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TEENAGE MINDS: WHERE EGOCENTRISM MEETS CREATIVITY

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ABSTRACT

This study examines the relationship between adolescent egocentrism and creative thinking, exploring whether heightened self-focused cognition predicts enhanced creative abilities. Drawing on Elkind (1967) theory of adolescent egocentrism namely the personal fable and imaginary audience. We investigate how these two constructs correlate with creative thinking, measured by the Torrance Tests of Creative Thinking (TTCT). A convenient sample of 350 adolescents (ages 16–18) completed assessments of egocentrism and creativity. Results revealed a significant positive association between personal fable ideation and creativity scores indicating that adolescents who have strong beliefs in their uniqueness come up with more novel ideas. Imaginary audience tendencies, however, did not significantly correlate with creativity. These results suggest that, through promoting nonconformity, some egocentric qualities may stimulate creative potential during adolescence. By elucidating the relationship between normative cognitive biases in adolescence and creative cognition, the study advances developmental psychology. These results offer actionable insights for fostering creative development in educational setting.

Keywords: Creativity, Egocentrism, Adolescence

1. INTRODUCTION

Contemporary frameworks position creativity among the highest-order cognitive skills required for success in complex, rapidly evolving environments OECD. (2018), Nakano and Wechsler (2018) numerous studies have been done on the development of creativity Sawada et al. (2024). Although it has been considered that creativity varies throughout our lives, adolescence is a remarkable time for its development Crone and Dahl (2012). Adolescence is a time of growth and plateaus, as well as hormonal, emotional, and cognitive upheaval. Teachers, parents, and mentors can effectively foster creativity both during and after this crucial stage by having a thorough understanding of these three developmental areas namely, cognitive, psychosocial and biological.

2. CREATIVITY

Creativity emerges as a complex system where novel, adaptive solutions arise from reciprocal relationships between personal traits, mental processes, and sociocultural contexts Plucker and Beghetto (2004).While early work in educational psychology established creativity as a critical research focus Torrance (1967), Glover et al. (1989), persistent gaps in conceptual frameworks and assessment validity have limited recent progress Lin and Shih (2016), leading to diminished empirical attention.Creativity has recently come back into focus as a critical skill for people, organizations, and societies to meet the challenging requirements of the modern world and keep up with evolutionary changes Wong et al. (2018). Continuous attempts to promote creativity in the classroom demonstrate this heightened awareness of the subject Jeffrey and Craft (2004).

Gardner (1982) work suggests the foundations of creative cognition are established in the earliest stages of human development. Pre-schoolers, according to him, possess expressive artistic creativity. Gardner concurred that children's artistic development followed a U-shaped pattern. He suggested that pre-schoolers possessed a high degree of creativity. When children started school, they went through a developmental stage where they were taught to conform. Children's artistic inventiveness seemed to be waning at this stage of development. Additionally, Gardner suggested that creativity increased during preadolescence and persisted into adulthood.

Furthermore, it has been acknowledged that adolescence is a crucial period for a person's creative development. In order for the long-term advantages of creative activities to benefit students and adolescents, this time should be devoted to enhancing the creative tendencies of adolescents. Such an attempt is further supported by an important line of educational research examining the contribution of creativity to academic achievement Hansenne and Legrand (2012). A recent meta-analysis of 120 studies found a weak to moderate link between aspects of creativity and academic achievement. This developmental effect makes it necessary to better understand creativity as it develops in school-age students Gajda et al. (2017). To address and adapt, our global society must embrace the ability to think outside the box, which will call for the participation of all leaders to nurture creative thinking in children through adolescence and into adulthood.

In more recent years, the focus of research on the development of creativity has shifted from measuring aspects of divergent thinking to examining the influence of motivation and personality on creativity development (Russ, 2003). Furthermore, the works of Houtz and Krug (1995) and Treffinger et al. (1983) highlight the significance of viewing both cognitive and affective processes as essential elements of the creative process and creative behaviour. In addition to the study of cognitive processes, affective processes, motivation, and personality traits, practitioners are also very much interested in how to help students develop their capacity for problem-solving and creative thinking in real-world contexts, as proposed by Guilford in 1950.

