Child Schema, Family Complexity, and Altruism’s Effect on Creativity

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# Abstract

T:his study discovers the possibility of people with altruism and family complexity to have more creative ability when primed to think like a kid than people who are not. A sample of 55 students attending spring 2014 semester at the California State University, Sacramento, who were enrolled in the following courses: Psychology 2, 4, and 8. Participants were given questionnaires to measure family complexity and levels of altruism. They were also given the task to “draw something” on a piece of paper with an outline of a box on it to measure creativity. Under the primed condition, there appeared to be a significant correlation between creativity and altruism, *R2*=.145, *F*(2,26)=2.206, *p*=.025.

*Keywords:* creativity, altruism, family complexity

# Introduction

Child Schema, Family Complexity, and Altruism’s

Effect on Creativity

Oshin Vartanian (2012) defines creativity as the generation of novel and useful products. Creativity is a broad term because there are many different types of creativity (Vartanian, 2012). Creativity is linked to complex systems, whether they are biological or societal, because complex systems seek differentiation. In other words, complex systems seek movement toward uniqueness and seek change by taking on new parts and functions, yet they seek integration to maintain continuity and stability (Gute, Gute, Nakamura & Csikszentmihalyi, 2008). This is consistent within a family setting as well; in a family setting individuals differentiate by constructing a unique identity and working toward personal goals (Gute et al., 2008). Members of a family integrate to provide emotional support to maintain relationships by investing in a common goal, tradition and values (Gute et al., 2008). Complex family systems play a large role in creativity because when a member of a family is faced with boredom, seeking change through differentiation becomes an aim (Gute et al., 2008). The space between anxiety and boredom is what allows the person to experience flow, which is a state of total engagement in an activity (Gute et al., 2008).

Other theories link creativity to spontaneous, playful mindsets that are low in self-consciousness (Zabelina & Robinsons, 2010). Zabelina and Robinsons (2010) research tested to see whether creative originality can be manipulated in a short-term state dependent manner. Individuals were asked to imagine that school was canceled for the day (‘you are 7 years old”). Their results indicated that adults develop routine strategies to deal with the tasks they are presented with by relying on symbolic logic and reasoning, which is not considered to be creative. Creativity is considered more dependent on intrinsic motivation, more cognitively demanding, risky, and of less certain value than routine performance (Byron, 2012). Adults often wrote about sleeping extra hours and catching up on homework or studying. When manipulated, desires rather than obligations and often involved playing with friends or seeking rewards from the environment. Thus, childlike thinking mindsets exhibited higher levels of creative originality (Zabelina & Robinsons, 2010).

According to Haller and Courvoisier (2010) altruistic levels in a person are said to have effect on creativity and personality in regards to the type of job a person has. The three areas examined in this study were musicians, visual art students and non-artists, specifically psychology students. The special quality of creative people as a group may not be a specific profile of personality, but greater “complexity” in personality (Haller & Courvoisier, 2010). This does not mean that people in other occupational areas are not creative, but that people who have jobs in the areas examined are more involved in their creative personality. The creative individual may be able to fluctuate between apparently contradictory poles such as selfishness versus altruism or acceptance of fantasy versus rigid realism (Haller & Courvoisier, 2010). Haller & Courvoisier (2010) also mention that although creativity has often been linked with personality, many psychologists have been more interested in cognitive processes and have compared creativity with problem solving.

All of these factors play an essential role in creativity. We hypothesize that all of these factors will contribute to an individual’s creativity by increasing their creativity. Meaning, a person from a complex family, a “kid” mindset and an altruistic personality will have high creativity.

# Methods

## Participants

Before conducting any research as Psychology student at CSUS, the research must be evaluated and approved by the Psychology Department Human Subjects Committee. The research did not provide risk to the participants. After this is completed participants can enroll in the research study through the CSUS Psychology Department’s Research Scheduling Website. The participants that enroll in the experiment are undergraduate California State University, Sacramento psychology students.

## Materials and Procedures

To analyze the data collected IBM SPSS Statistics 21 is used. A multiple factorial MANOVA statistical analysis is used to measure and identify predicting components. To measure family complexity participants took a sixteen-question questionnaire and they answered on a five point Likert Scale (see Appendix A). The questions measured the participants on the factors of supporting children’s existing aptitudes and interests, spending time together, teaching core values and behavioral boundaries, demonstrating tolerance for failure, coping with difficult circumstances, stimulating new interests and challenges, modeling habits of creativity, building a demographically and psychologically diverse family unit. The categories of family complexity are from Gute, Gute, Nakamura and Csikszentmihalyi (2008).

