**HARVARD UNIVERSITY**

**COMMITTEE ON THE USE OF HUMAN SUBJECTS**

**Request for Approval of Human Subjects Research**

|  |  |
| --- | --- |
| **INVESTIGATOR: *(****name, campus address****)*** | **Additional Contact Person:** *(if any)* |
| Dr. Chiara S. Haller  William James Hall RM 1350  33 Kirkland Street  Cambridge, MA 02138 | Andrew G. Reece  ? |
| **TELEPHONE:** 857-207-7783 |  |
| **E-MAIL:** haller@wjh.harvard.edu |  |

**PROJECT TITLE:** Validation of the Haller Complexity Scale

**ANTICIPATED FUNDING SOURCE:** *(for sponsored funding, add name of grant recipient)***:**

None

**FACULTY SPONSOR'S NAME** *(for non-faculty applicants)***:** Dr. Ellen J. Langer

**Supervising lecturer, instructor, or graduate student** *(if applicable)***:**

**SPONSOR'S E-MAIL ADDRESS:** langer@wjh.harvard.edu

**DURATION OF ENTIRE PROJECT:**

**from** October 2010 **to** October 2011**.**

**APPROVAL REQUESTED FOR** *(maximum one year; must be renewed annually)***:**

**from** October 2010 **to** October 2011**.**

**1. Please give a brief summary of the purpose of the research in non-technical language. Be sure to include a statement of the research problem, its importance, and how your project will address it. Cite two or three references directly relevant to the proposed inquiry.**

The current study aims to validate a new questionnaire (Haller Complexity Scale, HCS)

The benefits of creativity seem to be obvious. Creativity gives life spontaneity, authenticity and is fun. It stands behind great innovations of any sort, and is the starting point of much of our technological progress. Creativity is a fascinating topic, but difficult to investigate empirically. Only recently have some researchers developed an objective measurement approach towards functional creativity (i.e., creativity manifested in products, e.g. Cropley, 2005; Cropley & Cropley, 2008; Haller, Courvoisier & Cropley, 2009), rather than using divergent thinking tests as synonymous with creativity. Others tried to find unifying characteristics of the creative personality, and found the creative person to be a complex person (Csikszentmihalyi, 1996). This basically means that the person can switch between antagonistic styles of thinking (e.g., between heuristic and algorithmic, in the sense of Groner & Groner, 1990), between extremes in mood (positive and negative), and between personality characteristics (such as extraversion and introversion) (c.f. Cropley, 1997; Csikszentmihalyi, 1996; Helson, 1996; McMullan, 1978) as the situation requires (Haller & Courvoisier, 2009). Thus, the creative person possesses a complex combination of characteristics, rather than a single key trait. Langer (1989), who introduced the term *mindful creativity* makes a similar point in arguing that the mindfully creative person is not only open, engaged, and novelty producing, but also *flexible* to react and act as the situation requires. According to Haller and Courvoisier (2009) complexity is not only a common personal characteristic among creative people, but also offers an alternative view to the „genius and madness“ belief underlying the assumptions of the personalities of creative people. This means that the emotional state of individuals can vary, for example from stable to unstable, not necessarily implying mental illness such as Bipolar Disorder (for an overview see Haller & Courvoisier, 2009). Thus, the issue of the present research project is to validate the HCS that was constructed based on questions derived from the creativity literature.

**2. Give details of procedures that relate to subjects' participation.**

**(a) How are subjects recruited? What inducement is offered? If participants are paid, what amount and when are they paid? Is there partial pay for partial completion? (***Append copy of letter or advertisement or poster, if any*.**)**

Participants will be recruited from different classes, flyers posted within William James Hall, and across campus, Harvard University Psychology Study Pool, and Craigstlist.com, and given to people in other countries. The HCS contains 84 questions, and takes 10 minutes to fill in.

**(b) Salient characteristics of subjects--number who will participate, age range, sex, institutional affiliation, other special inclusion and exclusion criteria** (*if children, prisoners or other vulnerable subjects are recruited, explain why their inclusion is necessary*)**:**

Participants must be Harvard University students who participate for study pool credit or community volunteers (i.e., no monetary compensation.) One thousand (1000) Harvard University students and volunteers from the Boston community between the ages of 18-50 will be recruited.