The developmental trajectory of creativity and the factors that influence individual differences in this trajectory remain ambiguous Barbot et al. (2019). Given the multifaceted nature of the creativity phenomenon, which involves environmental, personality, and cognitive factors, this lack of clarity is not surprising Guilford (1966), Sternberg (2006), Amabile and Mueller (2008), Said-Metwaly et al. (2017). Researchers have time and again linked specific personality traits to higher creative potential and achievement Shi et al. (2017).

3. ADOLESCENT EGOECNTRISM

Elkind (1967) introduced the concept of Adolescent Egocentrism, which explains why teenagers tend to remain self-focused in their thoughts. Elkind claims that two mental constructs—the personal fable and the imaginary audience—are the result of adolescent egocentrism. Teenagers expect their thoughts to be focused on them because they understand that other people have their own thoughts. In this way, teenagers pretend to be playing for an audience because they believe that other people are just as concern as they are about them. Teenagers use the personal fable, or "story," to persuade themselves that their feelings and experiences are wholly original. Having feelings of immortality or invulnerability are partially a result of uniqueness to a certain extent.

The phases of cognitive development proposed by Piaget are expanded upon by Elkind's egocentrism. According to Flavell (1985), egocentrism is defined as "a failure to differentiate or distinguish clearly between one's own point of view and another's. As documented by Piaget (1950), Piaget (1973) and subsequent research Elkind (1967), egocentric thought patterns characterize all four stages of cognitive development. At the final stage, formal operations, when the child can think about hypothetical and abstract concepts instead of concentrating on concrete information, adolescent egocentrism takes place. Formal operations include the ability to think about thinking as a key component. Although this skill releases the child from object centration, which involves concentrating attention on a single, noteworthy object, it also leads to self-centrism, which is the conviction that one's own issues are the main focus of other people's thoughts.

The imaginary audience refers to adolescents' belief that they are constantly the focus of others' attention Elkind (1967). Increased self-consciousness, obsession with appearance (such as excessive use of mirrors), attention-seeking actions (such as wearing trendy clothes), compliance to peer norms, and even delinquent activities carried out to impress perceived observers are some manifestations of these cognitive phenomena.

The imaginary audience naturally leads to the personal fable. The adolescent must be unique, omnipotent, and invincible if they are so significant to others. This internal conviction could explain common teenage behaviours like journaling, brief romantic relationships, and risk-taking (e.g., substance use, careless driving, unprotected sex). The personal fable is the outcome of over-differentiation, whereas the imaginary audience is the result of an under-differentiation failure.

According to the Piagetian theory, egocentrism develops in early adolescence (ages 11–12), peaks in middle adolescence (ages 14–15), and then diminishes in late adolescence as a result of the development of interpersonal intimacy and the maturation of formal operations. Several studies reported this decline. However, there is also the surprising rise with age and the discovery that when faced with significant life transitions (like entering college), emerging adults (young people aged 18 to 25) exhibit higher levels of egocentrism. Lastly, other studies revealed no correlation with age Galanaki (2017).

In general, adolescent egocentrism diminishes between the ages of 15 and 16 as teenagers become more adept at distinguishing their own thoughts from those of others Elkind (1967), which results in more realistic views of themselves. Schwartz et al. (2008) discovered, however, that egocentric inclinations (personal fable and imaginary audience) can continue until late adolescence and resurface during

stressful life transitions, such as starting a new job or college. According to this, egocentrism functions recursively, re-emerging during significant life hurdles.

4. REVIEW OF LITERATURE

In today's time, adolescents deal with a wide range of social, emotional, and intellectual issues during what is frequently referred to as a difficult and complex developmental stage Perryman et al. (2015). Despite being a significant and hopeful period for creative development, adolescence has not received the same level of research attention as childhood and adult creativity. Numerous studies have already shown how instructional paradigms can foster creativity in children Cliatt et al. (1980) and adults Kienitz et al. (2014). On the other hand, nothing is known about how flexible creative thinking is during adolescence.

