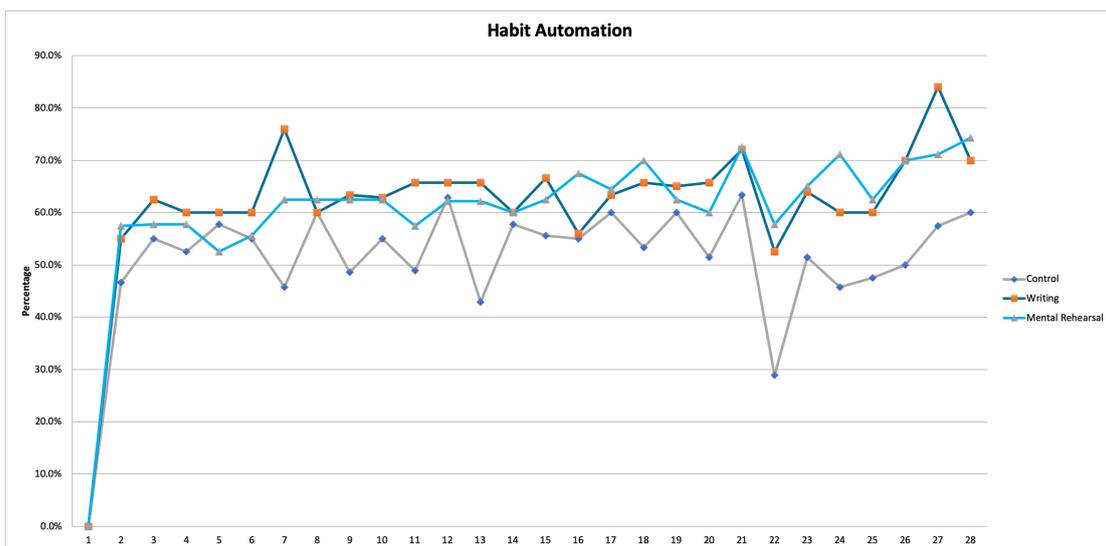
- **Control Groups** new behaviors were 60% automatic, with only 7 participants completing their final score.
- **Writing Groups** new behaviors were 70% automatic, with all participants completing their final score.
- **Mental Rehearsal Groups** new behaviors were 74% automatic, with 7 participants completing their final score.

My conclusion is that both writing and/or mental rehearsal are effective ways to increase motivation and the rate of habit formation.