**(c) Describe how permission has been obtained from cooperating institution(s)--school, hospital, corporation, prison, or other relevant organization.** *(Append letters.)* **Is the approval of other research compliance committees or another Institutional Review Board required?**

The entire study will be conducted by members of Dr. Ellen Langer’s laboratory (Chiara Haller, Andrew Reece, Jonah Friedman, Amanda Ie, Christelle Ngnoumen, Xueying Luo, Sigal Zilcha). Thus, the approval of other research compliance committees or other Institutional Review Boards is not required.

**(d) What do subjects do, or what is done to them, or what information is gathered? *(****Append copies of instructions, tests, questionnaires, or interview guides to be used.****)* How many times will observations, tests, etc., be conducted? How long will their participation take? Are interviews to be tape recorded or videotaped?**

Participants will complete the two questionnaires (i.e., demographics and HCS) either on paper in Dr. Ellen Langer’s laboratory in William James Hall or on the Internet. Participants will be given a unique numerical code number that they will use to label their questionnaires or input in the website. Names and contact information will not be collected

Upon arrival at Dr. Ellen Langer’s laboratory in William James Hall or accessing the website, 1000 participants will be asked by members of Dr. Langer’s laboratory to sign two informed consent forms (one to keep for their records) or electronically sign an informed consent form (see Attachment 5).

Participants will be asked to complete a questionnaire on demographic variables (i.e., date of birth, sex, race, socioeconomic status, educational level), hand preference, and musical background. They will then be asked to complete the HCS. Finally, participants will be debriefed by members of Dr. Langer’s laboratory or be given an electronic version of the debriefing form (see Attachment x).

The duration of the entire procedure will take 10 minutes.

**3. Describe your research experience and your research ethics training.**

**(a) Cite your experience with this kind of research and/or this population. List any assistants who will be working with you and cite their experience also.**

All investigators have completed the HETHR, CITI, and/or CUHS-led training course. Dr. Chiara S. Haller is a post-doctoral fellow in the Psychology Department at Harvard University, who has had 6 years of experience conducting psychology experiments during her PhD. In her PhD she made theoretical and empirical considerations on creativity. She further spent 20 month working for a nationwide cohort based multicentre study in Switzerland with patients with severe traumatic brain injury (Tn this study she had to conduct follow-ups with all TPI patients in four cantons, of every age range, socioeconomic status, divers illnesses. Neuropsychological, clinical and medical testing were her daily routine for 20 month. In the same study she is PI for several substudies, concerned with creativity, mindfulness, personality, cognition.

Dr. Ellen Langer has more than 35 years of experience putting the construct of mindfulness into practice in a variety of experimental settings across a variety of populations.

Andrew Reece

Jonah Friedman is a research member of Dr. Langer’s Mindfulness Lab in the Psychology Department at Harvard University as well as a research assistant to Colin Fisher in the Organizational Behavior program -- a joint program between the Business School and Psychology Department at Harvard University. He has had experience assisting and developing psychology experiments over the last eighteen months. Specifically, he has developed and tested instruments, coded and analyzed videos of triad interactions, and assisted in conducting experiments and debriefed participants.

Amanda Ie is a second year psychology graduate student in the Psychology Department at Harvard University, who has had three years of experience conducting psychology experiments during her undergraduate career. Upon graduation, she spent one year as a psychology intern at Psychiatric Physicians and Consultants in Rhode Island where she has administered and scored a battery of psychological and neuropsychological tests to individuals ranging from 3- to 80-years of age.

Christelle Ngnoumen is a first year psychology graduate student in the Psychology Department at Harvard University, who has had three years of experience conducting psychology experiments during her undergraduate career. Upon graduation, she spent one year as a psychology intern at Psychiatric Physicians and Consultants in Rhode Island where she has administered and scored a battery of psychological and neuropsychological tests.

Xueying Luo

Sigal Zilcha

**(b) Where have you received research ethics training? (check boxes) (***Note for NIH funded projects, only (i), (ii), or (iv) satisfy training requirements.***)**

|  |  |
| --- | --- |
| **(i) HETHR** | **(iv) NIH (**[**http://phrp.nihtraining.com**](http://phrp.nihtraining.com/)**)** |
| **(ii) CITI** | **(v) Research methods course (specify)** |
| **(iii) CUHS-led training course** | **(vi) Other (specify)** |
| **(vii) CUHS website PowerPoint presentation for undergraduates** | |

**4. How do you inform subjects about your research and then obtain their consent?** *(For an explanation of the elements of informed consent and documenting it, please see Appendix A, Intelligent Scholar’s Guide* [*http://cuhs.harvard.edu/ISG.html*](http://cuhs.harvard.edu/ISG.html) *or http://cuhs.harvard.edu/#Samples)*

**(a) Do subjects sign a written consent form and receive a copy for their records? If not, do they receive an information sheet that provides what they need to know before deciding to participate?** (*In addition to answering parts a. – e., append a copy of consent form, information sheet, or script for oral explanation to subject.*)

Participants must either agree to an online consent form or sign a written consent form (see Attachment 5) to participate in the study and will receive a copy for their records.