Despite extensive work on creativity and egocentricity individually, their intersection remains relatively unexplored. Integrating existing evidence on their linkage could refine theoretical models of creative thinking. Existing research highlights overlapping dimensions—such as risk-taking, perceived invulnerability, sensation seeking, and heightened self-consciousness—that may explain the link between creativity and egocentric cognition.

Risk-taking is considered a developmental phenomenon that results from cognitive immaturity, that also explains the connection between creativity and egocentrism. In other words, it is believed that teenagers lack the mental capacity to weigh the advantages and disadvantages of taking risks. Risk-taking behaviours and egocentric cognitions share overlapping psychological dimensions, particularly within the personal fable ideation domain. Few adolescent health programs consider the egocentric dimension of decision making, despite the fact that cognitive-social immaturity is a reasonable explanation for risk-taking behaviour in adolescents Greene et al. (2000).

Egocentrism affects teens' propensity for taking risks Grant (2007). Grant's qualitative study of ten female teenagers looked at the relationship between risk-taking behaviours and Elkind's concepts of the personal fable and imaginary audience. The study discovered through focus group discussions that these egocentric conceptions had a considerable impact on the risk propensity of female teenagers.

Also, Risk-taking is regarded as a non-intellectual component of creative potential Torrance (1962), Budge and Clarke (2012). Usually, risk-taking behaviour is thought of as a developmental process, a personality trait, or a taught behaviour. Adolescent risk-taking stems from cognitive immaturity but also correlates with creativity Pankove and Kogan (1968). Research consistently links risk-taking to creative behaviour Eisenman (1987), Sternberg and Lubart (1992), Feist (1998), with theoretical frameworks like achievement motivation Zhou and George (2001) and investment theory Sternberg (2006) emphasizing its role as a catalyst for innovation, further elevating the importance of the relationship between risk-taking and creativity. Shared associations with risk-taking behaviour suggest overlapping cognitive or motivational processes between creativity and egocentrism.

Another, psychological construct like, Sensation seeking has been used particularly in regard to personal fable ideation and is defined as "the need for varied, novel, and complex sensations and experiences, and the willingness to take physical and social risks for the sake of such experiences" Zuckerman 1979. A systematic examination reveals significant conceptual and empirical overlap between personal fable ideation and sensation seeking during adolescence.

In a cross-sectional study of teenagers (ages 11 to 25), Greene et al. (2000) included 381 junior and high school students and 343 college students. The subscales of sensation seeking (experience-seeking, thrill-seeking, and adventure-seeking), personal fable (omnipotence, uniqueness, and invulnerability), and risk-taking personality have been found to have a positive and significant correlation with one another, suggesting a close relationship between the variables. Greene et al. (2000) makes the clear claim that sensation seeking, and personal fable ideation (also known as "cognitive egocentrism") are linked to a number of risky adolescent behaviours, such as driving while intoxicated, driving at high speeds, having unprotected sex, using illegal substances, and various other delinquent behaviours.

However, emerging evidence indicates a positive association between sensation seeking and creative abilities. In an experiment, conducted on 390 freshmen and students from sophomore colleges, Okamoto and Takaki (1992) discovered a strong correlation between sensation seeking and the need for uniqueness and three different forms of creativity: the picture creation test, the unique uses test, and the unreal imagination test. However, when the effects of their mutual correlation were partially eliminated, sensation seeking appeared to be a more important psychological construct, suggesting that it is a good predictor of creativity.

Another, psychological construct explaining the relationship is self-consciousness. The similarity in psychological underpinnings between imaginary audience and self-consciousness has been explained in previous literature Ryan and Kuczkowski (1994). Elkind's egocentrism also implies that the phenomenon of the imaginary audience should be correspond to elevated self-consciousness. Cohn et al. (1988), Lapsley and Murphy (1985) have indeed contended that the Imaginary Audience Scale (IAS), developed by Elkind and Bowen (1979), measures self-consciousness, a by-product of egocentrism, rather than egocentrism itself. Their stance is based on the IAS's item content and research linking the social skills, shyness, and anxiety measures.