A between subjects study was done to see whether creative originality can be manipulated in a short-term state dependent manner when participants are primed to exhibit a childlike thinking mindset. To measure this, the control group of participants were given a paper with a square box (see Appendix B) and asked to “draw something”. To prime the individuals in the experimental group, photos of children playing were put around the room in which the participants were going through the experiment. Creativity was measured using the taxonomy model that was used in a previous study by R.J. Stahl (1980). The Taxonomy contains eleven categories for describing those psychological variables most likely to result in a new, different or unique behavior or product for a given person (Stahl, 1980). This taxonomic model represents a practical framework for understanding activities which may result in novel behaviors and products (see Appendix C). If any of the behaviors or products fulfill one of the eleven categories listed in the taxonomy model they are considered creative.

To measure altruism, participants took a ten-item questionnaire similar to The Self-Report Altruism Scale (SRA). Participants were asked to answer how often each task was performed on a Likert scale of 1 through 5 (see Appendix D). Questions measured levels of altruistic tendencies in the participant when partaking in certain situations. To score the scale, a continuous measure scale was used.

IBM SPSS Statistics 21 was used to analyze the data. A reliability analysis was done on the independent variables of family complexity and altruism. One question from the altruism questionnaire was deleted. The question that was deleted was “I got out of the way to donate blood was when I see an opportunity”. The independent variable questions were then computed to composite averages of the two variables of family complexity and altruism. A regression analysis was run on the data when the file was split for primed condition and not primed. A univariate analysis of variance was also run on the data along with the descriptive of the data set.

# Results

Family complexity had high reliability, *α*=.838 which is a good reliability. Cronbachs alpha for altruism had a relatively low reliability, *α*=.596. When question one from the questionnaire was deleted Cronbachs alpha was *α*=.659 making Cronbachs alpha rise to acceptable. The item was deleted due to low reliability.

A regression analysis was done on the data. Results indicated that the composite average of family complexity was *M*=3.57, *SD*=.627, *F*(3,51)=.122, *p*=.947and altruism was *M*=3.84, *SD*=.472, *F*(3,51)=.555, *p*=.647. The variances of these conditions were equal. Under the primed condition, there appeared to be a significant correlation between creativity and altruism, *R2*=.145, *F*(2,26)=2.206, *p*=.025. See Table 1 and Figure 1. The univariate analysis showed a significant Levene’s test, *F*(1,53)=3.712, *p*=.059 indicating that the null hypothesis was rejected.

# Discussion

The purpose of this study was to discover if certain factors contribute to a person’s creativity. We hypothesized that a person with a “kid” mindset, a complex family and an altruistic personality will have higher creativity. Results appear to indicate that there is support to the hypotheses in the primed condition. Participants with high altruism levels appeared to be more creative. Under non- primed conditions, there appeared to be no support in discovering that complex family, “kid” mindset, and an altruistic personality led to being more creative. This however, can be due to sample size. A larger sample size would establish more support in regards to the hypothesis.

The study findings were as expected in regards to altruism and creativity. Altruistic levels in a person are said to have effect on creativity and personality in regards to the type of job a person has (Haller & Courvoisier, 2010). Creativity is considered more dependent on intrinsic motivation, more cognitively demanding, risky, and of less certain value than routine performance (Byron, 2012). Participants who were in the primed condition appeared to show more of the characteristics of creativity as defined by Byron (2010) when asked to “draw something.” Our results did not show correlations between family and creativity as past research by Gute et al., (2008). Past research states that, complex systems seek movement toward uniqueness and seek change by taking on new parts and functions (Gute et al., 2008). The insufficient sample size may have been an obstacle that could have resulted in enhanced results if a larger sample size was taken into consideration.

Limitations to this study include the possibility of not having participants state their gender and age when taking the surveys. This addition to the study could lead to future studies to discover the more creative sex and the age ranges of people who are considered more creative. Another limitation was the variability in rooms used when the study was conducted. Participants completed surveys in two different room settings depending on the time slot they signed up for. In the future, conducting the study in the same room might yield better results regarding family complexity, kid schema, and altruism. A different limitation in the study is a technical error on the family complexity questionnaire. On the likert scale, the value of 1= strongly disagree was misspelt and participants were instructed to change it at the beginning of the study. This however could have limited participant focus and confused or distracted them when answering questions. In future studies this should be restored to proper grammar and lessen the confusion allowing for the possibility of different results.