**(b) Where (***In a lab? Online?***) , when (***immediately before participation, e.g.***), and by whom (anyone other than investigator?) is consent obtained?**

Consent will be obtained online or by one of the investigators (Chiara Haller, Andrew Reece, Jonah Friedman, Amanda Ie, Christelle Ngnoumen) immediately before participation.

**(c) Are subjects children, mentally infirm, or otherwise not legally competent to consent? If so, how is their assent obtained, and who consents on their behalf?**

Participants are not children, not mentally infirm, or otherwise not legally competent to consent.

**(d) If subjects are vulnerable due, e.g., to legal status, economic status, illiteracy, or other circumstance, describe steps to minimize the risk of coercion or undue influence. Include in your answer how you ensure subjects understand that participation is voluntary.**

The informed consent form will explicitly state that participation in the study is entirely voluntary and that participants can choose to withdraw at any point without any penalty.

**(e) Is there any language barrier that could affect the consent process (***your explanation of the research and the subject’s agreement to participate***)? If so, please provide details, such as plans for use of translators or translating documents.**

No language barrier is anticipated.

**5. Give details of possible risks of harm to participants.**

**(a) What are the possible risks—physical, psychological, legal, social?**

Participants who fill in this questionnaire will not undergo any physical, psychological, legal, or social risk.

**(b) If there are any risks, why are they necessary? Is there any other way to conduct the research that would reduce the risk to subjects, and, if so, why have you not chosen that alternative?**

**(c) What steps will be taken to minimize the risk? (***If the research may involve greater than minimal risk to participants, describe provisions for monitoring data to ensure participant safety.***)**

Risks are anticipated to be no more than minimal.

**(d) Should a subject be injured or otherwise harmed, or experience significant distress, what are your plans for addressing the problem?** *(e.g., emergency care training for lab staff if physical harm is a risk; referral for evaluation or treatment if there are significant psychological risks)*

Risks are anticipated to be no more than minimal.

**If risks are anticipated to be no more than minimal, please state so here and in the consent form, if used.**

Risks are anticipated to be no more than minimal.

**6. Are subjects deliberately deceived in any way? If so, what is the nature of the deception? Is it likely to be significant to subjects? Is there any other way to conduct the research that would not involve deception, and, if so, why have you not chosen that alternative? What explanation for the deception do you give to subjects following their participation?**

Participants are not deceived in any way.

**7. How will participation in this research benefit subjects? If subjects will be "debriefed" or receive information about the research project following its conclusion, how do you ensure the educational value of the process?** *(Append copies of any debriefing or educational materials.)*

Dr. Chiara Haller’s, and Dr. Ellen Langer’s contact information will be printed on both the informed consent form and debriefing form (see Attachment x). Following the completion of the questionnaire (or following withdrawal from the study), all participants will be debriefed on the purpose of the study, will have the opportunity to ask questions about the theory behind the study, and will have the opportunity to sign up to receive a follow-up email with study results and a discussion of these results. All participants will be given the study investigators’ contact information in case they have any concerns or would like additional information or clarification. In participating in this study, participants will benefit from learning more about the process of psychological research.

**8. How are confidentiality and/or anonymity assured? For online studies, will IP addresses or other potentially identifying information be collected? What host site will be used** *(i.e. SurveyMonkey, iCommons, etc.)***? Will identifiers be removed from the data? If so, at what point, and if not, please explain why identifiers must be retained.**

In order to validate the questionnaire, participants will be asked several demographic questions (i.e., date of birth; sex; race; socioeconomic status, educational level), hand preference, and musical background. Names and contact information, as well as ID will not be collected. Every participant can write a self-created code-word on the questionnaire, so he/she can ask for results later on. To assess demographic differences, participants will be asked several demographic questions (i.e., date of birth; sex; race; socioeconomic status; educational level), hand preference, and musical background. Names, contact information, or IP addresses will not be collected. Instead, participants will be assigned a random numerical code, which will be the only identifying mark on all of the data-gathering items in this study.