According to Ryan (1991), self-consciousness frequently entails projecting the other person's perspective of the self and, consequently, an imagined audience. More precisely, Elkind and Bowen's imaginary audience, in the words of Ryan and Kuczkowski (1994), is about public self-consciousness, or an awareness of oneself as an object of social interest. People with an elevated sense of public self-consciousness have concerns about what other people think of them, which makes them more likely to conform and lose their sense of autonomy Plant and Ryan (1985).

One of the noteworthy works on creative personality is the Institute of Personality Assessment and Research (IPAR) at the University of California at Berkeley. Here, MacKinnon in his famous work studied creative scientists, mathematicians, architects and writers (1962). He demonstrated that creative architects are self-accepting, self-confident, achievement-oriented, perceptually receptive to internal and external stimuli in the environment and does not allow oneself to be affected by social restraints and opinions of others.

According to research involving 260 individuals (ages 9–26), Facebook engagement and the conception of an imaginary audience were positively correlated, with behavioural rehearsal acting as a mediating factor Cingel and Krcmar (2014). According to this, teenagers simulate social situations in their minds to foresee social reactions, signifying a characteristic feature of imaginary audience. The phenomena may have two purposes: it can promote creativity by allowing experimenting with non-traditional self-presentations and reduce self-

consciousness through rehearsing. Constant scrutiny may paradoxically encourage creativity as people experiment with content that pushes boundaries and adopt new personas.

Building upon established theoretical frameworks and empirical evidence, this study investigates the relationship between creative thinking and two core egocentric ideations—personal fable and imaginary audience—examining both their correlational patterns and unique predictive contributions.

5. HYPOTHESIS

The contribution of egocentric personal fable ideation would be positive and significantly higher in creative thinking as compared to the contribution of egocentric imaginary audience ideation.

6. METHOD

6.1. SAMPLE

For the purpose of this study, a convenience sample was chosen from the population. It consisted of 350 subjects comprising of 175 males and 175 females. The data was collected from public and private schools and colleges in Panchkula (Haryana), and Nalagarh and Baddi (Himachal Pradesh.The sample was in the age range of 16-18 years.

6.2. INSTRUMENTS

1) Torrance Test of Creative Thinking (Torrance, 1990)

The most popular and extensively used test for assessing creativity is the TTCT Wechsler (2002), Almeida et al. (2008). There are verbal and figural subtests in the test. The two parallel forms of the TTCT-Verbal, A and B, contain the following subtests: (a) Asking Questions and Making Guesses (subtests 1, 2 and 3); (b) Improvement of a Product (subtest 4); (c) Unusual Uses (subtest 5) and (d) Supposing (subtest 6), Torrance (1969), Torrance (1974). The TTCT-Figural consists of two parallel forms with three subtests: (a) compose a drawing; (b) finish a drawing; and (c) compose a different drawing parting from parallel lines Torrance (1974). Both forms are oriented to assess five principal cognitive processes of creativity: (a) fluency or number of relevant responses; (b) flexibility as referred to a variety of categories or shifts in responses; (c) originality entails considering novelty responses, not familiar and unusual, but relevant, (d) elaboration as referred to the number of details used to extend a response; and (e) resistance to premature closure scores an individual's capacity to remain flexible and tolerate ambiguity for a sufficient amount of time to arrive at an original solution.

Reliability and validity: According to Kim (2008), The verbal subtest exhibits a strong internal consistency of $\alpha = .91$. The inter-rater reliability for flexibility was 0.95 and 0.99 for fluency among scorers of the verbal subtest. Test-retest reliability coefficients for the TTCT range from 0.59 to 0.97 Torrance (2000).

