SUPPORTIVE PARENTING, OPENNESS TO EXPERIENCE, AND CREATIVITY ORIENTATIONS AMONG UNIVERSITY STUDENTS

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THESIS AND DEFENSE APPROVAL FORM

The undersigned certify that they have read the thesis, reviewed, and examined the defense, are satisfied with the overall exam performance, and recommend the thesis to the Faculty of Social Sciences at Department of Applied Psychology for acceptance.

Thesis Title: "**SUPPORTIVE PARENTING, OPPENNESS TO EXPERIENCE, AND CREATIVITY ORIENTATIONS AMONG UNIVERSITY STUDENTS**"

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I, Maryam Khalid, daughter of Khalid Mehmood, Registration No. 48 MPhil/Psy/S23, Session 2023-2025, Master of Philosophy, discipline: Psychology, Area of Specialization: Cognitive Psychology, from Department of Applied Psychology, at National University of Modern Languages (NUML), Islamabad, do hereby solemnly declare that the work submitted in this thesis entitled:

"SUPPORTIVE PARENTING, OPPENNESS TO EXPERIENCE, AND CREATIVITY ORIENTATIONS AMONG UNIVERSITY STUDENTS"

is my own. This work has been completed at the Department of Applied Psychology, National University of Modern Languages (NUML), Islamabad under supervision of Dr. Muhammad Anis-ul-Haque and has not been previously presented to any other institution or university for the degree and has gone through plagiarism check.

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CERTIFICATE OF MODIFICATION

The changes and correction suggested by the examiners during the defense have been incorporated in the thesis entitled “Supportive Parenting, Openness to Experience, and Creativity Orientations among University Students” by Maryam Khalid, Registration No. 48 MPhil/Psy/S23, MPhil Psychology, Session (2023-2025).

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LIST OF SYMBOLS AND ABBREVIATIONS

Symbols

F	Frequency
M	Mean
SD	Standard Deviation
P	Significant Value
B	Standardized Beta Coefficient
R^2	R Square Change
A	Alpha
η^2	Eta squared
χ^2	Chi-square
Df	Degrees of freedom

Abbreviations

APA	American Psychological Association
WHO	World Health Organization
LL	Lower Limit
UL	Upper Limit
CI	Confidence Interval
COS	Creative Orientation Scale
POPS	Perceptions of Parents Scale
CFA	Confirmatory Factor Analysis

RMSEA	Root Mean Square Error of Approximation
GFI	Goodness of Fit Index
AGFI	Adjusted Goodness of Fit Index
CFI	Comparative Fit Index
TLI	Tucker-Lewis Index
SMC	Squared Multiple Correlations

ABSTRACT

The current study explored the relationship among supportive parenting, openness to experience, and creative orientation in university students. The objectives of the current study were to explore the differences on creative orientation with respect to different faculty, age, and gender in university students, address the construct validity of the creative orientation scale in the local context, and address the conceptual differences between creativity and creative orientation. It was hypothesized that there is a positive relationship between supportive parenting and creative-approach orientation, there is a negative relationship between supportive parenting and creative-averse orientation, there is a positive relationship between openness to experience and creative-approach orientation, there is a negative relationship between openness to experience and creative-averse orientation, and there might be gender differences on creative orientation among university students. Through the cross-sectional correlational research method, a sample of (N = 300) university students (n = 76 male, n = 224 female) with an age range of 18-30 years (M = 22.17, SD = 2.31) were recruited by using the non-probability convenient sampling technique. Data was collected from the potential participants from different universities of Pakistan. Confirmatory factor analysis (CFA), Pearson correlational analysis, multiple regression analysis, independent sample t-tests, and one-way analysis of variance (ANOVA) were applied through SPSS version 27 to generate the results that supported the overall internal consistency of the Creative Orientation Scale's factor structure, and revealed significant negative correlation between supportive parenting and creative-averse orientation, strong significant positive correlation between openness to experience and creative-approach orientation, and significant negative correlation between openness to experience and creative-averse orientation, father support significantly predicted creative-averse orientation in the

negative direction, openness to experience significantly predicted creative-averse orientation in the negative direction, and significantly predicted creative-approach orientation in the positive direction, no significant gender differences on creative orientation, no significant disciplinary differences on creative orientation, and significant mean differences among age groups on creative-averse orientation. These indigenous findings have significant implications for the university students, parents, policy makers in the universities, researchers, counselors, educational psychologists, and further research endeavors.

Chapter I

Introduction

The present research aimed to study the relationship among supportive parenting, openness to experience, and creative orientation among university students, specifically the influence of supportive parenting and openness to experience on creative orientation in university students. Elements such as supportive parenting and personality traits, especially openness to experience, have been known to play a critical role in the process of creativity (Feist, 1998; Silvia et al., 2009; Mehrinejad et al., 2015; Xu et al., 2021; Abbasi et al., 2023; Raya et al., 2023). However, the current study is not concerned with relationship of creativity with supportive parenting and openness to experience. It rather broadly focuses on creative orientation, a distinct construct as compared to creativity, and designed to assess supportive parenting and openness to experience as predictors of creative orientation.

1.1 Supportive Parenting

John Gottman was the first person to come up with the term “Supportive Parenting” in the 1980s. According to him, parents who practice supportive parenting always prioritize understanding the emotional states of their children, help them identify feelings, and teach them how to handle emotions in a useful way. He defined supportive parenting as “a parenting style characterized by high responsiveness and emotional involvement, aiming to build a strong, positive parent-child relationship, and foster emotional intelligence in children.”

Gottman’s research was mainly focused on parent-child interactions, especially how parents tend to deal with their children’s emotions. His research yielded four main parenting styles,

namely dismissing, disapproving, laissez-faire, and emotion coaching (The Gottman Institute, 2024).

1.1.1 Parenting Styles by Gottman

The four parenting styles identified by Gottman after conducting a fifty-year study on parent-child interactions are as follows:

1.1.1.1 The Dismissing Parent. The parents with dismissing parenting style mainly downplay and ignore their child's emotions, believing that the way the child is feeling isn't something to be taken seriously (The Gottman Institute, 2024). The main problem-solving strategy of such parents is the belief "Time fixes everything eventually." They even see their child's emotions as a tact to get things fixed by parents quickly. Children who grow up under the influence of a dismissing parents believe that their feelings are invalid, inappropriate, and wrong. They might even believe that there must be something wrong with them if they are feeling a certain way.

1.1.1.2 The Disapproving Parent. Parents with the disapproving parenting style are more negative towards their child's emotions as compared to the parents with the dismissing parenting style (The Gottman Institute, 2024). Such parents view the expression of emotions as a waste of time, and believe that expressing one's emotions makes the one weak and vulnerable. They reinforce conformity to societal norms, and severely criticize the child on behaving against the standards of good behavior. Children brought up with the disapproving style of parenting have trouble in expressing and managing their emotions.

1.1.1.3 The Laissez-Faire Parent. The Laissez-Faire parenting style is a better parenting style as compared to the dismissing and disapproving style of parenting, as it allows emotional expression (The Gottman Institute, 2024). The child is free to express all types of emotions, however, little or no guidance at all is provided on how to manage the emotions the child is going through. Parents with Laissez-Faire style of parenting believe that venting is the only solution to all the problems related to emotions. Their main strategy to deal with negative emotions is "let it all out." Hence, they don't help their children solve emotional problems. Children who are brought up under the influence of Laissez-Faire parenting style often have trouble identify what they are feeling, what to do about it, getting along with other children, and forming friendships or relationships.

1.1.1.4 The Emotion Coach. Parents with emotion coaching style of parenting view the negative emotions of the child as an opportunity to bond emotionally with the child (The Gottman Institute, 2024). They value the expression of negative emotions; they not only let the child say out loud what's going in the child's heart and mind, but offer guidance on the identification of the negative emotions being experienced by the child as well as how to solve them. They view the child's emotional crisis as the moments of showing warmth, support, and affection. They don't set any limits on how to feel a certain thing or how to express a certain emotion. However, they are certain limits on helping the child solve the problem, meaning parents who emotion coach their child, help the child as much as the child would be able to self-care emotionally. In fact, they help the child recognize the emotion being felt, where it's coming from, and how to deal with it.

The supportive parenting was mainly a part of Gottman's emotion coaching approach (The Gottman Institute, 2024). It was proved through Gottman's studies that parents should take the

emotion coaching approach and following five necessary steps were proposed to adopt this approach:

- Paying attention to one's child's emotions.
- Viewing one's child's expression of emotion as an excellent ability for teaching and intimacy.
- Listening to one's child with empathy as well as validating the child's feelings.
- Helping one's child to learn how to label their feelings and emotions with words.
- Setting appropriate limits when it comes to helping one's child solve problems.

Besides Gottman, Steinberg (1995) also used the term supportive parenting in his study on authoritative parenting. He defined supportive parenting as "combining high responsiveness with appropriate demands, fostering a nurturing and structured environment that promotes healthy adolescent development."

1.1.2 Supportive Parenting and Authoritative Parenting

In the 1960s, Diana Baumrind came up with three parenting styles through her research work (Muraco et al., 2020). Those were authoritative, authoritarian, and permissive. However, "neglectful" was added as the fourth parenting style to the original work of Baumrind by Maccoby and Martin.

Among these four parenting styles, authoritative is closely associated to parental support (Steinberg et al., 2004; Weisenbach, 2022). The essence of authoritative parenting lies in being responsive to one's children's needs, having high expectations that are realistic toward children's behavior, being warm, and using reasoning rather than intimidation to regulate children's

behavior. There are indirect references to being supportive in the authoritative domain of parenting. Baumrind's authoritative parenting style takes a broader approach to parenting as it balances nurturing with clear rules and expectations and combines high responsiveness with high demands (Muraco et al., 2020).

Gottman's supportive parenting is, however, a totally different approach to parenting as it originates from emotional understanding. The supportive parenting style by Gottman primarily focuses on emotional support and responsiveness shown by parents, and also constitutes understanding, validating, and helping children manage their emotions (Gottman, 1997). Also, Gottman's supportive parenting doesn't involve having high expectations from the children, as compared to the authoritative parents who expect as well as demand high from the children.

1.1.3 Supportive Parenting and Autonomy-Support Parenting Style

There's also another parenting approach which involves parental support; it's called the autonomy-support parenting style. This approach basically originated from the Self-Determination Theory (Ryan & Deci, 2000). The theory focuses on how fostering autonomy, competence, and relatedness supports intrinsic motivation and psychological well-being. And, the autonomy-support parenting style involves acknowledging the child's perspective, providing choices, and encouraging self-initiated behavior.

In the words of Ryan and Deci (2017), "autonomy-supportive parents often provide children with informative feedback and meaningful choices instead of imposing control when they explore self-value and interests; therefore, children's basic psychological need satisfaction is facilitated."

Gottman's supportive parenting, however, doesn't explicitly talk about autonomy, meaning encouraging self-initiated behavior and self-motivation. It rather focuses on the strong emotional attachment of parents to their children and creating an environment that is structured, meaning there are some rules and regulations, but nurtured with deep emotional understanding between parents and children (Gottman, 1997). On the other hand, it's also fair to say that the autonomy-support parenting style doesn't take the necessity of understanding as well as managing children's emotions into account. Its main idea is to raise self-aware children who understand their own identities and can make choices without the assistance of others (Ballesta-Rosen, 2024).

1.1.4 Supportive Parenting and Positive Parenting

Positive parenting basically stemmed from Alfred Adler's work on the relationship between parents and children in the early 1900s (McCready, 2020). He believed that children have a right to be treated with respect and dignity. Positive parenting is more of a behaviorist approach toward parenting, as it involves focusing on encouraging good behavior through positive reinforcement, mutual respect, and teaching problem-solving skills without using punitive measures.

Gottman's supportive parenting is centered around emotional support and doesn't not typically discuss positive reinforcement. Positive parenting, however, focuses on what children can do well, rather than what they do not, and thus often referred as strength-based parenting (NCT, 2023).

1.1.5 Key Attributes of Parents with a Supportive Parenting Style

According to Weisenbach (2022), parents who take a supportive approach to parenting exhibit the following characteristics:

- They let their children make decisions for themselves. They give both autonomy and support.
- They keep firm boundaries regarding family values, safety, and health.
- They have high expectations from their children, but they do provide warmth, adequate support, and feedback.
- They value their children's point of view rather than imposing rules on them and bossing them around.
- They are flexible and let their child make mistakes so that they can learn and grow.

Gottman's idea of supportive parenting differs from that of Weisenbach in a way that Gottman's supportive parenting doesn't talk about having high expectations from the children.

1.1.6 Supportive Parenting and Creativity

There has been a lot of research on parenting practices with respect to creativity. A parenting style serves as a major contributor to the development of children's creativity (Dong et al., 2022). The notion, idea, approach, or style to parenting has been different for different researches. Studies have used terms like, parental warmth, parental support, and parental emotional warmth, and found out that such parenting practices are strongly linked with creativity (Mehrinejad et al., 2015; Zhao & Yang, 2021; Wang 2023).

Even before these researches, Gottman (1997) addressed the same parenting practices (parental warmth, parental support, and parental emotional warmth) under one paradigm or model which he named “Supportive Parenting”. Studies also confirm strong correlations between creativity and emotional intelligence. And, Gottman’s supportive parenting solely stems from emotional understanding between parents and children.

1.1.7 Significance of Gottman’s Supportive Parenting

Gottman (1997) stated in his book, Raising an Emotionally Intelligent Child, that emotional intelligence is crucial for a child's development and overall well-being. He highlighted that children who are emotionally intelligent tend to be more successful in life, not just academically, but also in forming healthy relationships and managing life's challenges.

1.2 Openness to Experience

People who show openness to new experiences in life tend to be intellectually curious, liberal, aesthetically sensitive, aware of their emotional states, and understand them (McCrae, 1987). People with openness to experience as their major personality type tend to be open-minded, tolerant, curious, creative, and have an interest in educational experiences, art, and culture (Costa & McCrae, 2008). The degree to which people show openness to experience indicates how opened or closed-minded they are in their feelings, thoughts, and actions (Dollinger, 2012).

Openness to experience is one of the five big personality traits included in the Big Five Model of Personality, which was originally proposed by Fiske in 1949. Fiske’s work was later expanded by psychologists Norman (1967), Smith (1967), Goldberg (1981), and McCrae & Costa (1987), as they collaborated to reduce Cattell’s 16 personality traits to five traits (Lim, 2020). It’s worth

mentioning that Costa and McCrae (1987) solidified the term “Openness to Experience” as one of the core components in the personality model that they proposed, the model is called Five-Factor-Model (FFM) of personality.

The term “Openness to Experience” reflects an aspect of cognitive style that differentiate creative and imaginative people from conventional and practical people (Williamson, 2018). Those who are open minded admire arts and are intellectually curious. In contrast to closed-minded people, they are sensitive to beauty and are more aware as well as understanding of their feelings. Their thought pattern is unique and independent from established norms and traditions.

1.2.1 Aspects of Openness to Experience

Nekljudova (2019) conducted an extensive literature review on openness to experience and described its following six aspects in his paper:

1.2.1.1 Openness to Action. This aspect involves enjoying novelty and engagement in different activities (Nekljudova, 2019). Costa & McCrae (1987) regarded it as the psychological element which influences individuals to take part in new and complicated tasks.

1.2.1.2 Openness to Ideas. The cognitive component is included in the openness to ideas (Nekljudova, 2019). People with a high level of openness to ideas exhibit flexibility. A high degree of openness to ideas is characterized by a keenness for novelty, exploration, and reflection on new tendencies. The peaks of openness to ideas may not always signify a readiness to enact new behavior patterns, but they frequently convey an enhanced curiosity toward activities that increase knowledge.

1.2.1.3 Openness to Values. Researchers define openness to values as the degree of a person's susceptibility to change (Nekljudova, 2019). Based on given conditions, high open-to-values individuals are likely to reject non-traditional norms and traditions.

1.2.1.4 Openness to Aesthetics. One of the most emotional aspects is openness to aesthetics, which is defined as the capacity to appreciate works of art, but it does not concern the assessment of specific kinds of art at all (Nekljudova, 2019). Openness to aesthetics appeared to be closely related to cognitive flexibility and intelligence. Some investigations have revealed significant correlations between the scores on the aesthetic aspect of openness and creativity.

1.2.1.5 Openness to Fantasy. Similar to the case of aesthetics, openness to fantasy also shares a close relationship with the emotional aspect of an individual (Nekljudova, 2019). It includes the inclination toward fantasy, which, by definition, involves not only a well-defined picture of thought, but also a high degree of imagination and several feelings. Many studies have pointed out that such openness may potentially lead to depression; nevertheless, some of the studies have argued that fantasizing can be either beneficial or detrimental depending on the emotional content.

1.2.1.6 Openness of Feelings. Openness of feelings is one of the factors considered by many scholars, the most challenging (Nekljudova, 2019). Such people value emotions, attend more to the emotional aspects and, overall, feel most of the emotions more intensely and, in some circumstances, this may lead to frustration.

1.2.2 Common Characteristics of being Opened to Experience

The key characteristics of an individual who tends to be high in openness to experience are as follows:

- The individual often seeks artistic experiences, and possesses creative abilities (DeYoung et al., 2013).
- The individual tends to be adventurous, excited about trying new things and taking risks, and loves unconditional ideas (Cherry, 2023).
- The individual enjoys thinking out of the box and usually has a disregard for typical societal norms (Cherry, 2023).
- The individual tends to be liberal, and shows flexibility to diversity (De Neve, 2013).
- The individual has a tendency of being highly intelligent and possesses deep understanding and great knowledge (McCrae & Greenberg, 2014).
- The individual shows high interest in abstract concepts and loves to think about them often (Cherry, 2023).

