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CAS 829/Section 731
Research Plan Assignment

CAS 829: Research Plan Assignment

I'm choosing to research creativity as it pertains to individual behaviors, self-beliefs, and what factors—if any—determine who is qualified to call themselves creative. After listening to the other voices in the room in this field of study, I have become significantly more invested in this topic than my personal interest lead me to be. I'm grateful to review numerous studies performed in the area of creative self beliefs (CBSs) and creative intelligence.

LITERATURE REVIEW

Creativity is a curious area of research because of its unique ambition, its internal and external source of inspiration, and the abstract ways it must be measured. As long as humans have existed, so has creativity, but the ways it is harnessed and exercised continues to evolve. Research has increased exponentially from the mid-1900s with the revolutionary findings of J. P. Guilford (1950) and then E. Paul Torrance (1962, 1974) which has spearheaded what we understand today (Sternberg, R. J. 2006). Yet there's still so much to uncover.

Intelligence is defined in the Oxford Dictionary as 'the ability to acquire and apply knowledge and skills,' whereas creative intelligence can be defined as 'a uniquely human skill; the ability to understand, interpret, and act with imagination' (Sense Worldwide 2019). There's a great distinction here, which conveniently doesn't include any qualities about performance. The argument of whether or not an individual is creative is ever-present, but Sense Worldwide believes, "If you have a brain, you are creative" (Sense Worldwide 2019). Similarly to Bill Bowerman's statement on how to define an athlete, representing Nike, he says, "If you have a body, you are an athlete." This is the most inclusive statement I've yet to come across that determines who can identify as creative, but there's also the question of possessing creative abilities versus the quality of one's creative performance.

It is possible that creativity has nothing to do with how people perform, but how people think and respond to external stimuli. Creative thinking may society's answer to adapting to the rapidly changing world we live in, and more of an attitude than an action (Maslow 1963). In one study, the most consistent identifier of whether or not someone is creative is their ability to be open-minded (Karwowski, Lebuda 2016), so creativity at its core could look like learning to respond to situations with an open mind, with an eager attitude to change and innovate. Following openness, the second strongest predictor of creativity was extraversion (Karwowski, Lebuda 2016).

There are many reoccurring themes to identify behaviors of creative individuals, in addition to habits to strive to integrate to enhance creative thinking. Nearly all of these habits contradict one another: energetic yet restful, intelligent yet naive, playful yet disciplined, full of fantasy yet rooted in reality, passionate yet objective (Csikszentmihalyi 1996). On the other hand, many distinctly creative habits that juxtapose each other need to exist simultaneously: extroversion and introversion, humble and proud, rebellious and conservative, open and sensitive (Csikszentmihalyi 1996). At first glance this list of characteristics may draw similarities to a tabloid zodiac prediction, but the studies dig deep to pinpoint where these patterns arise.

Creative personalities are driven by a certain passion and energy to think differently and create abstractly, but also require solitude to reflect and go within oneself to refine their ideas. There are different networks within the brain that neuroscientists have uncovered, and actively engaging in a task activates the default network, while being mindful and aware of one's inward thoughts and experiences activates the executive attention network (Kaufman, Gregoire 2016). Another necessary contradiction is a creative's ability to exercise responsibility and irresponsibility. A child-like playfulness has been known to generate novel ideas, but endurance and perseverance to see these ideas through to completion is also important in the creative process (Csikszentmihalyi 1996).

Another key factor in recognizing creativity is level of intuition and the "fast and slow brain" theory (Kaufman, Gregoire 2016). Both aspects of this cognitive process are required: the

fast-brain process allows new information to be brought into the mind with pre-existing knowledge where new, creative ideas can be formed, and the slow-brain process assesses all of the incoming information and brainstorm, plays with, meditates on how to use it (Kaufman, Gregoire 2016). From this same source, creatives individuals are more likely to intentionally utilize both of these cognitive networks depending on the situation, rather than coincidentally or subconsciously switching between them.

Self-awareness as it pertains to creativity is another intriguing sector of research. Two directions have been distinguished when observing creative self-awareness: knowing one's own creative process in the ways someone behaves, and knowing oneself creatively in what makes them the way they are (Zamana 2019). The practice of looking introspectively in either of these directions is beneficial for productivity, and unlocking the potential to think and create in new—and often better—ways. As a society, we dive head-first into any area that we find curious or don't know enough about; but often don't explore our own thoughts, desires, and complexities enough (Zamana 2019).