**9. How is the privacy of subjects protected?** (*e.g., are questions tailored to the research question so subjects are not asked to provide unnecessary information?*)

Questions are specifically tailored to the research query such that participants will only provide information relevant to the research. For demographic purposes, participants will be asked to provide their date of birth, sex, race, socioeconomic status, and educational level, but may decline to give them if they so choose.

**10. Will research data** (*written or otherwise recorded*) **be destroyed at the end of the study? If not, where and in what format and for how long will they be stored? To what uses--research, demonstration, public performance, archiving--might they be put in future? How will subjects' permission for further use of their data be obtained? If there is a key code connecting subjects' data to their identity, when will the link be destroyed?** *(Include this information in the consent form, information sheet, or consent script.)*

All responses will be assigned a random numerical code number, which will be the only identifying mark on all of the data-gathering items in this study. There will be no “key” or master-list linking participants’ name to their number or to any of the data-gathering materials. All data-gathering items will be stored in a locked file cabinet in Dr. Ellen Langer’s laboratory. In keeping with the American Psychological Association's ethics committee rules and procedures (http://www.apa.org/ethics/code/committee.aspx#PII4), all data-gathering items will be securely destroyed five years after the end of the study.

**11. Do you and/or any other investigators associated with the project described in this application have, or appear to have, any actual or potential conflict of interest with respect to this research?** *(See* [*http://cuhs.harvard.edu/conflict*](http://cuhs.harvard.edu/conflict) *for what may constitute a conflict of interest that must be disclosed.)*

**Yes**  **No**

**If yes, a CUHS committee member will contact you to determine the extent of any conflict and assist in the development of a management plan.**

**By submitting this application, I certify that the study has been adequately designed to protect human subjects.**

**APPLICANT'S SIGNATURE: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**DATE: OCTOBER-10-2010**

***(For non-faculty applicants)***

**I have reviewed this completed application and I am satisfied with the adequacy of the proposed research design and the measures proposed for the protection of human subjects.**

**FACULTY SPONSOR'S SIGNATURE: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**ATTACHMENTS:**

Recruitment letter, poster, ad

Written consent form, information sheet, or script

Subject instructions

Tests or questionnaires

Interview guides

Debriefing materials

Other institutional approval

Other

**References**

Cropley, A. J. (1997). Fostering creativity in the classroom: General principles. In M. A.

Runco (Ed.), *The creativity research handbook* (pp. 83-114). Cresskill, NJ: Hampton Press. Cropley, A. J. (2005). *Creativity and problem-solving: Implications for classroom*

*assessment.* Leicester: British Psychological Society.

Cropley, D. H., & Cropley, A. J. (2008). Elements of a Universal Aesthetic of Creativity*.*

*Psychology of Aesthetics, Creativity, and the Arts, 2*, 155-161.

Csikszentmihalyi, M. (1996). *Creativity: Flow and the psychology of discovery and invention.* New

York: HaperCollins.

Groner, R., & Groner, M. (1990). Heuristische versus algorithmische Orientierung als

Dimension des individuellen kognitiven Stils [Heuristic versus algorithmetic orientation as a dimension of individual cognitive style]. In K. Grawe, R. Hänni, N. Semmer & F. Tschan (Eds.), *Über die richtige Art, Psychologie zu betreiben* [On the correct way to carry on psychology] (p. 415-330). Göttingen: Hogrefe.

Haller, C. S., & Courvoisier, D. C. (2009). Personality and thinking style in different creative

domains*.* Manuscript accepted for publication in *Psychology of Aesthetics, Creativity, and the Arts*.

Haller, C. S., Courvoisier, D. S., & Cropley, D. H. (2010). Correlates of creativity among visual art

students. *International Journal of Creativity and Problem Solving, 20*, 53-71.

Helson, R. (1996). In search of the creative personality. *Creativity Research Journal*, *9*, 295-306.

Langer E. J. (1989). *Mindfulness.* Cambridge: Da Capo Press.

McMullan, W. E. (1978). Creative individuals: Paradoxical personages. *Journal of Creative*

*Behavior*, *10*, 265-275.