1.2.3 Predictors of Openness to Experience

As personality traits are a demonstration and an indication to an individual's unique set of characteristics and consistent thought pattern, behavior, and feelings ((Diener & Lucas, 2021), it's important to see where this consistency comes from and whether it's inborn or the environment has something to do with it (Cherry, 2023). The psychology literature says both nature and nurture influence openness to experience, as explained below:

1.2.3.1 Genetic and Biological Influences. A study revealed that people with openness to experience as their dominant trait are different from other people in terms of brain functioning (Beaty et al., 2015). The default network, a part of a brain, of such people works 18% different than the people who show little to no openness to experience. This brain network aids in recalling episodic memories, generating novel and workable ideas, imagination, and future thinking. Hence, it can be deduced that openness to experience has connections with biological factors (Power & Pluess, 2015). So, people can have the openness to experience trait in their genes, meaning they are naturally meant to be open, flexible, and think outside of box.

1.2.3.2 Environmental Influences. Barańczuk (2018) stated that different studies suggest that openness to experience can be influenced by environmental factors. The way an individual has been nurtured and parented shows its effect on the individual's openness. Besides, the individual's life experiences and interactions with other people also shape the openness to experience in the individual.

Matz and Harari (2020) called the environment "a two-way street," meaning the environment can shape an individual's personality trait, but the individual's personality can also impact the individual's choices for a certain environment. The type of environment an individual usually likes to spend time in says lot about the individual's personality trait, therefore, it's not only the environment that can influence the individual's personality trait, it's also the individual's personality trait that makes the individual choose what type of environment the individual would prefer to be in.

1.2.3.3 Age and Development. There's strong evidence in the psychological literature for the declining of openness to experience in older ages (Gonzatti et al., 2017). As people get older, the

preference for routines and comfort becomes more important to them, and they show less interest in exploring new ideas, being adventurous, and meet new people. They get settled down and their believes become firm over time, therefore, they show less flexibility and openness towards unconventional ideas. They become less opened to experience, as compared to the young adults who are enthusiastic about exploring diversity, new ideas, and get inspired by innovation. However, this decrease of openness to experience in older ages isn't true for everyone, many old aged people still get curious about trying new things and learn new ideas.

1.2.4 Influence of Openness to Experience on Behavior

An individual's level of openness to experience shapes the individual's behavior, influencing the type of activities the individual may want to pursue (Cherry, 2023).

1.2.4.1 Innovation and Creativity. Past psychological literature consistently supports the strong association of openness to experience with creativity (Kaufman et al., 2016). Individuals with high openness to experience are generally creative and often tend to engage in creative tasks, pursue creative achievements, and divergent thinking.

Moreover, literature also suggests that individuals with psychological openness to experience as their major personality trait are very likely to make dramatic impact by their breakthrough innovations, such as altering a specific market or changing technology trends and dynamics (Mewes et al., 2022).

1.2.4.2 Learning, Knowledge, and Problem-solving. People with high level of openness to experience enjoy problem-solving tasks and analyzing ideas because they have a high 'need for cognition' (Madrid & Patterson, 2015). This high need for cognition persuades them to take part

in such activities that require thinking, analysing, and brainstorming solutions to problems. This is why highly opened people tend to engage in complex mental tasks.

Moreover, studies have also found strong links between intrinsic motivation and openness to experience, indicating that open people love to seek knowledge for its own sake (Jauk et al., 2014). They are highly enthusiastic about understanding the ways the universe works in.

Apart from that, a study revealed that openness to experience isn't only strongly linked with intelligence, but with crystallized intelligence as well (Shi et al., 2016). The crystallized intelligence is the ability to use the knowledge, skills, vocabulary, and facts an individual has gathered over lifetime. It's a kind of mental library which the individual builds through interactions with others, lifetime experiences, reading, and education. The individuals who are opened to experiences build up a vast mental library over time through their pursuit of knowledge, curiosity about traveling, talking to different kinds of people, reading, and trying new things. Therefore, their ability to drive information from their mental library and use it in problem-solving (i.e. crystallized intelligence) is a lot higher than those who rate low on openness to experience.

1.2.4.3 Friendships and Relationships. The findings of a study conducted on social anxiety and big five personality traits revealed that people with low levels of openness tend to have social anxiety and trust issues, and thus, they are less likely to engage in social events and leave their comfort zone (Kaplan et al., 2015). As opened people love to try new things and they are adventurous, therefore, it's more likely for them to form new friendships and engage in social activities. Furthermore, studies also relate high levels of openness to experience with high sexual satisfaction among married couples (Jirjahn & Ottenbacher, 2022).

1.2.4.4 Political Attitudes. De Neve (2015) found out that an individual's level of openness to experience affects the individual's political attitudes. Individuals with higher levels of openness turn out to be liberal, meaning they tend to be more opened and flexible, and show acceptance for differences in cultures, traditions, and norms. Their liberal political views shape the society and support equality and multiculturalism.

Conversely, the political ideas of individuals who rate low on openness tend to be inclined towards stability of societal norms, tradition, and culture (Osborne et al., 2023). As they don't have acceptance for diversity, social change, and differences among cultures, and prefer the things as they are or have been, their political ideas tend to be supportive of conservatism and right-wing authoritarianism.

1.2.4.5 Dealings with Life Challenges. A study found out that individuals with higher levels of openness to experience tend to deal well with life challenges and situations which demand change, as compared to those who rate low on openness (Anderson et al., 2014). In this study, workers were made to leave their workplaces and do the work remotely. The results of the study revealed that the workers who had higher levels of openness to experience dealt with this change well and adapted to the work from home environment, whereas the workers with lower levels of openness faced difficulty in doing their jobs remotely.

1.2.5 Openness to Experience and Creativity

Openness to experience is a crucial element and critical aspect of creativity (Gilhooly & Gilhooly, 2021). It has found to be correlated with intelligence and divergent thinking (Schretlen et al., 2010). Empirical evidence has identified the positive relation between openness to experience and several creative expressions, including cumulative creative accomplishments,

innovative problem-solving strategies, and divergent ideation (Raya et al., 2023). Individuals with high levels of openness are generally more innovative, inclined towards creative accomplishments, indulge in divergent thought processes, and get involved in creative hobbies (Cherry, 2023).

1.3 Creativity

Creativity, as a foundational construct, precedes the introduction of creative orientation. Although creativity isn't one of the main variables being studied in the present research, it was considered important to define creativity as a concept, briefly explore its history, and discuss its theories in order to differentiate it from creative orientation.

Creativity is typically defined as an individual's capacity to generate new and workable ideas (Simonton, 2001). Though psychology emerged as a formal and separate discipline many decades ago, creativity still took a great deal of time to make psychologists pay attention to it (Simonton, 2001). Some psychologists still claim that creativity has not yet received the research it deserves (Lubart & Sternberg, 1996).

In the last 50 years, many psychologists have pointed out that some important issues like intelligence, talent, problem solving, and insight are closely connected to the perception of creativity (Simonton, 2001).

The most probable reason for creativity not being studied in the early history of psychology is that at that time almost every phenomenon was subjected to logical and empirical analysis except the natural phenomena which were associated with the divine's creativity, and thus it confirms the religious roots of creativity (Simonton, 2001). Later, with time, people began to see creativity

as the special gifts of divine given to only a few people such as artists or poets, and it was believed that such people were born with their talents. That was how the notion of "creative genius" began to spread quickly. Later, with the rise of modern science, this notion was rejected. To teach creativity to those who wanted to be creative, the art academies emerged. The scientific method approach was taken to study creativity.

Spearman (1931) defined creativity as "the power of human mind to create new contents by transforming relations and generating new correlates". Apart from that, Drevdahl (1956) defined creativity as the capability to produce new ideas that are not known to the producer until the producer produces them. Moreover, Guilford (1959) defined creativity as the potential to generate such ideas through divergent thinking that are new, helpful, and practical.

1.3.1 Types of Creative Thinking

Guilford (1968) and Torrance (1995) identified two ways in which creativity could be thought, one is divergent thinking and the other one is convergent thinking. These two ways have been frequently defined by different authors and psychologists.

When there is a new or abstract problem to be solved which is likely to have many achievable answers or solutions, divergent thinking is used, e.g. writing a story or a poem, while on the other hand, convergent thinking is used when a problem is likely to have distinct, precise, explicit, and correct answers, e.g. solving a multiple-choice test (Chapel & Goodfriend, 2012). These both types of creative thinking can be seen as the two ends of a spectrum (Eysenck, 2003). Both types have to be involved and used to complete the process of creative thinking, that is, it is naturally unusual to find such a problem that depends entirely on one type or the other (Runco, 2014).

1.3.2 Sternberg's Theory of Intelligence and Creativity

Sternberg (1988) argued that three different types of intelligence are required for creativity. Those three types of intelligences are synthetic or creative intelligence, analytic intelligence and practical intelligence.

1.3.2.1 Creative Intelligence. Sternberg (1988) defined creative intelligence as the ability to find, imagine, or create new solution to an unexpected problem. It enables an individual to see the problem in a distinctive and unique way.

1.3.2.2 Analytic Intelligence. Sternberg (1988) defined analytic intelligence as the ability of an individual to inspect, investigate, judge, assess, and contrast and it is closely associated with academic problem solving.

1.3.2.3 Practical Intelligence. Practical knowledge is defined as the ability to find solutions to the problems of everyday life by utilizing one's knowledge based on one's past experiences (Sternberg, 1988). Sternberg named it as "common sense" and "street smarts", as well.

1.3.3 The Investment Theory and the Six P's of Creativity

In 1995, Lubart and Sternberg collectively developed this theory of creativity. This theory stated that creativity is the ability of making a decision of investing in one's thoughts and ideas. In their theory, Lubart and Sternberg used the metaphors of "buying low" and "selling high" for the creative people. According to them, at first the generated ideas of the creative people are considered as unconventional and even slightly ridiculous by the society, and thus, the creative people "buy low" in the world of innovations and ideas. After that, once their ideas gain acceptance by society, they start "selling high".

Creative people tend to care less about social approval, are driven by their own believes, thoughts, and ideas, don't follow the norms of society, choose their own direction, and make their own way (Sternberg, 2006).

Creativity is not an inborn ability, that is, people are not born with it or without it, rather it is the set of attitudes that people develop towards life which distinguishes those people who are willing to make their own way (Sternberg, 2006). Thus, Lubart and Sternberg (1995) identified six different aspects that converge to make creativity take place. Those six aspects were cognitive style (the thinking styles and the processes involved in creative thinking), environment (the right place for the creativity to take place), personality attributes (personality traits), ability to persuade others (persuasion or convincing the society), the product of creativity, and the creative potential. Today, these six components are also called as the six P's of creativity (process, place, personality, persuasion, product, and potential).

1.3.4 The Propulsion Theory of Creativity

Sternberg (1999) first proposed this theory, Pretz and Kaufman (2002) collectively expanded it later. Basically, this theory states that different individuals decide different ways to express their creativity, that is, there can be different kinds of creativity and how creativity drives or propels the creative individual's ideas forward (Sternberg, 2003).

Moreover, Sternberg (2003) also stated that in creative contributions, there is not only a difference in the amounts of creativity, but also in the types of creativity. For example, there is the difference in the nature of creativity in the contributions of both exceptionally creative psychologists, Anna Freud and Sigmund Freud.

1.3.5 Componential Theory of Creativity

Teresa Amabile (1983) developed the componential theory of creativity. The theory has gone through many changes and evaluations since then. Amabile (2012) stated that the componential model of creativity as an extensive model of those psychological and social components that are essential for an individual to give rise to creative work. According to her, creativity is the generation of such ideas and products that are both useful and novel to some goal. According to this theory, four components are crucial to make a creative response occur, and among those four components, three are within the individual, whereas, one is outside the individual. These components are creativity-relevant processes, domain-relevant skills, social environment, and task motivation.

1.3.5.1 Domain-relevant Skills. It encompasses knowledge, expertise, technical competencies, intelligent, and skills within the specific area in which the problem solver is working, for instance a product layout or electric engineering (Amabile, 2012).

1.3.5.2 Creativity-relevant Processes. This component of creativity, originally known as creativity-relevant skills, encompasses cognitive styles and personality traits that promote independence, adventurousness, seeing the problems with new perspectives as well as creating ideas and disciplined work styles (Amabile, 2012). Such cognitive processes involve the ability to use broad and flexible categories to synthesize information and to break out of ordinary perceptions, whereas, the tolerance for ambiguity and self-discipline are involved in the personality processes.

1.3.5.3 Task Motivation. Motivation is the third component that is needed for a creativity process to take place. In creativity, intrinsic motivation holds more importance than the extrinsic

motivation does. Because people are most creative when they are internally motivated to do something, as Amabile stated (2012) that the intrinsic motivation is more like a passion and a motivation to solve a problem or complete as task because it is intriguing, exciting, fun, captivating, personally challenging or satisfying rather than doing the same task with being motivated by rewards of the task, its competition, requirement, or evaluation (extrinsic motivation).

1.3.5.4 The Social Environment. The fourth component of creativity, the one that is outside the individual, is the social environment, or in general, the work environment (Amabile, 2012). The social environment involves all of the extrinsic motivators that can weaken the intrinsic motivation, moreover, it also involves other factors in the environment that can play a role as obstacles or revivers to creativity and intrinsic motivation.

1.4 Creative Orientation

Creative Orientation could be thought of the way an individual approaches creativity (Gogoi & Barua, 2018). The term "Creative Orientation" infers that all individuals are creative, but based on their distinctive thinking style, the individuals express their creative ability differently. Therefore, creative orientation can be considered as a personality characteristic that influences individuals' preferences for sort of information they want to deal with, where to look for that information, and the type of environment they want to work in.

Creative orientation means that to what extent an individual involves in creative thinking and behavior, marked by a preference for willingness to take risks for innovation, new ideas, and a proactive approach to challenges (Zhou & George, 2001). It includes a set of personality traits and attitudes, specifically intrinsic motivation and openness to experience, that influence

individuals' creative thinking and lead them to generate novel solutions in their environments (Shalley et al. 2004).

Fiest (1998) referred to the term 'Creative Orientation' as persistent personality characteristics that promotes the development of innovation and creative thinking, encompassing cognitive flexibility, openness to experience, and nonconformity. Similarly, Dollinger (2003) defined creative orientation as individuals' consistent tendency to look for unconventional and innovative ideas, showing a preference for openness to change, ambiguity, and complexity.

Kaufman & Beghetto (2009) called creative orientation "a dynamic trait". They stated it as "Creative orientation is a dynamic trait that reflects an individual's engagement with their creative potential and their predisposition to utilize creativity in various domains of life, from personal problem-solving to professional innovation."

To put it simply, there's no one author who specifically coined the term "Creative Orientation." The concept of creative orientation originated from the work of several authors, and it simply describes that different individuals have their unique tendencies and ways to approach creativity, as they possess different orientations towards creative tasks.

1.4.1 Creativity vs Creative Orientation

Before studying creative orientation deeply, it's important to understand the difference between creativity and creative orientation:

Creativity is a cognitive process and is often defined as the ability to generate ideas that are not only new and original, but useful and appropriate as well (Sternberg & Lubart, 1999). It's more concerned with the outcome of generating new products or ideas. However, creative

orientation isn't mere a cognitive process, it's rather a consistent attitude or personality trait that reflects an individual's tendency or predisposition to take part in creative activities (Zhou & George, 2001). It mainly refers to dispositional traits or attitudes which influence creative behaviors.

The focus of creative thinking is on the end product, meaning, the term 'Creativity' demands an outcome, emphasizing the usefulness and originality of the generated ideas (Amabile, 1996). Whereas, creative orientation emphasizes an individual's tendency to handle problems and tasks with innovative ways (Dollinger, 2003).

Also, creativity is more state-dependent and it's typically regarded as a mental or cognitive process that can change according to the context, which means external factors can affect it (Runco, 2004). On the other hand, creative orientation is typically understood as a stable personality trait that predisposes individuals to approach different challenging situations creatively, representing persistent personality traits instead of momentary states (Feist, 1998).

Creativity involves mental operations and is thought of as a process because individuals utilize cognitive mechanisms, such as problem-solving and divergent thinking, to generate new and workable ideas (Guilford, 1950). While, creative orientation is not a process, it's rather an individual's propensity to take part in creative tasks, showcasing a set of consistent characteristics, such as risk-taking, curiosity, and openness to experience, which influence the individual to engage in creative tasks (Shalley et al. 2004).

Therefore, in simple terms, creativity is about having an ability to generate novel and appropriate ideas, whereas, creative orientation means the personality trait which distinguishes individuals on the basis of their risk-taking, openness to experience, and curiosity.

1.4.2 Dimensions of Creative Orientation

Furtwengler (2021) developed a scale for creativity orientation, within the framework of social identity theory, using exploratory factor analysis (EFA). The author discussed that the previous literature (Adarves-Yorno, et al., 2008; Mueller, et al., 2012) supports the persistence of negative bias toward innovation and creative individuals, and it's been referred to as uncertainty avoidance as well as innovation resistance. The author's detailed empirical analysis of the negative bias held toward creative individuals and creativity led to the proposition of two important latent psychological constructs: creative-averse orientation and creative-approach orientation. These constructs serve as two dimensions of creative orientation.