Results



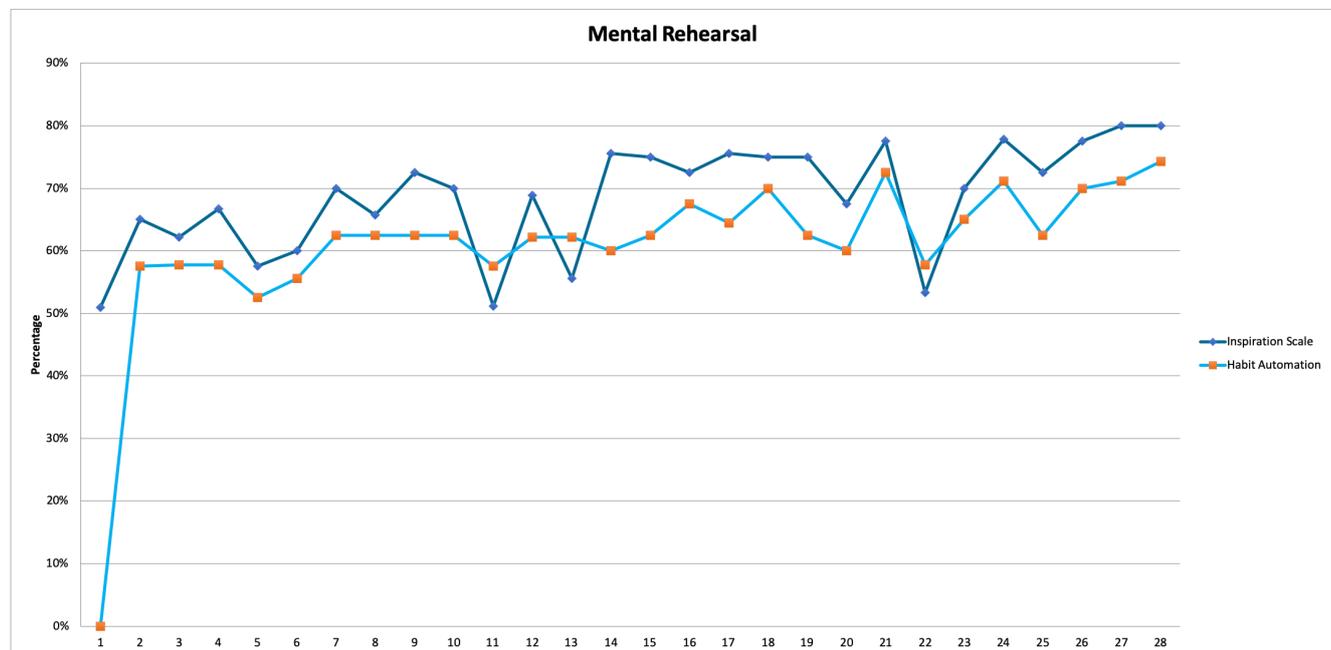
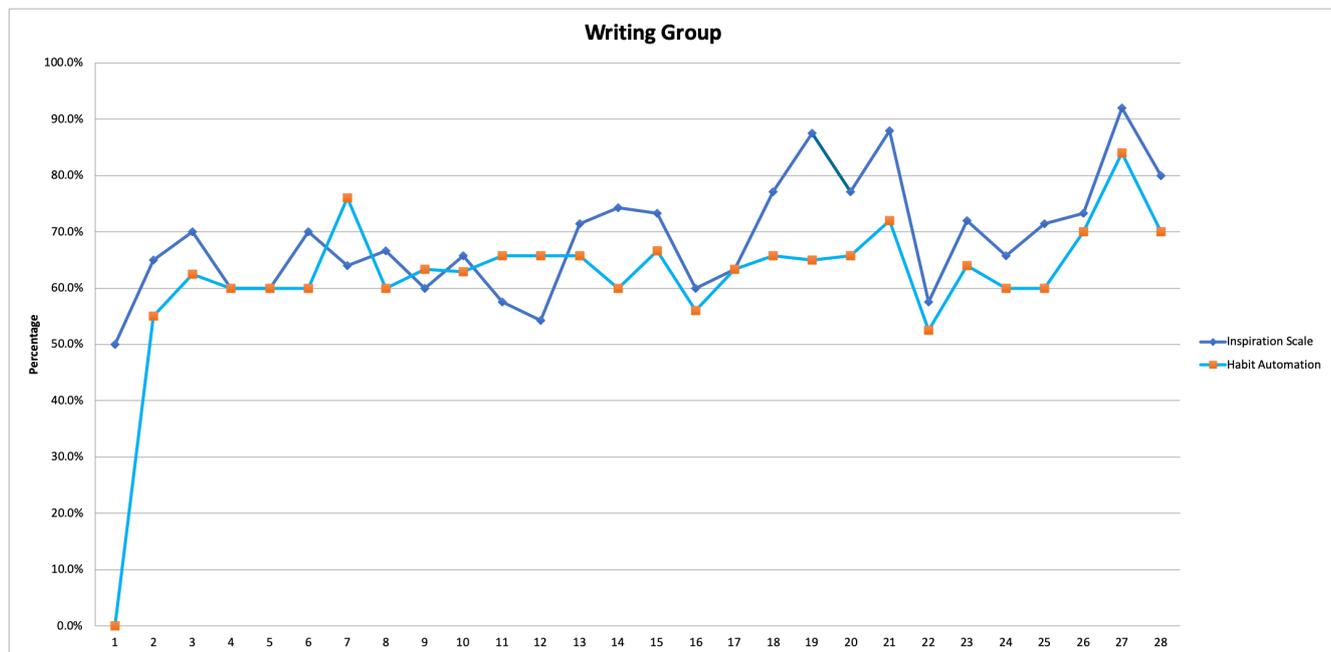
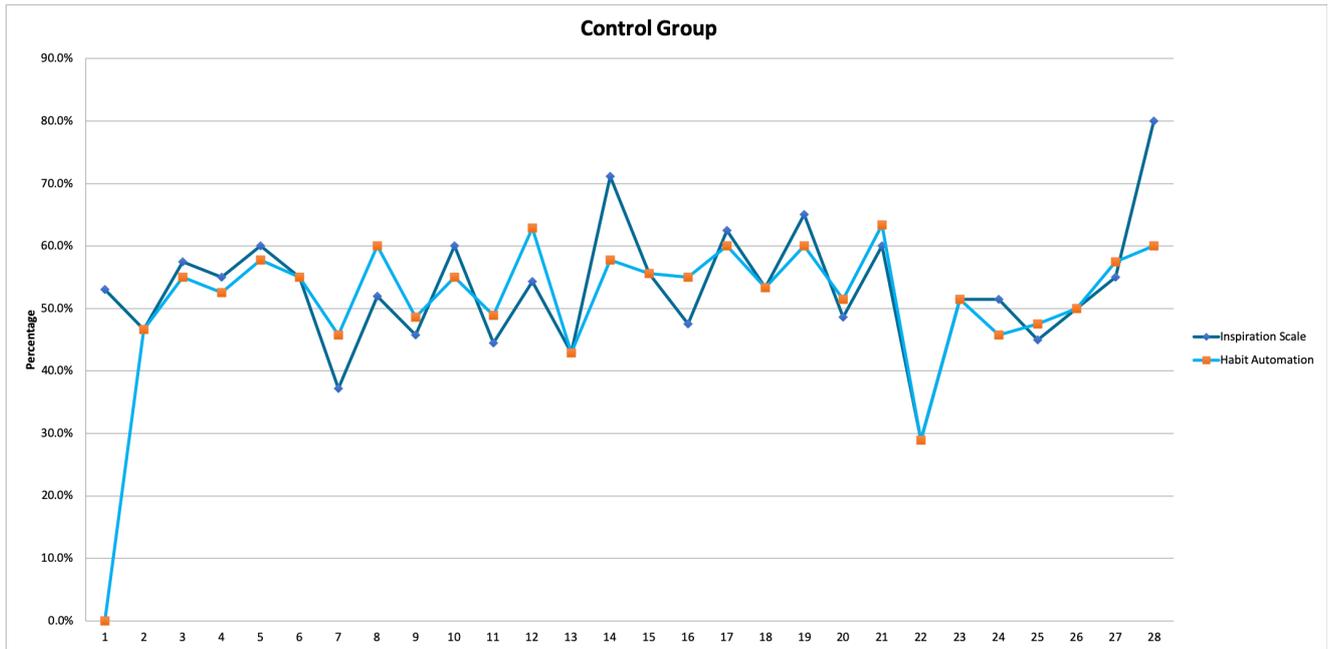
Overall Increase in Inspiration (Intrinsic Motivation)