Yoon (2017) demonstrated the significant correlations between different subscales of TTCT: high correlation was found between fluency and originality ($r = .73$, $p < .001$). Additionally, elaboration and resistance showed high correlation (($r = .66$, $p < .001$), abstractness and resistance ($r = .53$, $p < .001$), and abstractness and elaboration ($r = .47$, $p < .001$). This denotes the presence of convergent validity among the variables of TTCT.

2) The New Imaginary Audience Scale (NIAS) (Lapsley, FitzGerald, Rice, & Jackson, 1989)

The New Imaginary Audience Scale (NIAS) assesses "the extent to which subjects engage in object relational ideation, interpersonal fantasies, and 'visions of self" Lapsley et al. (1989). This scale consists of 42 items and individuals rate items on a 4-point scale with higher scores indicating greater probability of engaging in imaginary audience behaviours. A score of 168 is the highest obtainable score on this scale.

Reliability and Validity: Lapsley et al. (1989) reported that this measure demonstrated strong internal consistency reliability (a = .92). Vartanian (1997) reported reliability of .95 using the NIAS. In addition, Goosens et al., (2002) conducted a study on Belgian adolescents, using both a 42-item and a 30-item version of the NIAS. They suggested a high internal consistency for both versions. For the 30-item version, they reported a = .88, and for the 42-item version a =. 87. They also found a correlation of .97 between these two versions of the NIAS.

Little published information about the validity of the NIAS exists. Vartanian (1997) suggested that results of multiple regression analyses indicated that an individual's need for connection, concerning separation-individuation with others predicted use of object-relational ideation and that imaginary audience correlated strongly with issues of separation-individuation. These findings are positive and add to the validity of imaginary audience, measured by the NIAS.

3) New Personal Fable Scale NPFS (Lapsley, FitzGerald, Rice, & Jackson, 1989)

The NPFS Lapsley et al. (1989) assesses "the extent to which the subject engages in "poignant internal perceptions of the self" by a "self- observing ego" Lapsley et al. (1989). It is a New Look instrument comprised of three subscales that concentrate on feelings of uniqueness, invulnerability, and omnipotence, respectively. Personal uniqueness (13 items) refers to feelings of being different from others and not being understood by other people (e.g., "No one has the same thoughts and feelings that I have"). Invulnerability (14 items) is defined as the incapability to be wounded, injured, or harmed (e.g., "It is easy for me to take risks because I never get hurt"). Omnipotence (19 items) is viewed in terms of having virtually unlimited authority, influence, or power (e.g., "I believe that I can do anything I set my mind to"). All items were answered on a 5-point scale (1 completely disagree, 5 completely agree) and responses were summed across the respective items to yield the three sub-total scores.

Reliability and Validity: The New Personal Fable Scale (NPFS; Lapsley et al. (1989) includes Likert- type scales that assess a belief in personal uniqueness (13 items; a .69), invulnerability (14 items; a .72), and omnipotence (19 items; a .79). Psychometric properties of the NPFS have been generally adequate Goossens et al. (2002), Vartanian (1997).

7. RESULTS AND DISCUSSION

Table 1

Table 1 Mean, Standard Deviation and Intercorrelations Among Creativity, Personal Fable Ideation and Imaginary Audience Ideation

Variables	M	SD	1	2	3
1. Personal Fable Ideation	131.17	23.67	1		
2. Imaginary Audience Ideation	107.45	21.85	.035	1	

3. Creativity	84.42	18.49	.136*	.075	1

Note M stands for mean, SD stands for Standard Deviation, * indicates p<0.05, N=350