1.4.2.1 Creative-averse Orientation. Considering social identity theory, individuals who adopt creative-averse orientation support the notion of ingroup bias, as they perceive both innovation and creative people as threats to the stability of the ingroup (Furtwengler 2021). It can be seen as an adaptive mechanism which ensures that the norms of a society or an ingroup stay stable and resilient.

1.4.2.2 Creative-approach Orientation. On the other hand, individuals with creative-approach orientation recognize innovation and creative people as assets, and consider them an integral part of a striving society (Furtwengler 2021).

1.4.3 Social Identity Theory

Since the construct of creative orientation mainly stems from social identity theory, it was necessary to discuss social identity theory and its important aspects.

The social identity theory suggests that people tend to differentiate themselves from out-groups and identify themselves with in-groups in order to improve their self-esteem (McLeod, 2023). The theory explains that how people consider it important to be a part of a group, so that they could have a sense of belonging, create a social identity by defining themselves based on their group memberships, and how powerfully group memberships impact intergroup relations and human behavior. This psychological process of identifying oneself with groups has a few outcomes:

- Individuals don't only tend to classify themselves in social groups but place others in other social groups as well.
- Individuals categorize themselves into those social groups that have views and beliefs which positively align with the individuals' self-concepts or self-identities.
- The individuals tend to compare their in-groups with out-groups, mainly favoring the norms, perceptions, and beliefs of their in-groups over the out-groups which leads to prejudice, group favoritism, discrimination, and bias.

Matsumoto and Rodgers (2020) stated, "Social identity theory posits that positive identity is maintained by affiliation with valued groups, and social comparisons that result in overall positive appraisals of identity." Moreover, APA (2018) defined social identity theory as a conceptual perspective which is based on intergroup relations and group processes, and presumes that being a member of a certain group has significant influence on one's self-esteem and self-concept, especially when one strongly categorizes as well as identifies oneself as a part of a certain group. The group one is in becomes the part of one's self-identity, and hence, the one tends to support and favor one's ingroup over the outgroup. Similarly, Hogg (2016) said, "Social

identity theory is an interactionist social psychological theory of the role of self-conception and associated cognitive processes and social beliefs in group processes and intergroup relations."

1.4.3.1 Brief History of Social Identity Theory. Tajfel and Turner (1979) introduced social identity theory in social psychology after conducting extensive series of studies on social groups in the 1970s, and called these studies minimal-group studies. In these minimal-studies, it was observed that even though the participants didn't have any history, attachment, or personal identity with the group they were placed in, they tended to support their in-group by granting more point to their ingroup as compared to the outgroup. Hence, the participants tended to support their ingroup even though they knew that this situation wouldn't benefit them in any way. Thus, it was deduced that only placing people in groups was enough to make them view themselves as part of ingroups, support ingroups, and differentiate from outgroups.

1.4.3.2 Self-Identity versus Social Identity. Vinney (2023) explained the difference between self-identity and social identity. Self-identity, which is also referred to as personal identity, is something related to self-knowledge that an individual is aware of, such as the individual's personality, attributes, likes, dislikes, etc. Therefore, the self-identity is something which makes the individual focus on and think about the things that make the individual differ from others, like, personality traits, education, and hobbies. On the other hand, social identity has something to do with the group memberships, as in which group an individual identifies to. In simple words, social identity makes the individual focus on and think about things that make the individual similar to the groups the individual is part of, and different from those groups the individual is not a part of, like social class, race, religion, gender, and more.

1.4.3.3 Stages in Social Identity Theory. Stages in social identity theory basically refer to the cognitive processes through which one identifies one's ingroups as well as outgroups (Vinney, 2023). These stages or cognitive processes are explained as below:

1.4.3.3.1 Social Categorization. The first stage, social categorization, stands for people's tendency to categorize themselves as well as other into different groups (McLeod, 2023). This categorization is based on various aspects, such as nationality, gender, religion, race, ethnicity, and even more. This social categorization done by people is mainly to recognize and acknowledge their social environment. As Vinney (2023) stated, the classification of people into different social categories, like doctors, landlords, students, Muslims, Christians, brown, white, black, Canadian, etc. help people recognize themselves as well as other people in their social environment.

1.4.3.3.2 Social Identification. After individuals have categorized themselves as well as others into different social groups, they start to adopt the beliefs, perceptions, values, and norms of the group they are a part of, and thus adopt the identity of that group, meanwhile they reject the norms and beliefs of other groups and don't see themselves in terms of other groups' values and characteristics (McLeod, 2023). This social identification of people with their ingroups influence their behavior, as in they try to behave according to the norms and values of the group they are a member of (Vinney, 2023).

1.4.3.3.3 Social Comparison. Social comparison takes place once people have categorized themselves as well as others into different social groups, and also have identified through the principles and values of the group they are a part of (McLeod, 2023). When people move towards the stage of social comparison, they start comparing ingroups (the group which they

belong to) with the outgroups (the groups which they are not a part of). Here people tend to favor their ingroup over the outgroups, which results in giving birth to prejudice, favoritism, and even racism. They begin to see the people of outgroups as their rivals, and thus it becomes crucial for them to compete with the rivals (outgroups) in order to maintain their self-esteem as well as their ingroup's pride.

1.4.3.4 Concepts related to Social Identity Theory. The following concepts are of great significance in the social identity theory:

1.4.3.4.1 In-groups and Out-groups. In the context of social identity theory, the term ingroups is used for the groups individuals consider themselves be a part of and identify themselves with those groups, the ingroups basically mean 'us' (McLeod, 2023). However, on the other hand, the term outgroups basically mean 'them,' as these groups are the ones the individuals don't have a membership with and don't identify with those groups. The social identity theory presumes that individuals have a natural tendency to support their ingroups and see them as better than the outgroups. However, they are naturally inclined towards considering the negative aspects of the outgroups, as this helps them in boosting their self-image and feel proud.

1.4.3.4.2 Positive Peculiarity. The categorization into ingroups and outgroups make an individual look for the positive ways the individual's ingroup differs from the outgroups (McLeod, 2023). This seeking of positive peculiarity by the individuals for their respective groups results in prejudice and favoritism, and thus the danger of extreme prejudice arises which might result in genocide.

1.4.3.5 Advantages of Shared Social Identity. There are certain benefits that an individual gets due to the individual's shared social identity (Brewer, 2010), such as:

- The shared social identity is bound to enhance the self-esteem of people (Brewer, 2010). Whenever an individual's ingroup comes across an achievement, the individual has a natural inclination to feel proud and accomplished, even though the individual didn't play direct role or any role at all in scoring that achievement. This benefit of improved self-esteem is can be seen being manifested in the fans of sports whenever their favorite teams score a win (Vinney, 2023).
- Being part of a social group reduces uncertainty and guides people how to act in a certain social setting (Brewer, 2010). Group memberships play a critical role in achieving success in social situations, especially the ambiguous situations. For instance, an individual goes somewhere where the social settings and norms are not familiar to the individual. In this scenario, the group behavior plays the role of guidance and clears the ambiguity of how the individual should act.
- Moreover, group memberships give a sense of belonging, and thus fulfil the need of inclusion within a group, as the individuals tend to join groups which satisfy their social needs, for instance similar beliefs, values, and perceptions (Brewer, 2010). Apart from that, even outgroups play a positive and crucial role in satisfying the individuals' social needs, for instance the need of feeling distinctive from the others.

1.4.3.6 Limitations to Social Identity Theory. The social identity theory is a broad phenomenon which encompasses important constructs, such as intergroup conflicts, crowd behavior, social influence, stereotyping, and prejudice (Huddy, 2001). In social psychology, this theory is only one of the few broad meta-theories which incorporate different important

constructs across various domains in one theory. Despite being this significant, social identity theory still has some limitations to it (Vinney, 2023). These limitations are discussed below:

- Critics argue that social identity theory undermines the significance of individual distinctiveness (Vinney, 2023). As the theory puts so much importance on group influence by stating that ingroups strongly help people shape their identities, it indirectly conveys that people can't see it themselves who they are without the influence of social groups. In this way, the social identity theory completely overlooks the idea of personal strength and control over shaping one's own identity.
- The social identity theory claims that group memberships or ingroups shape people's self-worth and self-identities (Vinney, 2023). However, critics reject this idea and question about the role of other factors, like personal experiences and culture, that are involved in shaping the identities.
- Some studies even suggest that the social theory is less empirically supported and the situations discussed in the theory are not like real-world situations (Vinney, 2023).

1.4.3.7 Social Identity Theory and Creativity. Some studies suggest that a direct link between social identity and creativity doesn't link, and the theory links to creativity via social creativity, which is the group creative behavior and creative strategies a group comes up with whenever there's a need to improve and promote the positive social image of the group (Van Bezouw et al., 2020). However, there are studies that approach creativity through the eyes of social identity theory. Haslam et al. (2013) developed a model of creativity by using the theories of self-categorization and social identity. The model explained that lack of a shared social identity motivates and stimulated an individual to think creatively, overcome social problems creatively, and come up with certain forms of creativity so that the individual would be

recognized and admired by the society, and different social groups would desire the individual's inclusion into their groups. Apart from that, Steffens et al. (2015) researched the relationship between multiple social identities and creativity. A series of studies were conducted and the results showed that having multiple social identities was linked with increased cognitive flexibility. It was seen that the participants who reported having multiple social identities scored high on cognitive flexibility, meaning they were able to think differently in different situations, mold the gears of their brains according to the situation shifts, and they were seen as highly flexible and adaptive towards social changes. This increased strength of dealing daily life and social changes positively was found to be linked with creativity. Therefore, the participants who reported high on cognitive flexibility was observed to be indulged in various creative tasks and robust creative thinking. Hence, it was proved that having multiple social identities was linked with creative behavior through the gateway of cognitive flexibility.

1.4.4 Kirton's Adaption-Innovation Theory

In 1976, Kirton presented a 'Kirton Adaption-Innovation Theory,' highlighting and distinguishing two creative orientations, namely: adaptors and innovators (Stum, 2009). The theory was later modified in 2003. The author's main purpose to develop this theory was to explain problem-solving styles and cognitive tendencies. According to Kirton (2003), "Adaption-Innovation theory is founded on the idea that each person is creative and solves problems." Cognitive style and assessment of how individuals solve problems are the heart of the theory.

The Adaption-Innovation Theory is centered around distinctions in individual's thinking styles, which influence their decision making, problem solving, and creativity (Ryall, 2021). The theory basically defines as well as measures a range i.e. continuum of thinking style that

remarkably affects all decision making. It describes “a continuum of cognitive styles and approaches to problem-solving, from high adaptation to high innovation” (Kirton, 2003).

1.4.4.1 Theoretical Framework. Kirton (2003) suggested that every person lies on a creativity spectrum ranging from high adaption to high innovation. Individuals at both extremes are creative, but express their creativity in distinct ways. Individuals on the one end are called ‘Adaptors’ and those on the other end are called ‘Innovators.’ In Kirton’s view, the cognitive style of each individual is partly innate and partly shaped by the individual’s lifetime experiences.

1.4.4.1.1 Adaptors. Kirton (1976) described Adaptors as the individuals who prefer doing things better. They prefer to make things better within the established environment. They prefer to work within the established paradigm, and to make processes, systems, and organizational structures ‘better’ instead of changing them. Their idea generation is centered on already existing and agreed definitions of the issues and seeking likely solutions. They simply prefer structures and ideas that are consensually agreed (Stum, 2009).

1.4.4.1.2 Innovators. On the other hand, ‘Innovators’ are those individuals who tend to do things differently and prefer unique ideas and solutions for problem solving (Kirton, 1976). They show less concern for adhering to established norms and structures (Stum, 2009). In Kirton’s (2003) view, they tend to go beyond traditional boundaries, and prefer working outside the conventional restraints to generate novel and untested solutions. This is why they tend to be more creative in unexpected situations and high pressures. As Kirton (2003) said, “Adaptors desire to do things better; Innovators seek to do things differently.”

1.4.4.2 Kirton Adaption-Innovation Inventory (KAI). On the basis of the theory, Kirton (1976) also proposed KAI inventory, which measures style of creativity and problem solving. “The contention is that everyone can be located on a continuum ranging from an ability to ‘do things better’ to an ability to ‘do things differently,’ and the ends of this continuum are labeled adaptive and innovative, respectively” (Kirton 1976).

The inventory consists of 32 items and the range of the scores is 32-160 (Stum, 2009). Individuals scoring within the range of 60-90 are regarded as adaptors, while those who score between 110 and 140 are the innovators.

1.4.5 FourSight Thinking Profile

In 1999, Puccio proposed the FourSight theory which states that individuals demonstrate preferences for mental tasks involved in the process of creativity (Puccio et al. 2018). The theory led to the identification of four fundamental preferences, later termed as four thinking profiles: Implementers, Developers, Ideators, and Clarifiers (Puccio, 1999).

The theory basically identifies four stages in the process of creative problem-solving, which are Clarifying, Ideating, Developing, and Implementing, and suggests that individuals show distinct preferences for each of these stages (Puccio, 1999). Based on the theory, Puccio developed FourSight Thinking Profile, a researched-based measure which divides individuals on the basis of four creative orientations: clarifiers, ideators, developers, and implementers (Puccio & Grvias, 1999). It’s a 36-items tool, which measures cognitive style, and thus, aids individuals and teams in identifying their approach to problem-solving and creativity.

The four creative orientations identified by Puccio (1999) in FourSight Theory are:

1.4.5.1 Clarifiers. These are the individuals who show preference for a deep comprehension of the issue, before attempting to solve it (Puccio, 1999). They prefer gathering information, clarifying the problem, and grasping the situation thoroughly.

1.4.5.2 Ideators. Ideators are individuals who show preferences for thinking outside the box and exploring possibilities, as they are very imaginative and open-minded (Puccio, 1999). They excel at generating new, original ideas and creative concepts.

1.4.5.3 Developers. Developers are the individuals who take a methodical and careful approach towards creative problem-solving (Puccio, 1999). They don't originally generate new ideas. Instead, they take ideas from others, particularly ideators, and work on refining them in order to ensure whether that can be turned into possible and practical solutions. Hence, they prefer organizing, elaborating, and analyzing ideas.

1.4.5.4 Implementers. These individuals have a preference for actually putting the plan into action (Puccio, 1999). They enjoy dealing with the execution of the ideas and bringing them to life. Hence, they are action-oriented and result-oriented people who love focusing on the finalized solutions and turning them into a reality.

1.4.6 Task Motivation by Teresa Amabile

Amabile conducted (1985) conducted a research to explore the relationship between motivation and creativity, and to study the influence of motivational orientation on creative writers. Results indicated that intrinsic motivation has more influence over creativity than extrinsic motivation.

Amabile's work didn't directly lead to the discussion of 'Creative Orientation,' nor did she coin the term. However, when explaining the model of creativity in the "Componential Theory of Creativity," 'Task Motivation' was regarded as a third component needed to make a creativity process possible (Amabile, 1988). Task motivation includes intrinsic motivation and extrinsic motivation, which can be seen as two distinctive creative orientations, meaning two different preferences to do the same task. Individuals with intrinsic motivation prefer to do the task because it's fun and intriguing, whereas, those with extrinsic motivation prefer to do it because of external rewards (Amabile, 2012).

In a nutshell, by introducing as well as emphasizing the significance of supportive parenting, openness to experience, creativity, and creative orientation, the introduction sets the stage for a deeper examination of relationship among supportive parenting, openness to experience and creative orientation among university students.

1.5 Literature Review

The current study is designed to assess the relationship among supportive parenting, openness to experience, and creative orientation among university students. To the scholar's understanding, when it comes to 'creative orientation,' there's not enough data to study what its relationship had been with supportive parenting and openness to experience. Whereas, there are many psychological studies on supportive parenting and openness to experience with respect to 'creativity,' which is a distinct construct from 'creative orientation.' Furtwengler (2021) developed the Creative Orientation Scale which measures an individual's perceptions and attitudes about creative people and creativity. The scale includes different facets related to creativity, such as openness to experiences and creative-self efficacy, hence, proving that

although ‘creative-orientation’ and ‘creativity’ are different constructs, they are related. Likewise, Simner et al. (2022) found out that creative orientation tends to combine with creative thinking, especially divergent thinking, and creative activities. Furthermore, Gogoi and Barua (2018) stated that the term ‘creative orientation’ implies that all individuals are creative, however, they express their creative abilities differently, depending on their distinctive thinking pattern. Therefore, the following past studies discuss the relationship of supportive parenting and openness to experience with both creativity and creative orientation.

Recently, a research was conducted with the aim to explore the mediation role of creative interest and self-efficacy by studying the influence of parental support on self-rated and task-based creativity in students (Ma et al., 2024). One of the findings of the research revealed great influence of parental support on promoting student creativity.

Also, Fan et al. (2024) designed a three-level meta-analysis to study and synthesize the relationship between parental involvement and student creativity because the past 30 studies were suggesting inconsistent and mixed results. The finding of this three-level meta-analysis revealed an overall small, positive yet significant correlation between student creativity and parental involvement.

Another study was designed to study the link between children’s creative tendencies and challenging parenting behavior, which is a positive parenting behavior that includes the combination of social-emotional aspects and physical play (Shi et al., 2024). The findings of the study revealed that challenging parenting behavior was positively correlated with creative self-efficacy and positive emotions, which in turn increased the children’s creative tendencies,

meaning challenging parenting behavior positively predicted the children's creative tendencies via positive emotions and creative self-efficacy.