Attachment 1 (Demographics Questionnaire)

**INSTRUCTIONS:** Please complete the following information/questions.

|  |  |
| --- | --- |
| **1.** | **Date of Birth: \_\_\_/\_\_\_/\_\_\_\_ (MM/DD/YYYY)** |
| **2.** | **Sex (Check one):**  **🞏 Female**  **🞏 Male** |
| **3.** | **Race (Check one):**  **🞏 American Indian or Alaska Native**  **🞏 Asian**  **🞏 Asian American**  **🞏 Black or African American**  **🞏 Native Hawaiian or Other Pacific Islander**  **🞏 White**  **🞏 European**  **🞏 Other:** |
| **4.** | **Hand preference (Check one):**  **🞏 Left**  **🞏 Right** |
| **5.** | **Do you play any instruments? If yes, please state:** |
| **6.** | **What is your professional affiliation:**  **If you are a student, please indicate 1) your educational level, and 2) your subject:**  **If you are an educator, please indicate 1) the educational level you teach, and 2) the subject matter you teach:**  **What is the latest degree you got?**  High school diploma In Progress Completed   Associate degree In Progress Completed   BA or BS degree In Progress Completed   Masters degree In Progress Completed   MBA degree In Progress Completed   JD degree In Progress Completed   PhD |
| **7.** | **Will you be asking socioeconomic status?** |