Several different categories have been created under the umbrella of self-awareness: artifact-awareness, generator-awareness, goal-awareness, interaction-awareness, time-awareness, and meta-self-awareness (Linkola, Kantosalo, Männistö, Toivonen 2017). These different types of self-awareness are all driven by connections; among each of these aspect, and with provided connections or learned connections. Metacreativity, defined as the capability to reflect on one's own creative process and to adjust to them, is the key to acknowledging the creative potential within oneself (Linkola, Kantosalo, Männistö, Toivonen 2017). In many ways, our metacreative cognitive processes are comparable to technological systems or software in the way these self-awareness aspects are contained categorically, and the powerful ways they work together to achieve a greater network.

The first concept I read which defines creativity in terms of individual self-identified levels of creativity is little-c versus Big-C creativity (Karwowski, M. 2009; Helfand M., Kaufman J.C., Beghetto R.A. 2016). These two stages of creativity are so well-defined that the Polish language

has two different words to identify someone having small creativity (kreatywność) versus big creativity (twórczość) (Karwowski, M. 2009). Within the spectrum of little-c creativity being your everyday behaviors that utilize even a minimal effort of creativity (e.g., planning and/or decorating your sister's bridal shower, putting together a homemade Halloween costume, or creating a new recipe on the fly) to Big-C creativity which is what most people think of when they imagine creative individuals: the big names, international legends, the award-winners (Helfand M., Kaufman J.C., Beghetto R.A. 2016). The clear distinction of individuals who train, dedicate their lives, and are recognized for their creative efforts, compared to those who "simply" use creativity to solve daily dilemmas, could drive a social divide between these two categories of people, more than the professional divide that already exists.

The Four-C Model categorizes creativity into two additional levels: mini-c and Pro-C creativity (Karwowski, M. 2009). From least to most professional, mini-c is at the start of the list, as it's casually integrated in day-to-day situations, and solely internally motivated. Second is little-c, and following that level is Pro-C creativity which begins to reach the spectrum of externally motivated (in addition to internally motivated) by profession or other societal recognition, but not to the high-standard of Big-C creativity. These four stages of creativity encompass a wide range of individuals and their behaviors, on a more detailed and accurate spectrum than little-c and Big-C could attempt to define. Now the question is how would individuals self-identify themselves along this spectrum? And what shapes this self-belief?

The creative identity (CI) is incredibly complex and subjective, but there are three self-beliefs that help shape how we look at ourselves and how we can identify creativity in others (Kaufman, Karwowski 2017). Creative self-efficacy (CSE) is used in the future tense and observes the confidence someone has in themselves to perform a certain way. An individual's CSE is dynamic and can change with experience or new viewpoints, and is often very specific to a particular circumstance. Creative self-metacognition (CSM) is used in the present tense and observes the accuracy and regulation of one's self-perceived creative abilities. An individual's CSM is somewhat stable, but can evolve as personal strengths and weaknesses are

challenged. Lastly, creative self-concept (CSC) is used in the past tense and observes the level of competence someone holds in the creative realm. An individual's CSC is fairly concrete and takes much experience to alter, and can be generally applied to a variety of tasks or circumstances (Kaufman, Karwowski 2017). This source acknowledges that many previous studies have shown a moderately positive to no correlation between someone's creative self-belief and their creative performance, which reveals to me that either lack of self-confidence in one's abilities does not correlate with their ability to perform well, or ample self-confidence in one's abilities does not correlate with their lack of creative performance.

Creative endeavors and an inherently creative mindset has provided me some of the greatest joys in my life. As curious as this ambiguous field of study proves to be, the abundance of studies proves the passion for this abstract field of research. I hope to pursue this path of knowledge because I—among many other—believe, “Participating in creativity unlocks knowledge about oneself, others, and the world around them, providing an immense benefit to even those who do not consider themselves creative” (Silvia et al. 2014; Helfand, Kaufman, Beghetto 2016).

HYPOTHESES

H1: Women will be more likely than men to participate in more creative hobbies/activities.

Research suggests that people experience and exercise creativity in a plethora of ways, professional and casual, so I'd like to know which gender is more likely to participate in multiple creative hobbies/activities.

H2: Men will be more likely than women to self-identify as extroverted. Research shows that one of the two strongest predictors of creativity is extroversion, therefore I'd like to understand if men are more likely than women to self-identify as extroverted, as a predictor of creativity.

H3: Participants who self-identify as having a creative profession will be less likely to participate in more creative hobbies/activities. Research discusses in detail all the ways a person could exercise creativity, from professional to casual avenues. I'd like to understand more about the

creative void in individuals' lives, and if having a creative profession 'fills the void' or if a creative professional also desires to participate in creative hobbies/activities.