Moreover, Han et al. (2024) conducted a study with an aim to explore the correlation between parenting behaviors and creativity through the roles of controlled and autonomous motivation. One of the findings of the study revealed that autonomy support (a type of parenting behavior) had both direct, positive relationship with creativity as well as indirect, positive relationship with creativity via autonomous motivation.

Wang (2023) investigated the relationship between parenting practices and creativity. The research findings suggested that parental warmth and support had a positive correlation with general creativity.

Likewise, Dong et al., (2022) conducted a research to study the influence of positive parenting and support on children's creativity by keeping children's self-esteem as a mediator. Results indicated that positive parenting style was positively associated with both subjective and objective creativity of the children. Moreover, it was also found that the parenting styles were associated directly and indirectly, via the level of self-esteem, with children's creativity.

Moreover, Zhao and Yang (2021) investigated a sample of students to identify the significance of parenting styles for fostering creative thinking in the family. The results indicated positive associations between parental emotional warmth and students' creative thinking.

Apart from that, a study, which aimed to explore the relationship among perceived parenting dimensions, children's creative abilities, and creative self-beliefs, demonstrated that autonomy

support and parental child acceptance were weakly, yet positively, related to creative personal identity and creative self-efficacy (Gralewski & Jankowska, 2020).

Moreover, a research was conducted to investigate the influence of parental factors and home environment on children's creative characteristics (Pugsley & Acar, 2018). The results showed that parents who appreciate creativity and foster a creative environment tend to better support their children's creativity.

Furthermore, a study examined the mediating role of the fulfillment of basic psychological needs on the relationship between parenting styles and emotional creativity among undergraduate students (Moltafet et al., 2018). One of the researched findings unveiled that warmth and structure parenting styles positively predict emotional creativity of the students.

Mehrinejad et al. (2015) also examined the relationship between creativity and parenting styles among junior high school students, the results revealed that creativity and authoritative parenting style had significant positive association with each other, however, significant negative relationship between creativity and authoritarian parenting style was found.

Previous research findings consistently support the positive relationship between openness to experience trait and creativity (Tidikis & Dunbar, 2017). Raya et al. (2023) stated that empirical studies have found a positive link between openness to experience trait and several forms of creativity, including innovative-problem solving methods, divergent thinking, and cumulative creative achievements.

Sacramento et al. (2023) conducted a series of studies to examine the role of team openness to experience on team creativity among university graduates. The findings of the study revealed strong positive correlations between team openness to experience and team creativity.

Furthermore, Abassi et al., (2023) studied the impact of openness to experience on creativity. The results indicated strong impact of openness to experience on creativity.

Simner et al. (2022) examined the factors which could influence children's creative artistic orientation. In the study, creative orientation was referred to as the degree to which different individuals are inclined towards creative activities, such as music and art. The findings of the study revealed that creative orientation remains a stable trait over time without any parental influence. Also, it was found that creative orientation tends to combine with openness to experience (a creative personality), creative thinking (divergent thinking), and creative activities in the home.

Apart from that, a research was designed to study the mechanism of the positive relationship between openness to experience and creativity. (Tan et al., 2016). The research findings explained the mechanism by indicating that intrinsic motivation underlie the openness-creativity linkage. This particular research finding is consistent with Amabile's (1985) work on motivation and creativity, a study which revealed that intrinsic motivation has more influence over creativity than extrinsic motivation. 'The preference to engage in a creative task because it's fun and intriguing' (Amabile, 2012) explains an individual's tendency and orientation towards creativity.

Moreover, a study designed to assess the mediating role of creative self-concept in the relationship between openness to experience and creative behaviors among university students,

revealed that openness to experience indirectly effected students' creative behaviors through their creative self-concept (Chen, 2016).

Also, Silvia et al. (2009) conducted a study that, apart from its other important aims, had an aim to assess the effects of being open to experience on creativity. As a result, openness to experience was found to have broader effects on creativity than the other four domains of personality.

McCrae (1987) studied the relationship among creativity, divergent thinking, and openness to experience. Divergent thinking was consistently found to be positively related to openness to experience. Also, openness to experience and divergent thinking was found to be modestly correlating with Gough's Creative Personality Scale, a self-report personality inventory for assessing creativity, empirically derived by Gough in 1979 (Zampetakis, 2010).

Apart from that, in a meta-analysis of 28 studies, Tehrani et al. (2023) concluded that authoritative parenting style was positively linked with openness to experience in adolescents.

Furthermore, Akhter et al. (2020) investigated the influence of authoritative parenting style on personality traits of children among Pakistan's elementary class students. The findings indicated high positive associations between authoritative personality style and openness to experience.

Another research, which explored the relationship between personality traits and parenting, revealed moderately positive associations between authoritative parenting style and openness to experience (Metsäpelto & Pulkkinen, 2003).

Apart from that, Kim et al. (2024) conducted a meta-analysis to inspect gender differences in creativity by examining 753 studies. The findings concluded no significant mean difference

between men and women on the levels of creative ability, however, men and women had significant mean differences on the creative expressions, indicating that men tend to be more risk-taking and generate new, workable ideas, whereas, women's novel ideas tend to be more socially beneficial and practical.

Moreover, He and Wong (2021) examined the gender differences on creative abilities, specifically on the patterns of creative problem-solving and divergent thinking. The results supported the idea of "greater men variability," regardless of the trivial mean differences on gender.

Apart from that, previous researches have also explored the relationship among age, creative abilities, creative ideologies, creative thinking, and creative behaviours (Asquith et al., 2024; Kruse et al., 2023; Ross et al., 2023; Fusi et al., 2020; Runco and Cayirdag, 2014; Feist and Barron, 2003). Asquith et al. (2024) examined the factors that could change creative thinking over time in a sample of young people with an age range of 14 to 20 years for over two years. One of the findings of the study showed that the divergent thinking ability (a type of creative ability) tended to increase with age, making people more creative in their 20s as compared to how creative they were in their childhood. The findings of the study suggested that both personality i.e. openness to experience and environmental factors, such as involvement in creative hobbies, predict change in creative thinking over time.

Moreover, Kruse et al. (2023) investigated changes in creativity and underlying brain networks throughout lifespan (from adolescence to late adulthood). The findings of the study revealed that young adults and late adults tend to come up with more creative ideas as compared to the teenagers, indicating maturation of brain pathways involved in creative thinking in young

adults and late adults. However, as compared to young adults and late adults, teenagers were found to be persistent on their creative ideas, indicating that though teenagers were found to be less involved in creative thinking, they tended to stick to their creative ideas whenever they came up with one.

Similarly, Ross et al. (2023) also studied creativity across lifespan, and found out that creativity and cognitive processes tend to be highly matured in the mid 20s. Furthermore, the findings also revealed that only a few aspects of creativity tend to decline in the older ages, however, most of the aspects of creativity tend to improve with age.

Furthermore, Fusi et al. (2020) also studied the impact of aging on creativity by scientifically reviewing 16 past studies. The results explained that the relationship between age and creativity was a lot complex and wasn't clear-cut as factors like cognitive functions and education tend to influence creativity. The findings suggested that the older people tend to be as creative as the younger people, provided that they aren't burdened much with the workload and time management.

On top of that, Runco and Cayirdag (2014) studied creativity in adulthood and emphasized the role of age in improving creativity. It was found that creative behaviour and creative thinking increased in the late 20s. It was because by this age the individuals have rich life experiences which in turn shape their creative thinking and increase creative behaviour.

Besides, Feist and Barron (2003) designed a longitudinal study to investigate creativity across lifespan, specifically from early adulthood to late adulthood. The findings of the study revealed that certain personality traits, such as psychological mindedness and openness to experience, had

strong link with creativity, and as these personality traits tend to get stabilized and mature in the late 20s, so does the creativity.

It can be noticed throughout the researches mentioned above that no research examined the influence of supportive parenting and openness to experience on ‘Creative Orientation,’ except the one in which it was indicated that creative orientation remained a stable trait over time without any parental influence, and openness to experience positively correlated with creative orientation (Simner et al., 2022). Moreover, majority of the past researches have explored the relationship between supportive parenting and creativity as well as between openness to experience and creativity. Whereas, creative orientation is a concept different from ‘Creativity,’ ‘Creative Process,’ or ‘Creative Abilities’ (as discussed earlier). The term creative orientation implies that individuals differ based on their preferences for doing a creative task (Gogoi & Barua, 2018). Hence, creative orientation could be thought of more of a creative trait than mere a creative process.

In a study entitled “Individual Differences in Creativity,” Kaufman (2011) noted that the term ‘Creativity’ could mean many different things, such as a creative product like a painting, a creative press like a nurturing environment for creativity, the process of creativity itself, and a creative person. As it was noted in the study, the term ‘Creative Person’ points towards individual differences in creativity, inferring that individuals have different tendencies and thinking styles for creativity. It was acknowledged that there have been limited researches on creativity and thinking styles.

The present study highlights the significance of ‘Creative Orientation’ as a concept and understands that it’s a concept which needs to be studied without mixing it up with the concept of creativity.

1.6 Predictors of Creative Orientation

“Creative orientation is a function of antecedent conditions (e.g. past reinforcement history, biographical variables), cognitive style and ability (divergent thinking, ideational fluency), personality factors (self-esteem, locus of control), relevant knowledge, motivation, social influences (social facilitation, social rewards), and contextual influences (physical environment, task and time constraints)" (Woodman et. al., 1993). This definition provides insights to various possible predictors of creative orientation, including past experiences and background, cognitive styles and abilities, personality traits, knowledge and motivation, social influences, and contextual influences. However, the present study is particularly concerned with exploring supportive parenting and openness to experience as predictors of creative orientation.

1.7 Rationale

Many past studies have explored the relationship between parenting styles and creativity as well as between personality traits, especially openness to experience, and creativity. The consistent findings of these studies have showed that the way an individual has been nurtured or brought up shapes the individual’s creative thinking and creative behavior. Similarly, openness to experience has been consistently positively linked with creativity. However, the current study is concerned with assessing ‘creative orientation,’ which is a different construct than ‘creativity.’

The current study addresses the relationship among supportive parenting, openness to experience, and creative orientation. To the scholar's knowledge, no study has directly examined supportive parenting and openness to experience as predictors of creative orientation so far. The previous studies consistently highlight the significance of relationship between parenting styles and personality traits. And, 'creative orientation' has been referred to as 'individual differences in creativity' and 'persistent creativity trait,' therefore, to the scholar's understanding, it can be deduced that creative orientation is itself a personality trait involved in the process of creativity. Having said that, to the scholar's understanding, it only seems logical as well as desirable to study the relationship between supportive parenting and creative orientation. Moreover, the literature review consistently supports the positive relationship between openness to experience and creativity. However, to the scholar's knowledge, when it comes to the relationship between openness to experience and creative orientation, there's not enough data. Hence, this calls attention to the conceptual clarification between creative orientation and creativity. Furthermore, studying the relationship between openness to experience and creative orientation is necessary to understand how certain individuals not only engage in creative acts but consistently exhibit creative thought patterns and behaviors.

1.8 Objectives

The objectives of the current study are as follows:

1. To examine the relationship among supportive parenting, openness to experience, and creative orientation in university students.
2. To explore the differences on creative orientation with respect to different faculty, age, and gender.

3. To address the construct validity of Creative Orientation Scale in local context.
4. To address the conceptual differences between creativity and creative orientation.

1.9 Hypotheses

With the understanding that creative orientation has two dimensions, which are creative-averse orientation and creative-approach orientation, the present study has the following hypotheses:

1. There is a positive relationship between supportive parenting and creative-approach orientation.
2. There is a negative relationship between supportive parenting and creative-averse orientation.
3. There is a positive relationship between openness to experience and creative-approach orientation.
4. There is a negative relationship between openness to experience and creative-averse orientation.

Chapter II

Method

2.1 Research Design

Cross-sectional correlational research design and non-probability convenient sampling technique was used in this study.

2.2 Sample

The sample was recruited from different universities of Pakistan, including public as well as private sector. It was comprised of (N = 300) young university students (n = 76 men and n = 224 women) with an age range of 18-30 years (*M* = 22.17, *SD* = 2.31). The participating students were currently enrolled in bachelors and masters programs of different faculties. There were no biases for any certain type of discipline, i.e. students from any field of study were allowed to participate in the current study. However, the students from Phd programs were not taken as participants of the current study. The sample was recruited using non-probability convenient sample design. The demographic information of the sample is shown in the table 2.1.

Table 2.1

Demographic Characteristics of University Students (N = 300)

Variables	*M*	*SD*	*n*	%
Age	22.17	2.31		
Late Adolescents (18-20)			71	23.7
Early Emerging Adults (21-24)			188	62.7
Late Emerging Adults (25-30)			41	13.7
Gender				
Male			76	25.3
Female			224	74.7
Faculty				
Sciences			153	51.0
Humanities			147	49.0

Note. *M = mean; SD = standard deviation; n = frequency. Percentages are rounded to one decimal place.*

2.3 Operational Definitions

2.3.1 Supportive Parenting

In this study, supportive parenting is operationally defined as a parenting style characterized by high responsiveness and emotional involvement. It was measured through the college-student versions of the Perceptions of Parents Scale (POPS), which yielded 2 subscales. The mean score of the items for a specific subscale represented a participant's total score on that subscale.

2.3.2 Openness to Experience

In this study, openness to experience is operationally defined as the tendency to be intellectually curious, liberal, aesthetically sensitive, aware of one's emotional states, and understand them. It was measured through Openness to Experience which is a subscale of Big Five Inventory. The sum total of all the items represented the total score of a participant, with higher scores indicating high tendency towards openness to experience and lower scores indicating low tendency to be opened to experiences for a participant.

2.3.3 Creative Orientation

In this study, creative orientation is operationally defined as individual differences in the perception of creativity and creative individuals. It was measured through Creative Orientation Scale (COS), which contains two subscales. The mean score of the items for a subscale represented the total score of a participant on that subscale.

2.4 Instruments

Following tools were used for the assessment of variables:

- Perceptions of Parents Scale (POPS)
- Openness to Experience (a subscale of Big Five Inventory)
- Creativity Orientation Scale (COS)

2.4.1 Demographic Information Sheet

A demographic sheet was used to obtain the demographic information of the participants. It consisted of three demographic variables: 'Age,' 'Gender,' and 'Degree & Course.'

2.4.2 Perceptions of Parents Scale (POPS)

Developed by Robbins (1996) as part of a doctoral dissertation, the college-student version of the scale measures the students' perceptions of their parents' involvement and autonomy support. In 1991, the scale was originally developed by Ryan, Deci, and Grolnick for children. Later, Robbins (1996) updated the scale to use on the college students as well, which resulted in two versions of Perceptions of Parents Scale: 'The Child Scale' and 'The College-student Scale.'

The current study has used the college-student version to assess the participants' perceptions for their parents. The scale was developed within the framework of self-determination theory. It measures the degree to which participants perceive their parents' support and warmth. The total number of items in this scale are 42, among which 21are for mothers and after that the same 21 items for fathers. These items are rated on a seven-point Likert scale from 1 (not at all true) to 7 (very true). Total number of reverse coded items are 16 in the scale. Moreover, the scale measures parental warmth and support in a multidimensional perspective, as it yields 6 subscales: Mother Involvement (item no. 3, 6, 9, 12, 15, 18), Mother Autonomy Support (item no. 1, 2, 5, 8, 11, 14, 17, 19, 21), Mother Warmth (item no. 4, 7, 10, 13, 16, 20), Father Involvement (item no. 24, 27, 30, 33, 36, 39), Father Autonomy Support (item no. 22, 23, 26, 29, 32, 35, 38, 40, 42), and Father Warmth (item no. 25, 28, 31, 34, 37, 41). However, in the current study, POPS was taken as 2 dimensional, as all the mother items were combined as 'mother support,' and all the father items were combined as 'father support.' The mean score of the items for a specific subscale represents a participant's total score on that subscale, with higher scores indicating high involvement/autonomy support/warmth in a certain subscale and vice versa.

2.4.3 Openness to Experience

Openness to Experience is a subscale taken from Big Five Inventory (BFI). Developed from Five-Factor Model of McCrae and Costa (1987), the Big Five Inventory is a self-report scale which is designed to measure the big five personality traits (extraversion, agreeableness, conscientiousness, neuroticism, and openness). The total number of items in BFI are 44 and these are rated on a five-point Likert scale from 1 (disagree a lot) to 5 (agree a lot).

Whereas, the current research is only concerned with openness to experience subscale, which consists of 10 items (item no 5, 10, 15, 20, 25, 30, 35, 40, 41, 44). Overall, there are 17 reverse coded items in the scale, however, the openness to experience area only contains 2 reverse coded items. The sum total of all the items in the openness to experience represents a participant's total score, with higher values indicating high tendency to being opened and flexible towards new experiences, and vice versa.

2.4.4 Creative Orientation Scale (COS)

Creative Orientation Scale is a self-report scale designed to measure attitudes toward creativity and perceptions of creativity and creative individuals within the framework of social identity theory (Furtwengler, 2021). Developed by Furtwengler in 2021, this scale serves as one of the recent advancements in the field of creativity. It consists of 30 items rated on a Likert-type scale (1 = strongly disagree, 5 = strongly agree). There are a total of 13 reverse coded items. The mean score of the items for a subscale makes up the total score of a participant on that subscale. Moreover, the scale yields two dimensions or subscales, which are considered important latent psychological constructs by the researchers. Those two dimensions are:

2.4.4.1 Creative-Approach Orientation. "Individuals who adopt a creative-approach orientation perceive innovation and creative individuals as assets and may identify as creative" (Furtwengler, 2021).