Automacy of Desired Behavior



Results



Participant's Reflections



Abby Marsh

Mental Rehearsal Group - Habit change 'Replace Coffee with Herbal Tea'

.At first it was quiet difficult and I did experienced a headache for at least a week but that got easier. The actual habit change was quiet easy and I'm happy to say that I didn't have one sip of coffee while doing the experiment and I still have not had it. I do think about it but then I stop myself and say if I do have it what was the point in the experience. Six days afer the research has concluded and I am enjoying my herbal teas but enjoying the fact that I didn't give up and I've kept going. Perhaps a guided meditation isn't my way of changing things. More changing my mindset and sticking to the plan.

Renee Vdh

Control Group - Habit change 'Drink a Healthy Smoothie Every Day'

I was in the control group and did not do well at all.

Narelle Bailey

Writing Group - Habit Change 'Do 10 strong chin ups daily'

Oh what a ride that was. Still feeling excited and enthused by the challenge – and just because the 'check in' ended 6 days ago doesn't mean my commitment has. I'm still working on it and motivated. It felt like quite a chore at the time though and a 'daily habit' is a big one to implement. I'm very happy with my daily habits – and the fact that when I work to instill a new behaviour into my life it's one I want to be sustainable and pleasurable. I still feel the same way about my goal and I know I'll achieve it – but I also know the daily commitment will need to kick in to do so. It's in my sights. I look forward to showing you my 10 strong chin-ups.