1) Contribution of Personal Fable Ideation in Creative Thinking

Table 2

Table 2 Model summary of Linear Regression of Personal Fable Ideation (N=350)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.136[a]	.019	.016	18.348	.019	6.603	1	348	.011

a. Predictors: (Constant), PFI

Table 2

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	70.435	5.53		12.737	<.001
	PFI	.107	.041	.136	2.57	.011

a. Dependent Variable: TCT

2) Contribution of Imaginary Audience Ideation in Creative Thinking

Table 3

Table 3 Model summary of Linear Regression of Imaginary Audience Ideation (N=350)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df 1	df2	Sig. F Change
1	.075[a]	.006	.003	18.469	.006	1.975	1	348	.161

a. Predictors: (Constant), IAI

Table3

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	77.59	4.959		15.647	<.001
	IAI	.064	.045	.075	1.405	.161

a. Dependent Variable: TCT

Table 1 shows the Mean, Standard Deviation and intercorrelations among creativity, Personal Fable Ideation and Imaginary Audience Ideation. The Mean and Standard deviation score for index of the Creativity is 84.42 and 18.49 respectively. To account for Egocentricity, variables of 'Personal fable ideation' (PFI) and 'Imaginary audience ideation' (IAI), are used. The means and standard deviation for 'personal fable ideation"is 131.17 & 23.67 and for 'imaginary audience ideation' is 107.45 and 21.85 respectively. The Pearson Product Moment coefficient of correlation value between Creativity and Personal Fable Ideation came out to be positively significant [r (350) = .136, p<0.05] which depicts that there is an

association between creative thinking and personal fable ideation. And the correlational value between Creativity and Imaginary Audience Ideation came out to be [r (350) =.075] not significant stating no relationship between the two.Although, the value came out to be low and not significant statistically still it is line with the previous findings.

To examine the contributions of Personal Fable Ideation in Creative thinking, simple linear regression is carried out, the results of whichare shown in Table 2. A significant regression equation was found [F (1, 348) = 6.603, $p<0.05$], with an r2 of 0.019. The value of r2 change is .019 which reveals that 1.9% variance in Creative Thinking score is accounted for by Personal Fable Ideation.

Also, the contribution of Imaginary Audience Ideation in Creative thinking came out to be [F (1, 348) = 1.975), with an r2 of 0.006]. The value of r2 change is .006 which reveals that there is negligible variance in Creative Thinking score accounted for by Imaginary Audience Ideation Table 3.

Also, the self-consciousness aspect of Imaginary audience can be correlated negatively with creativity as it hinders one's autonomy and increases conformity working against creative expression in an individual as stated by MacKinnon (1962) in previous research, again consistent with the findings of the present investigation.

So, the findings of the present investigation proved the hypothesis stating the contribution of egocentric personal fable ideation would be positive and significantly higher in creative thinking as compared to the contribution of egocentric imaginary audience ideation. Numerous studies Greene et al. (2000) claim to show a connection between cognitive egocentrism and teenage risk-taking, primarily by demonstrating a correlation between risk behaviours and personal fable tendencies (measured in different ways). This relationship is exemplified by the below provided example: "A 17-year-old driver speeds through residential streets at night, convinced "my reflexes are faster than other drivers—I can handle this." This behaviour exemplifies the personal fable-risk-taking link."

In a sample of middle-class men, Eisenman (1987) discovered positive associations between risk-taking and three distinct measures of creativity: creative attitude, divergent thinking, and creative liking for complexity. The results of both researches indicate that adolescents' personal fable ideation and creativity may be related.

The notion has also been supported by comparable results from a study conducted on 390 students, Okamoto and Takaki (1992) found a strong relationship between sensation seeking and the need for uniqueness and also three different kinds of creativity: the picture creation test, unreal imagination test and the unique uses test. Sensation seeking, however, seemed to be a more significant psychological construct when the effects of their mutual correlation were partially removed, indicating that it is a good predictor of creativity, also supporting the hypothesis. While a relationship between creativity and personal fable ideation is evident, the role of adolescent egocentrism in determining creative processes requires more thorough investigation. According to Dai, adolescence is a crucial time in a person's life for creativity, particularly for fostering and growing it Dai and Shen (2008), So, more research needs to be conducted in line with the characteristics underlying adolescence phase to get a deeper understanding of the concept of creativity and its development in adolescence.

CONFLICT OF INTERESTS

None.

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