H4: Participants who are more likely to practice mindful activities (meditation, breathing exercises, yoga, journaling, etc.) will rate themselves higher on the creative scale. Research shows that creativity can be enhanced with moments of isolation or reflection, so I'm curious to know if mindfulness has a positive effect of creative self-beliefs.

H5: There will be a significant positive correlation between frequency of participation in creative hobbies/activities and confidence in ability to execute, such that the more frequently a participant engages in a creative hobby/activity, the more confident they will be in their ability to execute it. Research shows that confidence is based on personal experiences, and can be built up or broken down. I believe that if someone participates frequently in a creative hobby/activity, they will be more likely to be confident in their ability to execute said hobby/activity.

H6: There will be a significant negative correlation between age and creativity, such that the older a person is, the less likely they rate themselves high on the creative scale. Research shows that children are likely to have a grand imagination, and also, that approaching creative tasks with a playful attitude can help generate ideas. I'd like to see if this child-like creativity negatively correlates with creative self-belief as people continue to grow older.

H7: There will be a significant positive correlation between self-belief in day-to-day creativity and creative hobbies/activities, such that the more creative hobbies/activities a person participates in, the more creative they will feel on a daily basis. Research shows that many people don't recognize themselves as creative because they don't receive financial compensation for their creative efforts, they aren't famous for their creative efforts, and/or don't feel talented as it pertains to artistic abilities. I'm curious if a participant feels more creative on a regular basis, in correlation to the number of creative hobbies/activities they engage in.

SURVEY DRAFT

Welcome message: Thank you for participating in this study! Your participation in his survey will remain anonymous, and should take about 5-10 minutes to complete. This survey will focus on the topic of creativity on an individual level.

Please reach out with any questions or concerns to one of our research assistants, Natalie Puckett, at pucket18@msu.edu.

1. What is your age? (text entry)

2. What is your gender identity? (multiple choice)

- male
- female
- transgender
- non-binary
- prefer not to answer
- other (text entry)

3. What is the highest level of education you've earned? (multiple choice)

- Some High School
- High School Degree
- Some College
- Associates Degree
- Bachelors Degree
- Graduate Degree
- Other (text entry)

[SKIP LOGIC: If "Some High School" or "High School Degree" is selected, skip to question 5]

4. What was/is your field of study? List any that apply: majors, minors, specializations, etc. (text entry)

5. What is your profession? (multiple choice)

- Student
- Military
- Unemployed
- Other (text entry)

[SCREENING Q: If “Student,” “Military,” or “Unemployed” is selected, skip to the screening response below]

Screening response: Thank you for your time and participate. At this time, your responses are not required for the survey, and you may exit the page.

[DISPLAY LOGIC: Only show this response if “Student,” “Military,” or “Unemployed” is selected for Q5]

6. Do you see your profession as creative? (multiple choice)

- Yes
- No
- Other (text entry)

[SKIP LOGIC: If “No” is selected, skip to question 8]

7. How creative are you in your profession? (sliding scale question, 0=not at all creative, 10=extremely creative)

8. How creative are you in your day-to-day life? (sliding scale question, 0=not at all creative, 10=extremely creative)

9. Do you participate in any of the following creative hobbies/activities? (select all that apply)

- Carpentry/Wood-working
- Crafts
- Culinary Arts
- Dance/choreography
- Decoration
- Event Planning
- Florist
- Graphic Design
- Interior Design
- Inventing
- Knitting/Crocheting
- Marketing
- Multi-Media Art
- Musical Instruments
- Painting
- Photography
- Sculpting
- Singing
- Sketching/Drawing
- Theater
- Videography
- Writing/Poetry
- None of the above
- Other (text entry)

[SKIP LOGIC: If "None of the above" is selected, skip to question 12]

10. Of the creative hobbies/activities you selected, about how frequently do you participate in each? (sliding scale question, 0=extremely rare, 10=extremely frequently)

11. Of the creative hobbies/activities you selected, how confident are you in your ability to execute each? (sliding scale question, 0=not at all confident, 5=extremely confident)

12. Would you be interested in trying a new creative hobby/activity in the future? (multiple choice)

- Yes
- No
- Maybe
- Other (text entry)

13. Do you participate in any mindful activities? Including but not limited to: meditation, breathing exercises, yoga, journaling, etc. (multiple choice)

- Yes
- No
- Other (text entry)

14. On an average day, would you describe yourself as introverted or extroverted? (sliding scale question, 0=extremely introverted, 5=neither, 10=extremely extroverted)

15. On an average day, would you describe yourself as unsure or confident? (sliding scale question, 0=extremely unsure, 5=neither, 10=extremely confident)

16. On an average day, would you describe yourself as calm or energetic? (sliding scale question, 0=extremely calm, 5=neither, 10=extremely extroverted)

17. On an average day, would you describe yourself as disciplined or playful? (sliding scale question, 0=extremely disciplined, 5=neither, 10=extremely playful)

18. On an average day, would you describe yourself as someone who avoids change or embraces change? (sliding scale question, 0=extremely dislike change, 5=neither, 10=extremely like change)

Note: Questions 15–18 are not directly related to the hypotheses, but could provide insight into other correlational aspects of a participant's personality, behaviors, and level of creativity.