2.4.4.2 Creative-Averse Orientation. "Individuals who adopt a creative-averse orientation perceive innovation and creative individuals as threats to the stability of the ingroup, supporting the notion of ingroup bias within the context of social identity theory" (Furtwengler, 2021).

2.5 Ethical Considerations

- The participants were briefed about the purpose of this study.
- Confidentiality and anonymity of the participants was maintained.
- Participants were informed about their right to withdraw.
- Along with the description of the purpose of the study, an email address was mentioned at the start of the questionnaire in case participants have any queries after filling in the questionnaires.
- It was ensured that responses will only be used for academic purposes.
- Results were reported accurately

2.6 Procedure

The purpose of the current study was to assess the relationship among supportive parenting, openness to experience, and creative orientation, as well as studying the influence of supportive parenting and openness to experience on creative orientation among university students.

First, the synopsis of the present study was presented to the Director Board of Studies (DBS). After the approval of the synopsis, permission was obtained from the authors via email to use the

tools for research purposes. Students from different universities in Pakistan were recruited to collect data. Non-probability convenient sampling was used in the research. Using convenient sampling strategy, a questionnaire was prepared, which consisted of a consent form, a demographic sheet, perceptions of parents scale, openness to experience subscale, and creative orientation scale. Different private and public sector universities were visited and data was collected from the students manually. The participants were requested to sign the consent form before proceeding to the assessment tools. Instructions regarding filling in the questionnaires were provided to them in the description. They were explained about their right to withdraw at any point from the research. They were also assured that their provided data would only be used for research purpose. The approximate time taken to fill in the questionnaire by the participants was about 6 minutes. No participant reported fatigue or exhaustion after completing the research questionnaire.

After the data collection, the data was organized and analyzed using SPSS version 27. The results were honestly reported and discussed as well.

Chapter III

Results

The current study was conducted to examine the relationship among Supportive Parenting, Openness to Experience, and Creative Orientation. The obtained data of 300 university students was analyzed in six steps. First of all, descriptive statistics were calculated, and reliability analysis was executed to calculate the reliability coefficients for each study variable of the current study. In the second step, Confirmatory Factor Analysis (CFA) was administered to address the construct validity of Creative Orientation Scale. Then, in the third step, Pearson Product Moment Correlation Analysis was executed to explore the relationship among Supportive Parenting, Openness to Experience, and Creative Orientation. After that, in the fourth step, Regression Analysis was executed to study Supportive Parenting and Openness to Experience as predictors of Creative Orientation in university students. The current study also aimed to explore the gender differences as well as faculty differences on Creative Orientation. Therefore, in the fifth step of data analysis, independent t-tests were executed to compare the means of male and female on Creative Orientation, and sciences and humanities on Creative Orientation. After that, in the sixth and final step, One-way Analysis of Variance (ANOVA) was executed to study age differences on Creative Orientation among university students.

3.1 Reliability Analysis and Item-Total Correlation

For each scale used in the present study, correlation of the items with their respective total score was executed, and reliability analysis was run to find the alpha value as well as the corrected item-total correlation, as shown and discussed below:

3.1.1 Perceptions of Parents Scale (POPS)

In the current study, Perceptions of Parents Scale was a two-dimensional scale, yielding two subscales, named mother support and father support. The table 3.1(a) and 3.1(b) show alpha reliability, item-total correlation, and corrected item-total correlation calculated for mother support and father support, respectively.

Table 3.1(a)

Alpha Reliability, Item-total Correlation, and Corrected Item-total Correlation for the items of Mother Support in Perceptions of Parents Scale (POPS).

Item No.	Item-total Correlation	Corrected Item-total Correlation
1	.34**	.20
2	-.02	-.13
3	.35**	.22
4	.40**	.28
5	.34**	.21
6	-.24**	.09
7	.34**	.22
8	.48**	.38
9	.35**	.22
10	.41**	.30
11	.46**	.34
12	-.32**	.18
13	-.44**	.32
14	-.37**	.22
15	-.28**	.14
16	.28**	.16
17	.46**	.34
18	.41**	.31
19	.41**	.29
20	-.33**	.20
21	-.29**	.13
α	.62	

The table 3.1(a) shows alpha reliability, item-total correlation, and corrected item-total correlation calculated for mother support. As shown in the table, item no.2 didn't significantly correlate with total score for mother support, whereas, rest of the items all significantly correlated with the total score for mother support. Therefore, item no.2 was omitted from the mother support subscale. Moreover, though the item no.6 had significant correlation with the total score for mother support, the corrected item-total correlation for the item was extremely poor i.e. .09, therefore, the item no.6 was also omitted from the mother support subscale. Hence, a total of two items were omitted from mother support subscale, and the alpha reliability as well as total score for the improved mother support scale, which now consisted of 19 items, were found. The alpha reliability of the scale improved ($\alpha = .66$), as shown in the table 3.4.

Table 3.1(b)

Alpha Reliability, Item-total Correlation, and Corrected Item-total Correlation for the items of Father Support in Perceptions of Parents Scale (POPS).

Item No.	Item-total Correlation	Corrected Item-total Correlation
22	.39**	.28
23	.08	-.21
24	.37**	.25
25	.46**	.37
26	.39**	.30
27	-.26**	.13
28	.42**	.29
29	.46**	.36
30	.43**	.31
31	.41**	.30
32	.36**	.26
33	-.42**	.31
34	-.44**	.33
35	-.35**	.22
36	-.43**	.32
37	.47**	.37
38	.41**	.30
39	.43**	.31
40	.41**	.30
41	-.38**	.25
42	-.34**	.20
α	.69	

The table 3.1(b) shows alpha reliability, item-total correlation, and corrected item-total correlation calculated for father support. As shown in the table, item no.23 didn't significantly correlate with total score for father support, whereas, rest of the items all significantly correlated with the total score for father support. Therefore, item no.23 was omitted from the father support subscale, and the alpha reliability as well as total score for the improved father support scale, which now consisted of 20 items, were found. The alpha reliability of the scale improved (α = .73), as shown in the table 3.4.

Moreover, in the end, the overall alpha reliability for the Perceptions of Parents Scale (POPS) was also calculated, and it significantly improved. The scale originally consisted of 42 items, however, after omission, a total of 39 items of the scale were retained. The previous alpha reliability (before the omission of the items) of the scale was .74, which improved to .77

3.1.2 Openness to Experience

The table 3.2 shows alpha reliability, item-total correlation, and corrected item-total correlation calculated for openness to experience.

Table 3.2

Alpha Reliability, Item-total Correlation, and Corrected Item-total Correlation for the items of Openness to Experience.

Item No.	Item-total Correlation	Corrected Item-total Correlation
1	.65**	.50
2	.68**	.54
3	.65**	.50
4	.52**	.35
5	.55**	.37
6	.60**	.45
7	-.03	-.22
8	.61**	.45
9	-.06	-.17
10	.40**	.14
α	.57	

The table 3.2 shows alpha reliability, item-total correlation, and corrected item-total correlation calculated for openness to experience. As shown in the table, item no.7 and 9 didn't significantly correlate with total score of openness to experience, whereas, rest of the items all significantly correlated with the total score of openness to experience. Therefore, item no.7 and 9 were omitted from the openness to experience scale. Moreover, though the item no.10 had significant correlation with the total score of openness to experience, the corrected item-total correlation for the item was poor i.e. .14, therefore, the item no.10 was also omitted from the openness to experience scale. Hence, a total of three items were omitted from openness to experience scale, and the alpha reliability as well as total score for the improved openness to experience scale, which now

consisted of 7 items, were found. The alpha reliability of the scale improved (α = .79), as shown in the table 3.4.

3.1.3 Creative Orientation Scale

In the current study, Creative Orientation Scale was a two-dimensional scale, yielding two subscales, named creative-averse orientation and creative-approach orientation. The table 3.3(a) and 3.3(b) show alpha reliability, item-total correlation, and corrected item-total correlation calculated for creative-averse orientation and creative-approach orientation, respectively.

Table 3.3(a)

Alpha Reliability, Item-total Correlation, and Corrected Item-total Correlation for the items of Creative-Averse Orientation.

Item No.	Item-total Correlation	Corrected Item-total Correlation
5	.50**	.34
7	.43**	.27
8	.40**	.23
9	.43**	.27
10	.45**	.28
11	.42**	.26
12	.46**	.30
19	.44**	.30
21	.37**	.24
23	.41**	.22
24	.42**	.28
29	.52**	.36
30	.37**	.22
α	.64	

As shown in the table 3.3(a), all items in the creative-averse orientation significantly correlated with the total score of creative-averse orientation. Moreover, the values of corrected item-total correlation of all the items were in acceptable range, therefore, all 13 items of creative-averse orientation were retained, and no item was omitted from the scale.

Table 3.3(b)

Alpha Reliability, Item-total Correlation, and Corrected Item-total Correlation for the items of Creative-Approach Orientation.

Item No.	Item-total Correlation	Corrected Item-total Correlation
1	.30**	.15
2	.22**	.05
3	.37**	.22
4	.36**	.18
6	.34**	.18
13	.37**	.15
14	.39**	.26
15	.24**	.04
16	.18**	-.06
17	.29**	.07
18	.42**	.25
20	.34**	.19
22	.37**	.20
25	.35**	.23
26	.39**	.19
27	.39**	.25
28	.30**	.10
α	.45	

The table 3.3(b) shows alpha reliability, item-total correlation, and corrected item-total correlation calculated for creative-approach orientation. As shown in the table, item no.2, 15, 16, 17, and 28 had poor values for corrected item-total correlation, hence these items were omitted.

The alpha reliability as well as total score for the improved creative-approach scale, which now consisted of 12 items, were found. The alpha reliability of the scale improved ($\alpha = .56$), as shown in the table 3.4.

Moreover, in the end, the overall alpha reliability for the Creative Orientation Scale (COS) was also calculated, and it significantly improved. The scale originally consisted of 30 items, however, after omission, a total of 25 items of the scale were retained. The previous alpha reliability (before the omission of the items) of the scale was .56, which improved to .65.

Table 3.4

Alpha Reliability and Demographic Characteristics of the Study Variables (N=300)

Scale	No. of items	*A*	*M*	*SD*	Range		Skewness	Kurtosis
					Actual	Potential		
Perceptions of Parents Scale	39	.77	205.28	23.11	84-269	39-273	-.95	4.13
Mother Support	19	.66	102.89	12.16	45-130	19-133	-1.04	3.43
Father Support	20	.73	102.39	15.95	20-140	20-140	-1.14	4.34
Openness to Experience	7	.79	28.85	4.53	11-35	7-35	-1.19	1.53
Creative Orientation Scale	25	.65						
Creative-Averse Orientation	13	.64	33.41	6.39	15-65	13-65	1.03	3.83
Creative-Approach Orientation	12	.56	49.57	3.99	35-60	12-60	-.40	1.30

Note. Perceptions of Parents Scale has two subscales: Mother Support and Father Support. Creative Orientation Scale also has two subscales, namely Creative-Averse Orientation and Creative-Approach Orientation.

As seen in the Table 3.4, the alpha value of .77 is indicating good reliability for Perceptions of Parents Scale. .77 is the overall reliability value of the scale. However, Perceptions of Parents Scale yields two subscales, which are mother support and father support. The alpha values of .66 and .73 indicate acceptable and good reliability levels for Mother Support and Father Support, respectively.

Furthermore, the alpha value of .79 indicates good reliability level for Openness to Experience. Whereas, the alpha value of .65 indicates overall acceptable reliability level for Creative Orientation Scale. The Creative Orientation Scale further yields two subscales, which are Creative-Averse Orientation and Creative-Approach Orientation. The alpha value of .64 and .56 indicate acceptable reliability level for Creative-Averse Orientation and Creative-Approach Orientation, respectively.

3.2 Confirmatory Factor Analysis (CFA) for Creative Orientation Scale

One of the current study's main objectives was to address the construct validity of creative orientation scale in the local context. For this purpose, a confirmatory factor analysis (CFA) was conducted to assess the factorial validity of a two-factor model of creative orientation using AMOS 26. The overall model fit was acceptable (χ^2 (404) = 517.509, $p < .001$, $\chi^2/df = 1.28$, RMSEA = .031, GFI = .900, and AGFI = .885. However, incremental fit indices were below acceptable thresholds (CFI = .744, TLI = .724).

For the creative-averse orientation factor, all items loaded significantly ($p < .01$) with most showing moderate to strong standardized loadings ($\geq .40$), however, most creative-approach orientation items were non-significant ($p > .05$), indicating weak contribution to the factor, as shown in the table 3.5.

Table 3.5

Standardized Loadings, p-values, and Squared Multiple Correlations (SMC) for Creative-Averse Orientation and Creative-Approach Orientation

Item	Factor	Std. Loadings	*p-values*	SMC
5	Creative-averse	.43		.18
7	Creative-averse	.34	***	.11
8	Creative-averse	.27	.001	.07
9	Creative-averse	.37	***	.14
10	Creative-averse	.33	***	.11
11	Creative-averse	.29	***	.09
12	Creative-averse	.36	***	.13
19	Creative-averse	.39	***	.15
21	Creative-averse	.33	***	.11
23	Creative-averse	.27	***	.07
24	Creative-averse	.37	***	.14
29	Creative-averse	.47	***	.22
30	Creative-averse	.29	***	.09
1	Creative-approach	.25	.32	.06
2	Creative-approach	.08		.01
3	Creative-approach	.30	.314	.09
4	Creative-approach	.30	.314	.09
6	Creative-approach	.32	.312	.10
13	Creative-approach	.23	.324	.05
14	Creative-approach	.48	.304	.23
15	Creative-approach	.09	.428	.01
16	Creative-approach	-.16	.347	.03
17	Creative-approach	-.02	.806	.00
18	Creative-approach	.41	.307	.17
20	Creative-approach	.27	.318	.07
22	Creative-approach	.23	.324	.05
25	Creative-approach	.40	.307	.16
26	Creative-approach	.25	.320	.06
27	Creative-approach	.40	.307	.15
28	Creative-approach	.01	.866	.00

Note. Std. Loadings = Standardized Loadings, SMC = Squared Multiple Correlations, item 2 and 5 were fixed by AMOS for model identification.

The table 3.5 shows standardized loadings, *p* values, and squared multiple correlations for two factors of creative orientation scale, namely creative-averse orientation and creative-approach orientation. As cleared from the table, all items for the creative-averse factor loaded significantly, so, they were retained. Moreover, the item-total correlation and corrected item-total correlation (shown in the table 3.3(a)) executed for the same items of creative-averse explained that these items should be retained.

However, the table 3.5 shows that no item loaded significantly for the creative-approach factor. Still, considering the squared multiple correlations and item-total correlation as well as corrected item-total correlation (shown in the table 3.3(b)) of the creative-approach items, a total of 5 items were omitted, which were item 2, 15, 16, 17, and 28. Because, not only these items had lowest squared multiple correlations, but their corrected item-total correlations were extremely poor as well. The removal of these 5 items also improved the alpha reliability of the creative-approach orientation subscale. The rest of the 12 items of creative-approach were retained because removing anymore items led to much lower alpha reliability of the creative-approach orientation subscale.

3.3 Correlational Analysis of the Study Variables

It was hypothesized that supportive parenting would have positive relationship with creative-approach orientation. It was also hypothesized that there would be a negative relationship between supportive parenting and creative-averse orientation. As the supportive parenting yields two primary scales, which are mother support and father support, therefore, the hypothesized relationships for supportive parenting were addressed through its subscales. It was also hypothesized that openness to experience would have positive relationship with creative-approach orientation. Furthermore, it was hypothesized that openness to experience would negatively correlate with creative-averse orientation. Therefore, Pearson Product Moment Correlation was executed to assess these hypotheses, as shown below in the Table 3.4.

Table 3.6

Correlations for Study Variables (N=300)

No.	Variables	I.	II.	III.	IV.	V.
I.	Mother Support	-	.34**	.09	-.13*	.11*
II.	Father Support		-	.03	-.16**	-.01
III.	Openness to Experience			-	-.14*	.23**
IV.	Creative-Averse Orientation				-	-.16**
V.	Creative-Approach Orientation					-

Note. $^{**}p < .01$, $^{*}p < .05$

As shown in the table 3.6, mother support and father support have significant negative correlation with creative-averse orientation, indicating that in the presence of parents' support, an individual tends to have fewer negative attitudes and perceptions towards and for creative people, meaning it's much less likely for the individual to perceive creative people as threats to the societal norms. Moreover, significant positive correlation was found between mother support and creative-approach orientation, meaning that the mother support is positively linked with raising positive attitudes and perceptions about creativity and creative people. However, no significant correlations were found between father support and creative-approach orientation.

Moreover, openness to experience was found to have strong significant positive correlation with creative-approach orientation, which indicates that people who have interest in educational experiences, and are liberal, intellectually curious, and aesthetically sensitive perceive creative people as assets of the society. It means that people with higher open-mindedness possess positives views about creative people and believe that creativity is necessary for the survival of a society. Also, significant negative correlation was found between openness to experience and creative-averse approach, indicating that being more open-minded is linked with lesser negative views and attitudes toward innovation and innovative people. Furthermore, supportive parenting and openness to experience weren't found to have significant correlations with each other.