|  |  |
| --- | --- |
| **8.** | **What is your Profession:** |

**Haller Complexity Scale**

**In the following 84 questions we would like to get your opinion on some themes. Please answer as spontaneously as possible!**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  | not at all | somewhat | mostly | completely |
| **1.** | **I have a great deal of physical energy** | ❑ | ❑ | ❑ | ❑ |
| **2.** | **I work for long hours, with great concentration** | ❑ | ❑ | ❑ | ❑ |
| **3.** | **Even though I work a lot, I have an aura of freshness and enthusiasm** | ❑ | ❑ | ❑ | ❑ |
| **4.** | **I am often quiet and at rest** | ❑ | ❑ | ❑ | ❑ |
| **5.** | **As soon as I get some time off, I am calm and at rest** | ❑ | ❑ | ❑ | ❑ |
| **6.** | **I am smart** | ❑ | ❑ | ❑ | ❑ |
| **7.** | **I am naive** | ❑ | ❑ | ❑ | ❑ |
| **8.** | **I am mature and wise** | ❑ | ❑ | ❑ | ❑ |
| **9.** | **I am childish and sometimes immature** | ❑ | ❑ | ❑ | ❑ |
| **10.** | **I am very disciplined** | ❑ | ❑ | ❑ | ❑ |
| **11.** | **I am very playful** | ❑ | ❑ | ❑ | ❑ |
| **12.** | **I am sometimes responsible** | ❑ | ❑ | ❑ | ❑ |
| **13.** | **I am sometimes irresponsible** | ❑ | ❑ | ❑ | ❑ |
| **14.** | **I am very persistent** | ❑ | ❑ | ❑ | ❑ |
| **15.** | **I have a lot of fantasy and imagination** | ❑ | ❑ | ❑ | ❑ |
| **16.** | **I have a rooted sense of reality** | ❑ | ❑ | ❑ | ❑ |
| **17.** | **I am often extraverted** | ❑ | ❑ | ❑ | ❑ |
| **18.** | **I am often introverted** | ❑ | ❑ | ❑ | ❑ |
| **19.** | **I like solitary moments** | ❑ | ❑ | ❑ | ❑ |
| **20.** | **I like people around me** | ❑ | ❑ | ❑ | ❑ |
| **21.** | **I like interacting with people** | ❑ | ❑ | ❑ | ❑ |
| **22.** | **I like to be on my own** | ❑ | ❑ | ❑ | ❑ |
| **23.** | **I am quite humble and shy** | ❑ | ❑ | ❑ | ❑ |
| **24.** | **I have self-doubts** | ❑ | ❑ | ❑ | ❑ |
| **25.** | **I am proud of myself** | ❑ | ❑ | ❑ | ❑ |
| **26.** | **I am self-critical** | ❑ | ❑ | ❑ | ❑ |
| **27.** | **I have accomplished a great deal in comparison to others** | ❑ | ❑ | ❑ | ❑ |
| **28.** | **I never had doubts about succeeding in what I started out to do** | ❑ | ❑ | ❑ | ❑ |
| **29.** | **I am ambitioned and sometimes aggressive** | ❑ | ❑ | ❑ | ❑ |
| **30.** | **I am selfless** | ❑ | ❑ | ❑ | ❑ |
| **31.** | **I like competing** | ❑ | ❑ | ❑ | ❑ |
| **32.** | **I like collaboration and cooperation** | ❑ | ❑ | ❑ | ❑ |
| **33.** | **I am quite dominant, more than peers of the same gender** | ❑ | ❑ | ❑ | ❑ |
| **34.** | **I am less aggressive than peers of the same gender** | ❑ | ❑ | ❑ | ❑ |
| **35.** | **I am quite sensitive** | ❑ | ❑ | ❑ | ❑ |
| **36.** | **I am quite though** | ❑ | ❑ | ❑ | ❑ |
| **37.** | **I am rebellious** | ❑ | ❑ | ❑ | ❑ |
| **38.** | **I am independent** | ❑ | ❑ | ❑ | ❑ |
| **39.** | **I am traditional** | ❑ | ❑ | ❑ | ❑ |
| **40.** | **I am conservative** | ❑ | ❑ | ❑ | ❑ |
| **41.** | **I am willing to take risks** | ❑ | ❑ | ❑ | ❑ |
| **42.** | **I am extremely passionate about my work** | ❑ | ❑ | ❑ | ❑ |
| **43.** | **I am extremely objective about my work** | ❑ | ❑ | ❑ | ❑ |
| **44.** | **I am open to new things and people** | ❑ | ❑ | ❑ | ❑ |
| **45.** | **I sometimes suffer because of my sensitivity** | ❑ | ❑ | ❑ | ❑ |
| **46.** | **I experience a great deal of enjoyment because of my sensitivity** | ❑ | ❑ | ❑ | ❑ |
| **47.** | **I love diversity** | ❑ | ❑ | ❑ | ❑ |
| **48.** | **I love to share similarities with people** | ❑ | ❑ | ❑ | ❑ |
| **49.** | **I am quite systematic** | ❑ | ❑ | ❑ | ❑ |
| **50.** | **I am quite chaotic** | ❑ | ❑ | ❑ | ❑ |
| **51.** | **I like philosophical discussions** | ❑ | ❑ | ❑ | ❑ |
| **52.** | **I like to get things done without long discussions** | ❑ | ❑ | ❑ | ❑ |
| **53.** | **I am sometimes melancholic** | ❑ | ❑ | ❑ | ❑ |
| **54.** | **I am usually a happy person** | ❑ | ❑ | ❑ | ❑ |
| **55.** | **I am very curious** | ❑ | ❑ | ❑ | ❑ |
| **56.** | **I am active** | ❑ | ❑ | ❑ | ❑ |
| **57.** | **I am thirsty for knowledge** | ❑ | ❑ | ❑ | ❑ |
| **58.** | **I am passive** | ❑ | ❑ | ❑ | ❑ |
| **59.** | **Sometimes I do not want to know** | ❑ | ❑ | ❑ | ❑ |
| **60.** | **To work on something I already know is boring for me.** | ❑ | ❑ | ❑ | ❑ |
| **61.** | **I hate mathematical problems.** | ❑ | ❑ | ❑ | ❑ |
| **62.** | **If my radio or another apparatus does not work, I first try to fix it myself before I ask an expert to do it.** | ❑ | ❑ | ❑ | ❑ |
| **63.** | **I like to book my holiday as a package in a tourist agency.** | ❑ | ❑ | ❑ | ❑ |
| **64.** | **Sometimes inventions or solutions enter my mind without me needing the thing, and without a specific problem to solve.** | ❑ | ❑ | ❑ | ❑ |
| **65.** | **I try to do minor repairs by myself, including if I have not done this before.** | ❑ | ❑ | ❑ | ❑ |
| **66.** | **Well-tried means more to me, so I do not risk something new instead** | ❑ | ❑ | ❑ | ❑ |
| **67.** | **I would rather play chess or another game against a more experienced player than against a less experienced one, who can easily be beaten.** | ❑ | ❑ | ❑ | ❑ |
| **68.** | **When I do handicrafts, I do not like to do it according to instructions.** | ❑ | ❑ | ❑ | ❑ |
| **69.** | **When I do routine work, I think about what I am actually doing, and if it could be done differently.** | ❑ | ❑ | ❑ | ❑ |
| **70.** | **When I try to solve a riddle, I give up immediately if I notice that it is too difficult for me.** | ❑ | ❑ | ❑ | ❑ |
| **71.** | **I rearrange the furniture every once in a while in my flat.** | ❑ | ❑ | ❑ | ❑ |
| **72.** | **I like to do things according to a plan so that I do not have to worry about routine details again and again.** | ❑ | ❑ | ❑ | ❑ |
| **73.** | **Although it is possible to get lost in the forest, I rarely follow the signposts.** | ❑ | ❑ | ❑ | ❑ |
| **74.** | **I do not have the patience to stay with a problem for a long time.** | ❑ | ❑ | ❑ | ❑ |
| **75.** | **I can ruminate on a solution to a problem for such a long time that other things are forgotten.** | ❑ | ❑ | ❑ | ❑ |
| **76.** | **When I have to do something technical, I get the correct instruments first, and get information about how to do the task professionally.** | ❑ | ❑ | ❑ | ❑ |
| **77.** | **If there was no corkscrew to hand, I would get the cork out of the bottle in another way.** | ❑ | ❑ | ❑ | ❑ |
| **78.** | **I am always interested to learn a new game that gives me something to think about.** | ❑ | ❑ | ❑ | ❑ |
| **79.** | **If I am confronted with a task to solve, I try to find out how others solved the problem before me.** | ❑ | ❑ | ❑ | ❑ |
| **80.** | **I try to solve problems in new ways.** | ❑ | ❑ | ❑ | ❑ |
| **81.** | **If I was a teacher, I would only teach using established methods, to be sure that I use the material correctly.** | ❑ | ❑ | ❑ | ❑ |
| **82.** | **I would rather find a solution for a previously unsolved problem than do something according to a formula or an approved method.** | ❑ | ❑ | ❑ | ❑ |
| **83.** | **To solve problems you do not have to be a professor.** | ❑ | ❑ | ❑ | ❑ |
| **84.** | **People who think too much only get wrinkles and who wants to look old?** | ❑ | ❑ | ❑ | ❑ |