Roz Lehmann

Writing Group - Habit change 'Doing What I say I'll do'

I did write my "me" thing every day, and will continue to do it, because I can actually see the difference it's gradually making - it hasn't happened overnight, but it IS happening! I find myself mumbling my "me" thing on my way to appointments as well, and because the first words in it are "I am a successful kitchen designer" I arrive feeling confident and successful. To put this in perspective sales wise, my conversion ratio has gone from 1 kitchen in 8 appointments 4 weeks ago, to 1 kitchen in 2.5 appointments now. Some of that is just experience, but to base it all on experience would be untrue as others who started at the same time as me are sitting on about 1 in 6, I think this proves that some of it is based on constantly telling myself that I am successful, that I do what I say I'm going to do, and that I find the time to complete tasks when they need to be done (for example getting home from an appointment at 11.30 last night, and then spending a further hour and a half to complete all required paperwork - at the start of this research, I would've come home, gone to bed and then stressed about the paperwork for two days!) the other day I had my first cancellation, and I crashed to a really low point, I then decided that I'd make sure that client was happy, redesign her kitchen if I needed to and change her mind, and I felt fine again. And I did change her mind, so I cancelled the cancellation! I thought I'd tell you all this because I wanted you to know how much this is helping me and my life - so far this week (which doesn't finish until Sunday) I've made as much money as I used to make in a month, and I've still got more opportunities to do more!

Participant's Reflections



Josephine Ford

Writing Group - Habit Change 'Stop Procrastinating by Writing a To Do List'

Six days post research completion and I still find I'm up early checking my to do list writing my blueprint, 'no procrastinating blueprint' as I call it now.

I find I'm doing more in my day and even enjoying things in my quiet time so my day is beautiful proactive from the time I am up til I go to sleep awesome no wasted time.

Dani Johnson

Mental Rehearsal Group - Habit change 'Start the Day in a Positive Way'

My goal was to prioritise time in the morning to foster positive thoughts before I started the rest of my day. I chose to do this through exercise and/or meditation as they are both things which make me feel more focused, productive, and more inspired. I stuck to the plan every day and found it really quite easy to commit to. Some days I was totally conscious of having to do it and waking up earlier was a bit of a chore, but other days my alarm would go off and I easily jumped out of bed ready to go. I was pretty excited that every day I achieved the outcome I was looking for. I felt more energised, I was more positive and I felt really productive in both my personal and professional lives. Since the research process has ended I have continued every day to make that time for myself in the morning. I am still using exercise and meditation as my methods to create the positive energy as they have worked really well for me. All in all this has been an incredibly successful process for me and something that I am embracing every day.

Graeme Robinson

Writing Group - Habit change 'Stop Biting Finger Nails'

I'm not always automatic but am at least conscious of prior to biting the damn things. Not easy but tracked

Patricia Medina Garcia

Mental Rehearsal Group - Habit change 'Finish 3 work tasks and read a book for 20 minutes daily'

I never lost interest along the way, I started very discipline, getting up earlier than what I usually do (4:30 or 5 am) to have time to listen to the rehearsal and focus on my goals for the day. That worked very well first week then I got busier and my day was starting to early everyday... I never lost the motivation and focus but was harder to do the rehearsal every morning.

Very honest I achieved 1/2 of what I said in my goal, but it was good, because I felt always engaged with what I was planning with my work tasks everyday, I also said to myself that I need to stop sometimes and have some time for myself. The only part that I struggle was that I start very early every day and I couldn't find the time to listen to the rehearsal audio every morning ... but always started my day till today focus on my goals for that day and keeping in mind my new practice. I achieved to read some days 20 minutes... I started putting a timer and at the end time flies! That works for me, and I will continue reading things that I want to finish, I only need to put and set that time apart. It was a good experience I really enjoyed creating new habits and working to improve others, because I know it will give benefits to my life.