3.4 Multiple Regression Analysis

The current study also examined supportive parenting and openness to experience as predictors of creative orientation in university students by executing Multiple Regression analysis. As Creative Orientation Scales yields two important subscales, namely creative-averse orientation and creative-approach orientation, the multiple regression analysis was run separately

for both subscales. The Table 3.7 shows multiple regression analysis of supportive parenting and openness to experience on creative-averse orientation using enter method. Similarly, the Table 3.8 shows multiple regression analysis of supportive parenting and openness to experience on creative-approach orientation using enter method.

Table 3.7

Regression Coefficients of Supportive Parenting (mother and father) and Openness to Experience on Creative-Averse Orientation

Variables	*B*	*SE*	*β*	*p*	95%CI [LL, UL]
Constant	47.95	3.94	-	< .001	[40.19, 55.71]
Mother Support	-.04	.03	-.07	.266	[-.09, .03]
Father Support	-.05	.02	-.13	.027	[-.10, -.01]
Openness to Experience	-.19	.08	-.13	.021	[-.34, -.03]

Note. R^2 = .049, F (3, 296) = 5.08, p < .05

The Table 3.7 shows the impact of supportive parenting and openness to experience on creative-averse orientation in university students. The R^2 value of .05 revealed that the predictors explained 5% variance in the outcome variable with F (3, 296) = 5.08, p < .05. The findings revealed that father support negatively predicted creative-averse orientation (β = -.13, p < .05). The findings also revealed that openness to experience negatively predicted creative-averse orientation (β = -.13, p < .05). Whereas, mother support was observed to have non-significant effect on creative-averse orientation.

Table 3.8

Regression Coefficients of Supportive Parenting (mother and father) and Openness to Experience on Creative-Approach Orientation

Variables	*B*	*SE*	*β*	*p*	95%CI [LL, UL]
Constant	41.54	2.45	-	< .001	[36.73, 46.35]
Mother Support	.04	.02	.11	.059	[-.01, .08]
Father Support	-.02	.02	-.06	.323	[-.04, .02]
Openness to Experience	.20	.05	.22	< .001	[.10, .29]

Note. R^2 = .066, F (3, 296) = 6.95, p < .001

The Table 3.8 shows the impact of supportive parenting and openness to experience on creative-approach orientation in university students. The R^2 value of .07 revealed that the predictors explained 7% variance in the outcome variable with F (3, 296) = 6.95, p < .001. The findings revealed that openness to experience positively predicted creative-approach orientation (β = .22, p < .001). Whereas, mother support and father support were observed to have non-significant effect on creative-approach orientation.

3.5 Independent Sample t-tests

It was hypothesized that there would be gender differences on creative orientation. Moreover, it was also one of the objectives of the current study to assess the faculty differences on creative orientation for university students. Therefore, independent sample t-test analysis was applied to

test the hypothesis as well as to study the objective. The Table 3.9 shows gender differences on creative-averse orientation and creative-approach orientation. Whereas, the Table 3.10 shows faculty differences (sciences or humanities) on creative-averse orientation and creative-approach orientation in university students.

Table 3.9

Mean, Standard Deviations, and t-values for Male University Students and Female University Students on the Dimensions of Creative Orientation (N=300)

	Male (n=76)		Female (n=224)				95% C1	
Variables	*M*	*S.D*	*M*	*S.D*	*t(298)*	*P*	*UL*	*LL*
Creative Orientation								
Creative-Averse Orientation	32.51	4.74	33.71	6.84	-1.41	.159	.47	-2.86
Creative-Approach Orientation	49.64	3.88	49.55	4.05	.18	.931	1.14	-.95

***Note**: CI=Confidence Interval, UL=Upper Limit, LL= Lower limit*

The table 3.9 shows that independent sample t-test was run to assess the gender differences on the subscales of creative orientation. The findings revealed no significant gender differences on creative-averse orientation as well as on creative-approach orientation.

Table 3.10

Mean, Standard Deviations, and t-values for Sciences and Humanities on the Dimensions of Creative Orientation (N=300)

	Sciences (n=153)		Humanities (n=147)				95% C1	
Variables	*M*	*S.D*	*M*	*S.D*	*t(298)*	*p*	*UL*	*LL*
Creative Orientation								
Creative-Averse Orientation	33.42	6.14	33.39	6.66	.03	.468	1.48	-1.43
Creative-Approach Orientation	49.84	3.82	49.30	4.18	1.16	.499	1.45	-.37

***Note**: CI=Confidence Interval, UL=Upper Limit, LL= Lower limit*

It was one of the current study's aims to assess the faculty differences on the dimensions of creative orientation in university students. As shown in the Table 3.10. the findings revealed no significant differences for the faculty differences on the subscales of creative-orientation.

3.6 One-way Analysis of Variance (ANOVA)

One of the objectives of the current study was to explore creative orientation across different age groups. For this purpose, the participants were categorized into three different age groups, namely Late Adolescents (18-20 years), Early Emerging Adults (21-24 years), and Late Emerging Adults (25-30 years). This categorization was derived from the developmental stages discussed by different scientists and authors in the past psychological literature (Arnett, 2000; APA, 2020). After categorizing the participants into the said age groups, one-way ANOVA was run to assess mean differences across age groups on the domains of creative orientation, as shown in the Table 3.11.

Table 3.11

Differences among Age Groups on the Domains of Creative Orientation (N = 300)

	Late Adolescents (18-20) (n = 71)		Early Emerging Adults (21-24) (n = 188)		Late Emerging Adults (25-30) (n = 41)			
Variables	*M*	*SD*	*M*	*SD*	*M*	*SD*	*F (2, 297)*	η^2
I. Creative-averse Orientation	33.48	7.20	33.92	6.25	30.93	4.94	3.77*	.02
II. Creative-approach Orientation	49.89	3.84	49.28	4.08	50.37	3.85	1.53	.01

Note. *$p < .05$, η^2 = eta squared

Table 3.11 shows mean, standard deviation, and F-values for creative-averse orientation and creative-approach orientation across age groups. Results indicated significant mean differences across age groups on creative-averse orientation with F (2, 297) = 3.77, $p < .05$. This finding revealed that there's a statistically significant difference between at least two of the age groups on creative-averse orientation. To further assess this significant difference between age groups on creative-averse orientation, post hoc analysis was run, as shown in the Table 3.12. However, ANOVA results indicated non-significant mean differences across age groups on creative-approach orientation with F (2, 297) = 1.53, $p > .05$.

3.6.1 Post Hoc Analysis

Post hoc analysis was run to assess which age groups were found to have significant mean differences from each other on creative-averse orientation, as shown in the Table 3.12.

Table 3.12

Post Hoc Analysis of Age Group Difference on Creative-Averse Orientation (N=300)

Variables	(I) Age groups	(J) Age groups	Mean Difference (I-J)	(i-j)	S.E	*95% CI*	
						LL	UL
Creative-averse Orientation	Late Adolescents	Early Emerging Adults	LA<EEA	-.44	.88	-2.52	1.64
	Late Adolescents	Late Emerging Adults	LA>LEA	2.55	1.24	-.37	5.48
	Early Emerging Adults	Late Emerging Adults	EEA>LEA	2.99*	1.09	.42	5.56

***Note**. *p < .05, LA = Late Adolescents (18-20), EEA = Early Emerging Adults (21-24), LEA = Late Emerging Adults (25-30), CI = Confidence Interval, LL = Lower Limit, UL = Upper Limit.*

As clear from the Table 3.12, early emerging adults (21-24) significantly differ from late emerging adults (25-30). The findings revealed that early emerging adults scored higher on creative-averse orientation as compared to the late emerging adults, indicating that as people age, they tend to be more open, accepting, and encouraging towards creative people. Whereas, people in their early 20s (say 21 to 24) are less accepting of creative people and view them as a threat to the norms and conventions of the society.

3.7 Additional Analysis

Apart from assessing the main objectives and hypothesis of the current study, the data obtained from the university students was also used to run some additional analysis. As mentioned earlier in the Chapter I, openness to experience involves a certain aspects and facets, such as openness to ideas and openness to fantasy (Nekljudova, 2019). Therefore, the current study also explored creative orientation with respect to the facets of openness to experience.

3.7.1 Correlation among the Facets of Openness to Experience and Dimensions of Creative Orientation

The current study explored the relationship among the facets of openness to experience, which are ‘openness to ideas and openness to fantasy,’ and dimensions of creative orientation, which are creative-averse orientation and creative approach orientation, as shown in the table 3.13.

Table 3.13

Correlations among Facets of Openness to Experience and Dimensions of Creative Orientation

No.	Variables	I.	II.	III.	IV.
I.	Openness to Ideas	-	.58**	-.14*	.20**
II.	Openness to Fantasy		-	-.08	.20**
III.	Creative-Averse Orientation			-	-.16**
IV.	Creative-Approach Orientation				-

Note. $^{**}p < .01$, $^{*}p < .05$.

The correlation analysis among openness to ideas, openness to fantasy, creative-averse orientation, and creative-approach orientation revealed various significant correlations: Openness to ideas was found to have significant negative correlation with creative-averse orientation, indicating that the university students who tend to explore new ideas, be deep thinker, and curious about many different things, don't have a tendency to be aversive to creativity and creative people, i.e. they don't see innovation and innovative people as a threat to the stability of the society.

Similarly, openness to ideas was found to have strong significant positive correlation with creative-approach orientation, indicating that the university students' openness to ideas is linked with the tendency to see innovation and innovative people as assets of the society, meaning the university students who tend to be deep thinker and ingenious perceive creativity and creative people as integral parts of the establishment as well as stability of the society.

Furthermore, openness to fantasy was found to have no significant correlation with creative-averse orientation. However, the findings showed significant positive correlation between openness to fantasy and creative-approach orientation. Therefore, it can be inferred that the university students who tend to be inventive and have active imagination are a lot likely to perceive innovation and innovative people as strength of the society.

3.7.2 Correlation among the Facets of Openness to Experience and Age

The current study also explored the relationship among the facets of openness to experience and age, as shown in the table 3.14.

Table 3.14

Correlations among the Facets of Openness to Experience and Age

No.	Variables	I.	II.	III.
I.	Openness to Ideas	-	.58**	.15*
II.	Openness to Fantasy		-	.04
III.	Age			-

Note. $^{**}p < .01$, $^{*}p < .05$.

Another correlation analysis was also executed to assess the relationship of age with the facets of openness to experience, which are openness to ideas and openness to fantasy. The findings of the analysis revealed that age was only linked with openness to ideas in the positive direction, meaning openness to ideas was found to have significant positive correlation with age. However, openness to fantasy revealed no significant correlation with the age of university students. Nevertheless, the significant positive correlation between openness to ideas and age reflect that increase in the age of the university students increases their tendency of playing with the ideas and being curious about many different things.

3.7.3 Mean Comparison of Age Groups on Openness to Ideas

Among all the facets of openness to experience, openness to ideas was the only facet which was found to have significant positive correlation with the age. Therefore, it seemed necessary to explore the mean differences among the age groups with respect to openness to ideas. For this purpose, one-way analysis of variance (ANOVA) and post hoc analysis were run, as explained below:

3.7.3.1 One-way Analysis of Variance (ANOVA). The following table shows the differences in the openness to ideas of the university students across different age groups.

Table 3.15

Differences among Age Groups on the Openness to Ideas (N = 300)

	Late Adolescents (18-20) (n = 71)		Early Emerging Adults (21-24) (n = 188)		Late Emerging Adults (25-30) (n = 41)			
Variable	*M*	*SD*	*M*	*SD*	*M*	*SD*	*F (2, 297)*	η^2
Openness to Ideas	16.28	3.36	16.53	2.93	17.73	1.84	3.55*	.02

Note. *$p < .05$, η^2 = eta squared

Table 3.15 shows mean, standard deviation, and F-values for openness to ideas across age different groups. Results indicated significant mean differences across age groups on openness to ideas with $F(2, 297) = 3.55$, $p < .05$. This finding revealed that there's a statistically significant difference between at least two of the age groups on openness to ideas. To further assess this significant difference between age groups on openness to ideas, post hoc analysis was run, as shown in the Table 3.16.

Table 3.16

Post Hoc Analysis of Age Group Difference on Openness to Experience (N=300)

Variable	(I) Age groups	(J) Age groups	Mean Difference (I-J)	(i-j)	S.E	*95% CI*	
						LL	UL
Openness to Ideas	Late Adolescents	Early Emerging Adults	LA < EEA	-.25	.41	-1.20	.71
	Late Adolescents	Late Emerging Adults	LA < LEA	-1.45*	.57	-2.80	-.10
	Early Emerging Adults	Late Emerging Adults	EEA < LEA	-1.21*	.50	-2.39	-.02

***Note**. *p < .05, LA = Late Adolescents (18-20), EEA = Early Emerging Adults (21-24), LEA = Late Emerging Adults (25-30), CI = Confidence Interval, LL = Lower Limit, UL = Upper Limit.*

3.7.3.2 Post Hoc Analysis. Post hoc analysis was run to assess which age groups significantly differed from each other on openness to ideas. As shown in the table 3.16, significant mean difference was found between late adolescents (18-20) and late emerging adults (25-30) on openness to ideas, indicating that the late emerging adults have more tendency to be open to ideas, curious about many different things, and think deeply, as compared to the late adolescents.

Moreover, the findings of the post hoc analysis also revealed significant mean differences between early emerging adults (21-24) and late emerging adults (25-30) on openness to ideas. It indicates that when compared to the early emerging adults, the late emerging adults are more deep thinkers, intellectual, curious, and love to play with ideas. Furthermore, the findings of the post hoc analysis suggest that the late emerging adults or the students in their late 20s (say above 25) show more tendency towards being curious about many different things, deep thinkers, and intellectual, as compared to the students with the ages between 18 to 24.

Chapter IV

Discussion

The present research studied the relationship among supportive parenting, openness to experience, and creative orientation among university students, and assessed supportive parenting and openness to experience as predictors of creative orientation among university students. Moreover, it also clarified the distinction between the constructs of 'creative orientation' and 'creativity.' Furthermore, the study assessed the construct validity of the 'Creative Orientation Scale' in the local context. The study also addressed age differences, faculty differences (science and humanities), and gender differences on creative orientation among university students. The findings of the present study are discussed as below:

4.1 Relationship between Supportive Parenting and Creative Orientation

One of the findings of the current study revealed a strong significant negative correlation between supportive parenting and creative-averse orientation among university students, indicating that in the presence of parental warmth and emotional support, the students are less likely to perceive creativity and creative people as a threat to the stability of the society. Therefore, the students' perceptions of innovation and creative people do have associations with parents' high responsiveness, emotional involvement, and warmth. As the term 'Creative Orientation' implies that all individuals are creative but differ on the way they approach creativity (Gogoi & Barua, 2018), as well as describes the extent of an individual's involvement in creative thinking and behavior (Zhou & George, 2001), the significant negative relationship between supportive parenting and creative-averse orientation found in the current study supports the widely researched positive relationship between parental support and creativity in the

psychological literature. Ma et al. (2024) found out that parental support had strong influence on promoting student creativity. Likewise, Fan et al. (2024) also confirmed the existence of positive relationship between parental involvement and student creativity through the meta-analysis of the past 30 studies. Moreover, Han et al. (2024) also revealed positive association of parental autonomy support with creativity. Furthermore, Zhao and Yang (2021) suggested positive correlation between parental emotional warmth and students' creative thinking. Moreover, a study conducted by Gralewski & Jankowska (2020) also presented similar findings, as autonomy support and parental child acceptance were found to be positively associate with creative personal identity and creative self-efficacy of the children. In other words, the past literature consistently reveals the positive associations between creativity and parental warmth and support (Wang, 2023; Dong et al., 2022; Pugsley & Acar, 2018; Mehrinejad et al., 2015).

Moreover, the findings of the current study also revealed significant positive association between mother support and creative-orientation, emphasizing the involvement of mothers in shaping the young minds' views and perceptions about creativity and creative people, and indicating that the presence of mothers' warmth and support is positively linked with the young minds' positive views, perceptions, and attitudes towards innovation and innovative people. Zhang et al. (2024) found out that mothers' support and creative self-efficacy was related with nurturing creative thinking in children, thus shaping family environment.

4.2 Supportive Parenting as a Predictor of Creative Orientation

A finding of the current study displayed father support as a significant negative predictor of creative-averse orientation among university students. It indicates that the more the students' fathers provide them with warmth, support, and emotional bonding, the less the students are

likely to perceive creativity and creative people as threats to the societal norms and traditions. This finding implies that the way the fathers nurture their children, plays role in the development of children's perceptions of creativity and creative people during their student life. However, mother support didn't significantly predict creative-averse orientation in the current study, still it was found to be having significant negative correlation with creative-averse orientation. Nevertheless, the past psychological literature highlights the involvement of parents in shaping creative thinking and behaviors of the young minds: Recently, Shi et al. (2024) conducted a study to investigate the relationship between positive parenting behavior (which included social-emotional facets) and children's creative tendencies. The findings revealed positive associations between positive parenting and children's creative self-efficacy and positive emotions, which in turn increased children's creative tendencies. Likewise, a study examined the influence of parenting styles on emotional creativity among undergraduate students (Moltafet et al., 2018). The findings revealed that structured parenting styles and parental warmth positively predicted the student's emotional creativity.