Attachment 5: Informed Consent Form

**Informed Consent Form**

Please consider this information carefully before deciding whether to participate in this research.

**Purpose of the research:** Tovalidate a questionnaire on personal characteristics.

**What you will do in this research:** You will complete two questionnaires on demographic variables, handedness, musical background, and personal characteristics.

**Time required:** Participation in the entire study will take approximately ten minutes to complete.

**Risks:** There are no anticipated risks associated with participating in this study.

**Benefits:** At the end of the study, we will provide a thorough explanation of the study and of our hypotheses. We will describe the potential implications of the results of the study both if our hypotheses are supported and if they are disconfirmed. If you wish, you can send an email message to Dr. Chiara Haller (haller@wjh.harvard.edu) and we will send you summaries of the overall study results.

**Confidentiality:** Your participation in this study will remain confidential, and your identity will not be stored with your data. Your responses will be assigned a random numerical code number, which will be the only identifying mark on all of the data-gathering items in this study. There will be no “key” or master-list linking participants’ name to their number or to any of the data-gathering materials. All data-gathering items will be stored in a locked file cabinet. In keeping with the American Psychological Association's ethics committee rules and procedures, all data-gathering items will be securely destroyed five years after the end of the study. Test-retest reliability?? External validity? Creativity?

**Participation and withdrawal:** Your participation in this study is completely voluntary, and you may withdraw at any time without penalty (i.e., you will still receive pro-rated study pool credit.)  You may withdraw by informing the researcher that you no longer wish to participate (no questions will be asked).

|  |  |
| --- | --- |
| **To Contact the Researcher:** If you have questions about this research, please contact: | |
| Chiara S. Haller, Ph.D  William James Hall #1350  33 Kirkland Street  Cambridge, MA 02138  Phone: 857-207-7783  haller@wjh.harvard.edu | Ellen Langer, Ph.D.  William James Hall #1330  33 Kirkland Street  Cambridge, MA 02138  Phone: 617-495-3860  langer@wjh.harvard.edu |

**Whom to contact about your rights in this research, for questions, concerns, suggestions, or complaints that are not being addressed by the researcher, or research-related harm:** Jane Calhoun, Harvard University Committee on the Use of Human Subjects in Research, 1414 Massachusetts Avenue, Room 234, Cambridge, MA  02138.  Phone:  617-495-5459.  E-mail: jcalhoun@fas.harvard.edu

**Agreement:**

The nature and purpose of this research have been sufficiently explained and I agree to participate in this study. I understand that I am free to withdraw at any time without incurring any penalty.

Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Name (print): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_