One suggestion we would make for future research is to include a written portion to the study under both the conditions; primed and not primed. The addition of this portion would ask participants to write in a paragraph what they would do on their day off. We suggest this because the inclusion of this portion may yield more significant results as it did similarly in previous studies. In conclusion, the research performed discovered which factors have support in regards to family complexity, altruistic personality and a “kid” mindset. Refining of limitations and suggestions will yield significant results regarding

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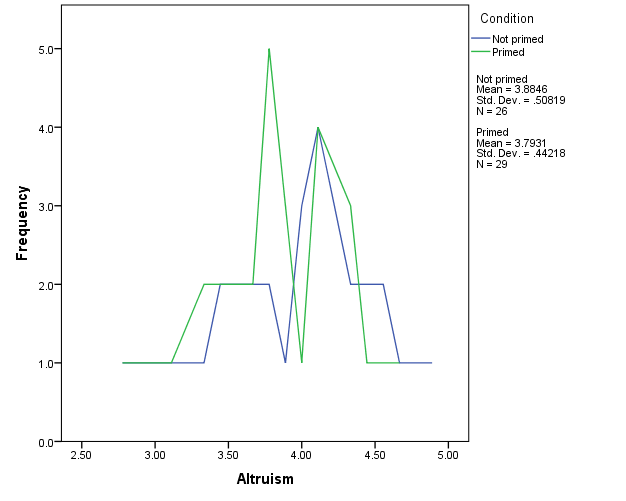
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| Table 1 | | | |
| *Summary of regression for primed altruism and family complexity.* | | | | |
|  | B | SE B | β | | | *p* |
| Altruism | .424 | .202 | .398 | | | .046 |
| Family complexity | -.083 | .147 | -.108 | | | .575 |



*Figure 1.* Line graph of primed and not primed conditions of altruism.

# Appendix A

1 = Strongly disagree

2 = Disagree

3 = Neither agree nor disagree

4 = Agree

5 = Strongly agree

\_\_\_1. My family hinders my talents.

\_\_\_2. My family does not support my interests.

\_\_\_3. My family likes to spend time together.

\_\_\_4. Avoiding one another is typical in my family.

\_\_\_5. My family has taught me what is considered appropriate behavior.

\_\_\_6. Strong core values are instilled in my family.

\_\_\_7. In my family, it’s okay to not always succeed.

\_\_\_8. If I do not do well on an exam, I will be looked down upon.

\_\_\_9. My family helps and supports one another with difficult circumstances.

\_\_\_10. I assist my family when difficult circumstances arise.

\_\_\_11. If I am faced with a challenge, my family stimulates to me to surpass it.

\_\_\_12. New interests and hobbies are promoted in my family.

\_\_\_13. I’ve never seen my family get creative.

\_\_\_14. My family members are fairly inventive and imaginative.

\_\_\_15. Diversity is accepted in my household.

\_\_\_16. My family members can agree to disagree, and that’s okay.

# Appendix B

# Appendix C

Accident – purely unintentional, unexpected, and occurs by chance

Accommodation – typical, casual and/or routine adjustments and adaptations a person makes in day-to-day life situations

Reproduction – remake in the exact form the surface features and content by tracing the original

Duplication – to be an equivalent form of or corresponds closely to an original; other than trace copying procedures

Fabrication – alter or modify the surface features or arrangement of an original just to give it a new appearance; rearrangement, remixture, recombination of surface features solely for the purpose of altering the original given surface features or characteristics

Imitation – model or replicate a concrete or surface product with some minimal understanding of the principles, guidelines or abstractions which are represented by the original product or entity

Transfersion – application of a set of principles or procedures in situations somewhat different than where they were first learned

Substitution – effort to replace or manipulate parts of an original in order to form a new product or behavior which has somewhat that same message and/or intent of the original but with different surface features

Experimentation – to combine, mix, and use a set of principles or guidelines understood as abstractions as well as the concrete entities or features which they represent

Innovation – use of the meaning or “essence” of a set of principals or guidelines understood as abstractions which operating independently of specific concrete features or entities which have here-to-for been associated with those principles or guidelines

Generation – the interrelating, synthesizing, or integration two or more sets of principles or guidelines understood as abstractions to produce an entirely new set of guidelines which represents the “best”’ of the previous separate sets

# Appendix D

Please identify how often you perform the following tasks on a scale of 1 through 5.

1=Never, 2=Once, 3=More than once, 4= Often, 5=Very often.

1. I go out of the way to donate blood when I see an opportunity.
2. I hold the door open for people leaving a store after me.
3. I can appreciate the musical tastes of others when different than mine.
4. I recognize when others do better at certain task.
5. I have helped a classmate who I did not know that well with a homework assignment when my knowledge was greater than his or hers.
6. I help the elderly when I see they are in need of assistance.
7. I go out of my way to make sure my area is clean after I leave the classroom.
8. I give monetary donations to charities.
9. I am the creative brain when working in a group.
10. I give strangers directions.