In the current study, father support was found to be a predictor of creative-averse orientation as it negatively predicted the creative-averse orientation among students. However, the variance explained by father support in the creative-averse orientation was less than 6%. This implies that the most part of the creative-averse orientation among the students remained stable without the influence of any external factors. It means that those students who see innovation and creative individuals as threats to the stability of the society will continue to have this belief, and their creative orientation is averse (negative). This finding is in line with the definition of creative orientation, as it has been referred to as "persistent personality characteristic," "consistent attitude or personality trait," "consistent disposition" and "a dynamic trait," (Fiest, 1998; Zhou &

George, 2001; Dollinger, 2003; Kaufman & Beghetto, 2009). Simner et al. (2022) observed the same thing in their research when they studied parental influence on children's artistic creative orientation. The findings of the study revealed that creative orientation remains a stable trait over time without any parental influence.

4.3 Relationship between Openness to Experience and Creative Orientation

One of the findings of the current study revealed significant positive correlation between openness to experience and creative-approach orientation among university students, meaning that the students who scored higher on openness to experience had highly positive attitudes towards creativity and creative individuals, and strongly believed that innovation is crucial for the progress of the society and innovative people are assets of the society. And, another finding revealed significant negative correlation between openness to experience and creative-averse orientation, indicating that it's less likely for an open-minded university students to view innovation and innovative people as threats for the society. These finding imply that being intellectually curious, willing to take risks, aware of one's emotional states as well as understand them, and aesthetically sensitive, is positively associated with having a positive approach towards creativity and creative people. Previous research findings consistently support the positive linkage between openness to experience trait and creativity (Tidikis & Dunbar, 2017). Raya et al. (2023) stated that empirical studies have found a positive link between openness to experience trait and several forms of creativity, including innovative-problem solving methods, divergent thinking, and cumulative creative achievements. In a study conducted by Sacramento et al. (2023), the relationships between team openness to experience and team creativity was examined among university graduates. The team openness to experience was found to be positively correlated with team creativity. However, Chen (2016) also examined the relationship

between openness to experience and creative behaviors among university students. The findings showed that openness to experience indirectly effected students' creative behaviors through their creative self-concept. Likewise, Tan et al. (2016) conducted a study to explain the linkage between openness to experience and creativity. It was revealed that openness and creativity are indirectly related to each other by the pathway of intrinsic motivation.

4.4 Openness to Experience as a Predictor of Creative Orientation

In the current study, openness to experience was found to be a positive predictor of creative-approach orientation among university students, implying that the more the students are liberal, accepting of new ideas and change, willing to take risks, admire aesthetics, and intellectually curious, the more their approach towards creativity is positive, thus, such students are more likely to have an acceptance for diversity and cultural differences, and consider creativity and creative people as integral parts of a society. Moreover, openness to experience also had significant negative effect on creative-averse orientation, implying that being open-minded decreases the students' likelihood of having aversive attitudes towards creativity and creative people. Abassi et al., (2023) also confirmed strong impact of openness to experience on creativity. Also, Simner et al. (2022) found out strong influence of openness to experience on children's artistic creative orientation, and it was revealed that openness to experience had strong combinations with creative tasks, creative behaviors, and creative thinking.

However, in the current study, the finding revealed that the variance explained by openness to experience in the creative-approach orientation was 7% only. This current finding again confirms the definition of creative orientation as a persistent creative trait that remains relatively stable over time (Fiest, 1998; Zhou & George, 2001; Dollinger, 2003; Kaufman & Beghetto, 2009).

4.5 Gender Differences on Creative Orientation

It was one of the objectives of the current study to explore gender differences on creative orientation among university students. The findings showed that there weren't any significant mean differences between male university students and female university students on creative-averse orientation. Also, no significant gender differences were revealed on creative-approach orientation. Hence, it's unlikely for male university students and female university students to differ on the ways they approach creativity and on the believes they have for creativity and creative individuals. In the current study, gender played no role in determining the creative orientation of university students. Hauge et al. (2023) stated that cultural values and norms influence gender differences, therefore, it's probable for an aspect to differ across gender in one culture as well as to not be affected by gender at all in another culture. In the current study, creative orientation didn't prove to be different across gender. However, Simner et al. (2022) found significant gender differences on creative orientation in children.

Besides, aspects like 'creativity,' 'creative abilities,' and 'divergent thinking' are related to creative orientation (Furtwengler, 2021; Gogoi and Barua, 2018). Kim et al. (2024) conducted a meta-analysis to inspect gender differences in creativity by examining 753 studies. The findings concluded no significant mean difference between men and women on the levels of creative ability, however, men and women had significant mean differences on the creative expressions, indicating that men tend to be more risk-taking and generate new, workable ideas, whereas, women's novel ideas tend to be more socially beneficial and practical. Moreover, He and Wong (2021) examined the gender differences on creative abilities, specifically on the patterns of creative problem-solving and divergent thinking. The results supported the idea of "greater men variability," regardless of the trivial mean differences on gender.

4.6 Faculty Differences on Creative Orientation

To assess whether the choice of discipline or study course affect the university students' creative orientation, meaning their attitudes towards innovation and innovative people, the current study also explored faculty differences on creative orientation among university students. The current study divided the list of the university students' discipline or study courses into 'Humanities' and 'Sciences.' The findings revealed no significant mean differences between the students of humanities and the students of sciences for creative-averse orientation as well as creative-approach orientation. Therefore, it was revealed that the choice of study course didn't affect the attitudes and believes of the students which they held for creativity and creative individuals. This finding of the current study wasn't consistent with the past psychological literature. Daly et al. (2016) investigated whether the choice of discipline determine how college students perceive creative process instructions. The results of the study showed that art and social sciences students were more likely to engage in creative tasks and appreciate creativity as compared to the education and engineering students.

Similarly, Xurui et al. (2018) compared art students with non-art students to assess the mechanism of creativity differences. It was revealed that the art students scored significantly higher than non-art students on creative thinking. Hence, it was concluded that the choice of study course or major shape the students' thinking style. The results of this study also implied that creative thinking could be learned as a skill by studying art subjects.

4.7 Differences across Age Groups on Creative Orientation

The current study also assessed creative orientation across different ages. For this purpose, the ages of 300 participants were divided into Late Adolescents (18-20), Early Emerging Adults (21-

24), and Late Emerging Adults (25-30). The categorization of the participants into these age groups was drawn from the psychological literature. WHO (2014) and APA (2020) recognize the age group of 18-20 as late adolescents. During this period of age, though the individuals are legally adult, the psychological transition is still taking place as the emotional and social maturation hasn't completed yet. The parts of brain involved in emotional regulation and decision-making are still developing.

Apart from Late Adolescents (18-20), the current study divided the participants into Early Emerging Adults (21-24) and Late Emerging Adults (25-30). Arnett (2000) introduced the concept of Emerging Adulthood, "Emerging adulthood is a phase of life between adolescence and full-fledged adulthood which is characterized by exploration and instability in love, work, and worldviews." Emerging adulthood typically covers the ages from 18 to 29. It's the stage where the individuals explore their identity, as in who they are, what they believe in, and what they want when it comes to work and love. Moreover, their focus is on personal development, they dream big and have high hopes to make those dreams come true, they face frequent changes in their social life, and they feel in-between, meaning they don't feel like a teenager, nor do they feel like an adult.

Dimensions of creative orientation were assessed across different ages among university students in the current study. There were no significant mean differences found among late adolescents (18-20), early emerging adults (21-24), and late emerging adults (25-30) on creative-approach orientation. However, the findings revealed significant mean difference between early emerging adults (21-24) and late emerging adults (25-30) on creative-averse orientation. Aversion to creativity was found higher in the early emerging adults (21-24) as compared to the late emerging adults (25-30). This specific finding showed that younger adults (below 25 years)

tend to be more conservative and hold negative attitudes toward creativity and creative people, and consider creative people as threat to the stability of the society. However, this current finding implies that as people grow old and move into the late 20s (above 25), they tend to be flexible and more acceptable of novel ideas, creativity, and creative individuals, and consider them as assets of the society. This finding is consistent with past research findings: Asquith et al. (2024) designed a longitudinal study to compare adolescents with emerging adults on creative thinking abilities. The findings suggested increase in creative thinking abilities as the individuals stepped into their mid-20s. Similarly, Kruse et al. (2023) assessed changes in underlying brain networks and creative ability across the life span. The findings indicated that creativity tends to be at its highest peak in the mid-20s. Therefore, individuals with the ages 25-30 tend to be more positive, open, and admiring of innovation and innovative people. Also, Bornstein (2021) stated that creativity tends to develop across the lifespan, however, it tends to grow higher in the late 20s when the individual exhibits higher cognitive and emotional maturity. Besides, Furtwengler (2021) also stated that younger adults, as compared to the slightly older adults, show more negative attitudes and aversion to creativity and creative people.

4.8 School Environment and Student-teacher Relationship as Confounding Variables

The past psychological studies reveal that positive school environment and teacher support significantly increase creativity in students (Huang, X. 2025; Wang et al., 2023; Cooke, S. 2018). However, it’s unknown whether these variables affect the students’ creative orientation or not. The present study didn’t control these variables, so, the results might or might not be affected by them.

4.9 Conclusions

The present study investigated the relationship among supportive parenting, openness to experience, and creative orientation, and assessed supportive parenting and openness to experience as predictors of creative orientation among university students. The findings of the current study are concluded below:

1. It was revealed that supportive parenting had significant negative associations with creative-averse orientation, implying that the more the students' parent are emotionally involved with them, and provide with warmth and support, the likelihood of the students being aversive to creativity and creative people relatively reduce.
2. The findings of the current study showed that openness to experience had significant positive association with creative-approach orientation and significant negative association with creative-averse orientation, which indicated that the students' openness, flexibility, ability to assess as well as understand their emotional states, and having the willingness to take risks was directly linked with the students' positive perceptions and attitudes towards creativity and creative people, and being open-minded was linked with having less aversive attitudes towards creativity and creative people, respectively.
3. Moreover, father support was found to be a significant negative predictor of creative-averse orientation, indicating that the presence of fathers' warmth, support, and emotional involvement had effect on the students' negative approach towards innovation as well as innovative people. It meant that the fathers' support could play role in shaping the students' attitudes towards creativity and creative people by making them less negative.
4. Apart from that, openness to experience was found to be a significant positive predictor of creative-approach orientation among university students. This specific finding implied

that the students' willingness to take risks, flexibility, awareness about their emotional states and the ability to understand them, and intellectual curiosity could shape their perceptions about innovation and innovative people. Students with higher levels of openness to experience hold positive attitudes towards creativity and see creative people as strength and gift for the society. The findings also showed openness to experience as a significant negative predictor of creative-averse orientation, implying that being open-minded decreases the students' likelihood of having aversive attitudes towards creativity and creative people.

5. However, the study didn't reveal any significant gender differences on creative orientation (creative-averse orientation and creative-approach orientation), which clearly meant that gender didn't play any role in shaping the students' creative orientation.
6. Similarly, there were no significant faculty differences (humanities and sciences) found on creative orientation (creative-averse orientation and creative-approach orientation), which indicated that the choice of discipline didn't have any say in what perceptions and attitudes the students held towards creativity and creative people.
7. However, the current study revealed significant mean differences in age groups for creative-averse orientation. Early emerging adults (21-24) were found to be more creative-averse than the late emerging adults (25-30), which implied that the negative perceptions about creativity and creative people tend to decrease in the mid-20s. As the students age, their perceptions towards creativity become less negative and they become more acceptable and admiring of creativity and creative people.

4.10 Limitations

The current study was limited in several ways:

1. The findings of the current study stay valid for the student population only. Therefore, these findings cannot be generalized to the non-student population.
2. Furthermore, the age group was restricted, and the findings can only be implied to the students with the age range of 18-30 years.
3. The findings of the current study cannot be generalized to the college students or the high school students, as they are mostly less than 18 years old.
4. The sample was also restricted in terms of the programs the students were pursuing, which means the findings hold true for the students of bachelors and masters programs.
5. Apart from that, the findings of the current study hold true for Pakistani students only.
6. Confounding variables like school environment, student-teacher relationship, academic stress, peer pressure, peer influence, and socioeconomic status were not controlled, hence, the findings of the current study might be affected by the presence of these confounding variables.

4.11 Suggestions

1. The same variables should be investigated among students with the ages other than 18-30 years, for example, the high school students and college students can be considered.
2. The generalizability of the current research can be increased by considering university students from other Asian countries who are currently studying in Pakistan.
3. The variables of the current study can be investigated deeper by assessing openness to experience and creative orientation of the students' parents as well.

4. The past psychological literature reveals that creative orientation is a less studied area as compared to creativity. Hence, creative orientation needs further investigation, so more researches should be done in this area.
5. Empirical researches should be done to assess the differences between creativity and creative orientation.
6. Confirmatory factor analysis (CFA) on creative-orientation scale (two dimensional: creative-averse and creative-approach) revealed that the creative-averse factor of the scale is relatively valid for the local population of the university students, however, the case of the creative-approach factor wasn't the same. The creative-approach factor needs further refinement to make it valid for the local population of the university students.
7. The present study did not include school environment and student–teacher relationship as variables. However, these contextual factors may play a significant role in shaping students' creative orientation. Therefore, future research is recommended to examine creative orientation in relation to both the school environment and the quality of student–teacher relationships.
8. Considering the significance of creative orientation as a construct, the current study opens the gateway for future researchers to work on the creative-approach factor in the local university students' population.

4.12 Implications

1. In the light of the findings of the current study, this study calls parents' attention to the way they should nurture and parent their children if they want their children to be an advocate of innovation and innovative people during their student life. The student life is a critical era in everybody's life. Therefore, the parents can make sure to be emotionally

available for their children, and provide them with warmth and support during their student life, so that they don't adopt an aversive attitude towards creativity and creative people.

2. Moreover, the findings of the current study also encourage the students to be more willing to take risks, explore the world, admire the aesthetics, develop intellectual curiosity about the universe, and be flexible towards change if they want to bring innovation into the society as well as to support the innovative people working for the society.
3. Also, according to the findings of the current study, the choice of discipline doesn't matter when it comes to the students' perceptions about creativity and creative people. Therefore, the students can study their desired subjects and still be involved in innovation and support innovative people, without considering the stigma that creativity is only for the arts students.
4. Furthermore, the findings of the current study stimulate the universities to organize awareness campaigns or seminars on the importance of supportive parenting for the students' parents. In this way, the parents will be able to evaluate their parenting behaviors and make suitable improvements where needed in order to bring their children (i.e. the students) close to creativity and shape their ideas about innovation as well as innovative people.
5. Additionally, the findings of the current study also recommend the universities to promote openness to experience in the students by organizing seminars or awareness campaigns on the significance of being intellectually curious, flexible to diverse changes, and having a risk-taking attitude. In this way, the students will be able to understand that

having an open and flexible mindset cannot only help them in various areas of life, especially the student life, but can foster positive attitudes towards creativity and creative people as well.

6. Besides, in the light of the current study's findings, the universities can organize self-awareness campaigns for the students where they'd get to know about what creative orientation is, what perceptions and attitudes the students hold towards creative people and creativity, and what role these perceptions and attitudes can play in their student life.
7. The present study provides a gateway for future researches in the area of supportive parenting, openness to experience, and especially creative orientation.