19. How creative do you identify yourself as? (sliding scale question, 0=not at all creative, 10=extremely creative)

20. Is there anything else you would like us to know about your experience with creativity? (text entry)

End of survey message: Thank you for completing this survey! Your responses have been recorded, and will remain anonymous. We appreciate your time and attention.

Overall feel of survey: In the interest of time and mental capacity of participants, we kept the number of questions to a minimum, as some of the questions may be draining. We anticipate some participants will skip questions 5, 10, and/or 11.

ANALYSIS PLAN

H1: Women will be more likely than men to participate in more creative hobbies/activities.

Hypothesis No. 1 will be investigated with a t-test. The grouping variable will be gender (1=men, 2=women, measured in Q2) and the dependent variable will be their number of

participating creative hobbies/activities (measured in Q9, how many hobbies/activities they select from the list provided, adding any hobbies/activities included in the “other” text entry).

H2: Men will be more likely than women to self-identify as extroverted.

Hypothesis No. 2 will be investigated with a t-test. The grouping variable will be gender (1=men, 2=women, measured in Q2) and the dependent variable will be how they rate themselves on extroversion (measured on 0–10 sliding scale in Q14).

H3: Participants who self-identify as having a creative profession will be less likely to participate in more creative hobbies/activities.

Hypothesis No. 3 will be investigated with a t-test. The grouping variable will be profession (1=yes, 2=no, measured in Q6) and the dependent variable will be their number of participating creative hobbies/activities (measured in Q9, how many hobbies/activities they select from the list provided, adding any hobbies/activities included in the “other” text entry).

H4: Participants who are more likely to practice mindful activities (meditation, breathing exercises, yoga, journaling, etc.) will rate themselves higher on the creative scale.

Hypothesis No. 4 will be investigated with a t-test. The grouping variable will be participation in mindful activities (1=yes, 2=no, measured in Q13) and the dependent variable will be their rating on their self-perceived creativity (measured on 0–10 sliding scale in Q19).

H5: There will be a significant positive correlation between frequency of participation in creative hobbies/activities and confidence in ability to execute, such that the more frequently a participant engages in a creative hobby/activity, the more confident they will be in their ability to execute it.

Hypothesis No. 5 will be investigated with a correlation analysis (linear correlation), trying to see if how frequently someone participates in creative hobbies/activities

(measured on the 0–10 sliding scale in Q10) is related to their confidence in their ability to execute that hobby/activity (measured on the 0–5 sliding scale in Q11).

H6: There will be a significant negative correlation between age and creativity, such that the older a person is, the less likely they rate themselves high on the creative scale.

Hypothesis No. 6 will be investigated with a correlational analysis (linear correlation), trying to see if someone's age (measured in a text entry in Q1) is related to how they rate their self-perceived creativity (measured on the 0–10 sliding scale in Q19).

H7: There will be a significant positive correlation between self-belief in day-to-day creativity and creative hobbies/activities, such that the more creative hobbies/activities a person participants in, the more creative they will feel on a daily basis.

Hypothesis No. 7 will be investigated with a correlational analysis (linear correlation), trying to see if someone's perception of their daily creativity (measured on the 0–10 sliding scale in Q8) is related to how the number of creative hobbies/activities they participate in (measured in Q9, how many hobbies/activities they select from the list provided, adding any hobbies/activities included in the "other" text entry).

RECRUITMENT PLAN

For my survey, I'm looking to recruit about 200 total participants from highly populated cities in the lower peninsula of Michigan: an equal number of men (100) and women (100), ages 18–75 (50 ages 18–29, 50 ages 30–44, 50 ages 45–59, and 50 ages 60–75), with a diverse education history, diverse professional fields, and diverse creative experiences. I'm looking for the type of individual who is actively involved in their community, engages in various activities, and who are interested in learning more about themselves. I'll be recruiting research participants: from universities (students, staff, and faculty in social gathering buildings, through club and organization leaders, within different colleges), grade schools (enewsletters, conversation boards, handouts in office), and large community centers (enewsletters, conversation boards, handouts at front desk).

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