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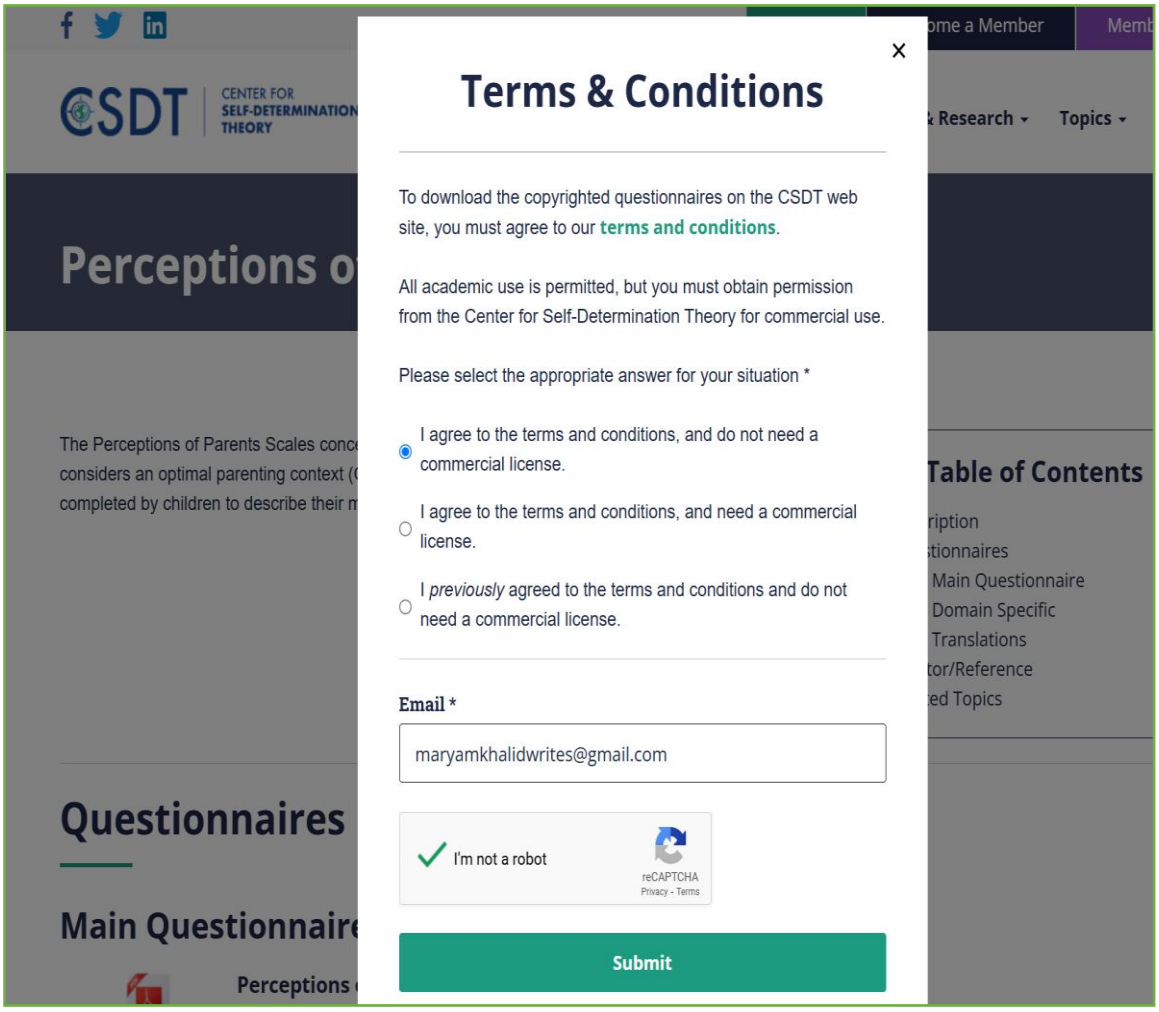
Appendices

Appendix A

Permissions from Authors for Using the Scales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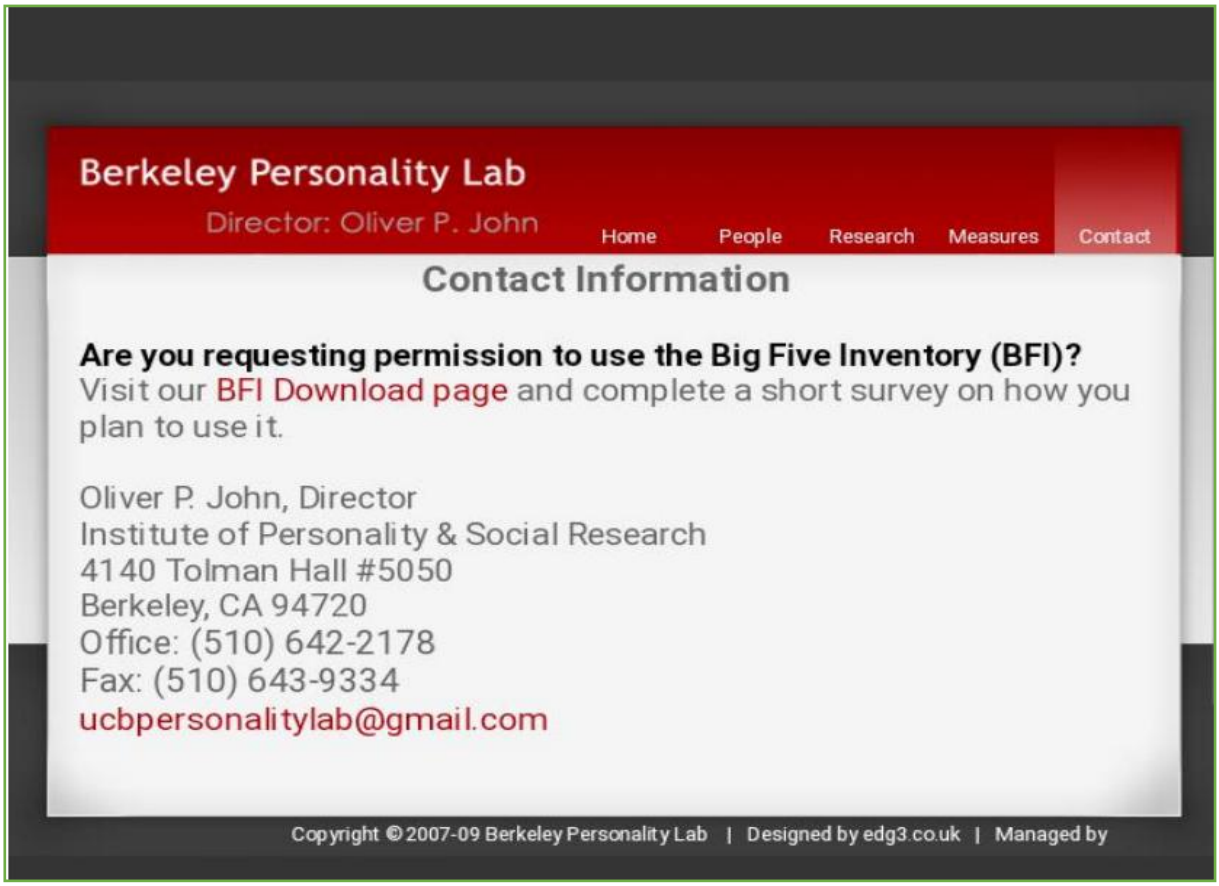
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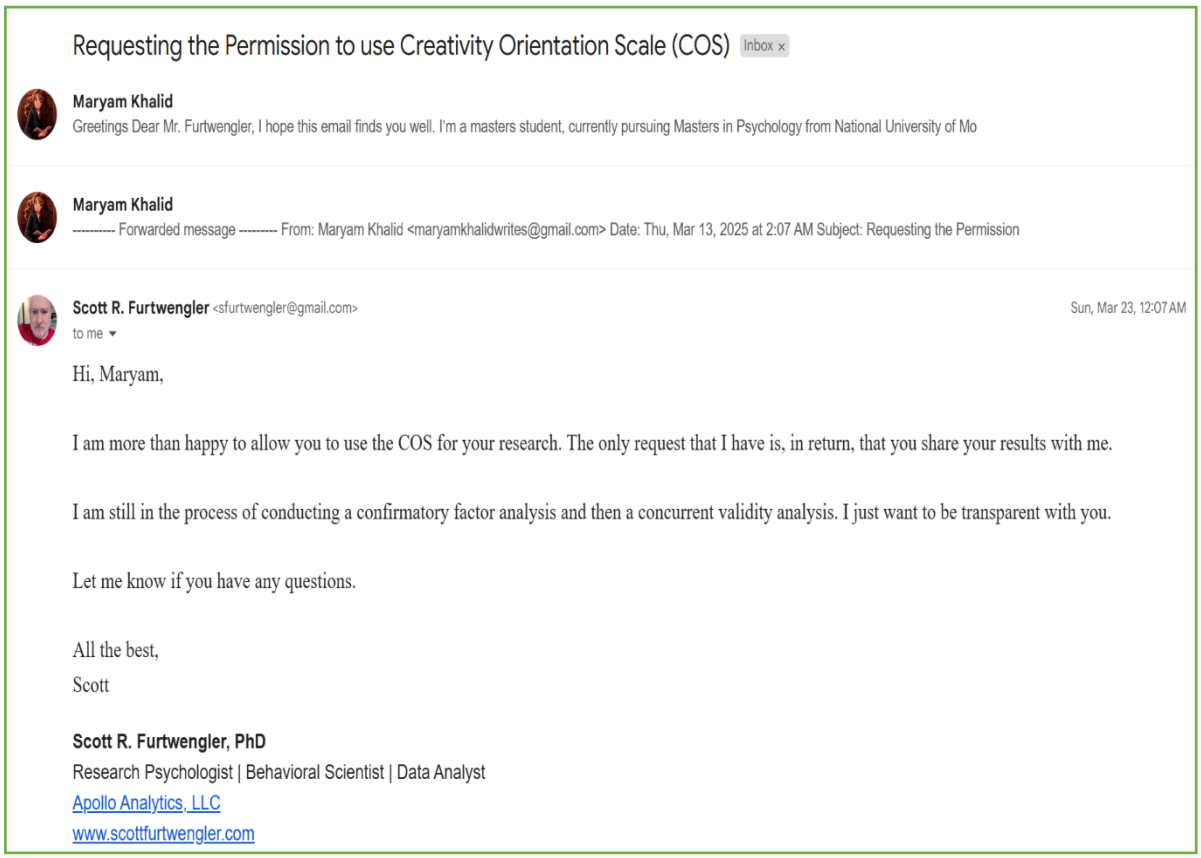

Requesting the Permission to use Creativity Orientation Scale (COS) Inbox ×

Maryam Khalid
Greetings Dear Mr. Furtwengler, I hope this email finds you well. I'm a masters student, currently pursuing Masters in Psychology from National University of Mo

Maryam Khalid
---------- Forwarded message --------- From: Maryam Khalid <maryamkhalidwrites@gmail.com> Date: Thu, Mar 13, 2025 at 2:07 AM Subject: Requesting the Permission

Scott R. Furtwengler <sfurtwengler@gmail.com> Sun, Mar 23, 12:07 AM
to me

Hi, Maryam,

I am more than happy to allow you to use the COS for your research. The only request that I have is, in return, that you share your results with me.

I am still in the process of conducting a confirmatory factor analysis and then a concurrent validity analysis. I just want to be transparent with you.

Let me know if you have any questions.

All the best,
Scott

Scott R. Furtwengler, PhD
Research Psychologist | Behavioral Scientist | Data Analyst
Apollo Analytics, LLC
www.scottfurtwengler.com

Appendix B

Consent Form

Informed Consent

I am an M-Phil student in Applied Psychology at the National University of Modern Languages (NUML), Islamabad. I am conducting a study on supportive parenting, openness to experience, and creative orientation among university students. Your voluntary participation in this research is appreciated. You are requested to read each instruction carefully. All information provided will be confidential and used solely for research purposes. You can withdraw from the study at any time if you experience any discomfort. Your cooperation is highly valuable. Thank you for your participation!

Participant's Signature: _____

Appendix C

Demographic Sheet

Demographic Sheet

Gender: Male/Female/Prefer not to say

Degree along with course or discipline name (for example, MPhil Psychology): _____

Current Semester: _____

Age: _____

Appendix D

Instruments

Perceptions of Parents Scales (POPS)

The College-Student Scale

Thoughts about My Parents

Please answer the following questions about your mother and your father. If you do not have any contact with one of your parents (for example, your father), but there is another adult of the same gender living with your house (for example, a stepfather) then please answer the questions about that other adult.

If you have no contact with one of your parents, and there is not another adult of that same gender with whom you live, then leave the questions about that parent blank.

Please use the following scale:

1	2	3	4	5	6	7
Not at all true			Somewhat true			Very true

First, questions about your mother.

1. My mother seems to know how I feel about things.
2. My mother tries to tell me how to run my life.
3. My mother finds time to talk with me.

4. My mother accepts me and likes me as I am.
5. My mother, whenever possible, allows me to choose what to do.
6. My mother doesn't seem to think of me often.
7. My mother clearly conveys her love for me.
8. My mother listens to my opinion or perspective when I've got a problem.
9. My mother spends a lot of time with me.
10. My mother makes me feel very special.
11. My mother allows me to decide things for myself.
12. My mother often seems too busy to attend to me.
13. My mother is often disapproving and unaccepting of me.
14. My mother insists upon my doing things her way.
15. My mother is not very involved with my concerns.
16. My mother is typically happy to see me.
17. My mother is usually willing to consider things from my point of view.
18. My mother puts time and energy into helping me.
19. My mother helps me to choose my own direction.
20. My mother seems to be disappointed in me a lot.
21. My mother isn't very sensitive to many of my needs.

Now questions about your father.

22. My father seems to know how I feel about things.
23. My father tries to tell me how to run my life.
24. My father finds time to talk with me.

25. My father accepts me and likes me as I am.
26. My father, whenever possible, allows me to choose what to do.
27. My father doesn't seem to think of me often.
28. My father clearly conveys his love for me.
29. My father listens to my opinion or perspective when I've got a problem.
30. My father spends a lot of time with me.
31. My father makes me feel very special.
32. My father allows me to decide things for myself.
33. My father often seems too busy to attend to me.
34. My father is often disapproving and unaccepting of me.
35. My father insists upon my doing things his way.
36. My father is not very involved with my concerns.
37. My father is typically happy to see me.
38. My father is usually willing to consider things from my point of view.
39. My father puts time and energy into helping me.
40. My father helps me to choose my own direction.
41. My father seems to be disappointed in me a lot.
42. My father isn't very sensitive to many of my needs.

Scoring Information. First, scores on the following items must be reversed: 2, 6, 12, 13, 14, 15, 20, 21, 23, 27, 33, 34, 35, 36, 41, 42. To do that, subtract the response from 8 and use the result as the item score. Then form subscale scores by averaging the scores of the items on that subscale.

Openness to Experience

Here are a number of characteristics that may or may not apply to you. For example, do you agree that you are someone who likes to spend time with others? Please write a number next to each statement to indicate the extent to which you agree or disagree with that statement.

Disagree strongly	Disagree a little	Neither agree nor disagree	Agree a little	Agree strongly
1	2	3	4	5

1. I see myself as someone who is original, comes up with new ideas.
2. I see myself as someone who is curious about many different things
3. I see myself as someone who is ingenious, a deep thinker
4. I see myself as someone who has an active imagination
5. I see myself as someone who is inventive
6. I see myself as someone who values artistic, aesthetic experiences
7. I see myself as someone who prefers work that is routine
8. I see myself as someone who likes to reflect, play with ideas
9. I see myself as someone who has few artistic interests
10. I see myself as someone who is sophisticated in art, music, or literature.

Note: item 7 and 10 are reverse coded.

Creative Orientation Scale

Please write a number next to each statement to indicate the extent to which you agree or disagree with that statement. There are no right or wrong answers, you just have to answer honestly.

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
1	2	3	4	5

1. I'm a creative person.
2. My ideas are often different from the ideas of others.
3. Creative people add value to our organization.
4. Creative people are good at problem solving.
5. I do not trust creative people.
6. I prefer to be around people who are creative.
7. I would prefer not to let others see my creative side.
8. Creative people are strange.
9. I am not a creative person.
10. Creative people are not normal.
11. Creative people interrupt the workflow.
12. Creative people are dishonest.
13. Creativity and innovation are necessary for a strong economy.
14. I would like to be more creative.
15. It is important for me to be part of a group.

16. I would prefer to work alone.

17. Society imposes too many rules on me.

18. I like to think outside-of-the-box.

19. I do not like change.

20. The idea of change excites me.

21. I do not like the notion of change.

22. Without creative and innovative people, society does not progress.

23. Creative individuals are a threat to traditional values.

24. Innovation and creativity are not important to my success.

25. Change is a necessary part of life.

26. I enjoy taking risks

27. Taking risks makes life more exciting.

28. I am more creative when I contribute anonymously to a project.

29. I believe learning new procedures is a waste of my time.

30. Creativity is good only in small increments.

Appendix E

Plagiarism Report

13% Overall Similarity

The combined total of all matches, including overlapping sources, for each database.

Filtered from the Report

- Bibliography
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- Cited Text

Match Groups

329 Not Cited or Quoted 13%
Matches with neither in-text citation nor quotation marks

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Matches that have quotation marks, but no in-text citation

0 Cited and Quoted 0%
Matches with in-text citation present, but no quotation marks

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6% Internet sources
6% Publications
11% Submitted works (Student Papers)

Integrity Flags

0 Integrity Flags for Review

No suspicious text manipulations found.

Our system's algorithms look deeply at a document for any inconsistencies that would set it apart from a normal submission. If we notice something strange, we flag it for you to review.

A Flag is not necessarily an indicator of a problem. However, we'd recommend you focus your attention there for further review.

Appendix F

AI Detection

*% detected as AI

AI detection includes the possibility of false positives. Although some text in this submission is likely AI generated, scores below the 20% threshold are not surfaced because they have a higher likelihood of false positives.

Caution: Review required.

It is essential to understand the limitations of AI detection before making decisions about a student's work. We encourage you to learn more about Turnitin's AI detection capabilities before using the tool.

Disclaimer

Our AI writing assessment is designed to help educators identify text that might be prepared by a generative AI tool. Our AI writing assessment may not always be accurate (it may misidentify writing that is likely AI generated as AI generated and AI paraphrased or likely AI generated and AI paraphrased writing as only AI generated) so it should not be used as the sole basis for adverse actions against a student. It takes further scrutiny and human judgment in conjunction with an organization's application of its specific academic policies to determine whether any academic misconduct has occurred.

Frequently Asked Questions

How should I interpret Turnitin's AI writing percentage and false positives?

The percentage shown in the AI writing report is the amount of qualifying text within the submission that Turnitin's AI writing detection model determines was either likely AI-generated text from a large-language model or likely AI-generated text that was likely revised using an AI-paraphrase tool or word spinner.

False positives (incorrectly flagging human-written text as AI-generated) are a possibility in AI models.

AI detection scores under 20%, which we do not surface in new reports, have a higher likelihood of false positives. To reduce the likelihood of misinterpretation, no score or highlights are attributed and are indicated with an asterisk in the report (*%).

The AI writing percentage should not be the sole basis to determine whether misconduct has occurred. The reviewer/instructor should use the percentage as a means to start a formative conversation with their student and/or use it to examine the submitted assignment in accordance with their school's policies.

What does 'qualifying text' mean?

Our model only processes qualifying text in the form of long-form writing. Long-form writing means individual sentences contained in paragraphs that make up a longer piece of written work, such as an essay, a dissertation, or an article, etc. Qualifying text that has been determined to be likely AI-generated will be highlighted in cyan in the submission, and likely AI-generated and then likely AI-paraphrased will be highlighted purple.

Non-qualifying text, such as bullet points, annotated bibliographies, etc., will not be processed and can create disparity between the submission highlights and the percentage shown.