Chapter

ARTISTIC CREATIVITY AND THE MAD GENIUS CONTROVERSY FROM THE PERSPECTIVE OF ALEXITHYMIA TYPES

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ABSTRACT

Background: In the humanistic perspective creativity is associated with mental health. However, in the so-called mad genius controversy creativity, in particular artistic creativity is linked to insanity. By introducing alexithymia types, where an impaired cognitive dimension (COG--) is held responsible for emotional instability and psychopathology, while an unimpaired affective dimension (AFF++) is seen as essential for

creativity, an effort is made to entangle this complex knot between creativity and the healthy versus unhealthy mind.

Method: The BVAQ, Dutch adaptations of the NEO-PI-R, the Strong Vocational Interest Blank (Artistic), and the Shortened MMPI (Psychopathology) were administered to 1061 undergraduate psychology students from Leiden University (80.4% female, 19.6% male from 18 to 60 years of age; M = 22.84). Analogous to Eysenck in his Trait-Type Factor Analytic Theory, four Alexithymia Core Types were constructed by combining extreme scores on the Cognitive and Affective dimension of the BVAQ.

Results: Type II alexithymics (AFF++ & COG--) scored a) significantly higher on Artistic, Neuroticism, Negativism and Psychopathology, and b) significantly lower on Extraversion and Conscientiousness than the remaining three types. However, though scoring higher than Lexithymics (AFF++ & COG++) on Artistic, the pairwise difference was too small to reach significance. Furthermore, Lexithymics scored significantly higher than all three other types on Openness. In addition, in a pairwise comparison Lexithymics even scored significantly higher than Type II alexithymics on Openness.

Conclusion: An unimpaired Affective alexithymia dimensions promotes creativity. Whether creativity relates to a healthy or unhealthy mind seems to depend upon the Cognitive alexithymia dimension. In combination with an impaired Cognitive alexithymia dimension (Type II), creativity, in particular artistic creativity, was found to relate to a troubled mind (neuroticism and psychopathology). In contrast the combination of an unimpaired Affective with un unimpaired Cognitive alexithymia dimension (Lexithymia) seems to facilitate creativity in a healthy mind. Hence, *artistic creativity is not solely restricted to the dark arena of insanity but can flourish in the bright garden of psychological well-being as well*.

Keywords: artistic creativity, alexithymia types, mad-genius controversy, Big Five Model, MMPI-S

DESCRIPTIVE ABSTRACT

In the present study a new element is introduced in the relation between on the one hand artistic creativity and the troubled mind (mad genius controversy), and on the other hand artistic creativity and the healthy mind (humanistic perspective), namely the Theory of Alexithymia Types. The

theoretical underpinnings of our study will be clarified by 1) Critically examining how creativity has been operationalized after decennia of discussion and in particular what is lacking in defining artistic creativity; 2) Investigating literature on the "Mad-genius controversy," followed by a short paragraph on "Creativity and the healthy mind"; 3) Treating the relationship between alexithymia types and artistic creativity, where the link between Bell's Art Theory of Significant Form and Type II alexithymia is discussed in greater detail.

The introduction is concluded by postulating hypotheses.

INTRODUCTION

Since antiquity creativity is a popular topic in philosophy, psychology, psychiatry and the arts. More recently brain studies can be added as well. In fact, all these approaches from a wide range of different angles are aimed at the disclosure of the mysterious mechanisms behind creativity. Mysterious because creativity is difficult to unravel, almost impossible to grasp, has an aura of specialty, and is associated with the gifted, almost super humans. What is creativity and what makes someone creative? Furthermore, creativity is associated with genius, with extraordinarily talented people who have become world famous, such as Albert Einstein, Baruch Spinoza, Wolfgang Mozart, Vaslav Nijinski, Vincent Van Gogh, Michael Jackson, Marcel Proust, Lord Byron, Salvador Dali, Leonardo Da Vinci, Auguste Escoffier and many, many others. True, there are not many women included, but that's a matter of time. Amy Winehouse, Dolly Parton, the Brontë Sisters, Virginia Woolf, Iris Murdoch, Sylvia Plath, Camille Claudel, Mary Wigman, Martha Graham, Niki de Saint Phalle and Coco Chanel already successfully knocked at the door giving entrance to the holy grail of artistic creativity. What else makes a genius remarkable in addition to his/her talents? Seneca (4 BC – 65 AD) noted that *"There is no great genius without some touch of madness."* According to Marcel Proust *"Everything great in the world is created by neurotics"* (Neihart, 1998). However, Andy Warhol (1975; in Sternberg et al., 2004) once remarked *"Why do people think artists*

are special? It's just another job," hereby implying that artists are just normal, ordinary people. Hence, creativity seems to be associated with both *mental sickness* (mad genius controversy) and *mental health* (humanistic approach). Within the mad genius controversy, a distinction is made between madness (in particular schizophrenia and bipolar disorders) and neurosis (a relatively mild mental illness that is not caused by organic disease, involving symptoms of stress but not a radical loss of touch with reality). Moreover, creativity is linked to personality, in particular to the Five Factor Model of personality. Results from a meta-analysis on personality and scientific and artistic creativity (Feist, 1998) show that in general creative people are more open to experiences, less conventional and less conscientious, more self-confident, self-accepting, high on neuroticism, driven, ambitious, dominant, hostile and impulsive.

It is remarkable that though nearly all empirical studies on artistic creativity are dealing with the association between creativity and disorders (for instance neurosis, schizophrenia, depression, schizotypal PD, and bipolar disorder) and/or personality traits, studies discussing the mechanisms behind creativity in a theoretical model are relatively scarce. One of the few exceptions is Freud (1930) who postulated that the defense mechanism sublimation is not only a socially acceptable way for the relief of neurotic anxiety or psychological distress, but this neurotic condition *"An sich"* is the essence of the drive behind artistic creation. Primary and secondary thinking, manifest and latent content of dreams and narratives are other valuable theoretical concepts in the understanding of artistic creativity. Recently Kaufman (2013) introduced a Four-Factor Model and relations to creative achievement in the arts and sciences. Moreover, Brenner (2019) found support for a bidirectional relationship between creativity and depression, based on a theoretical framework proposed by Agamben in his critique of Freud.

In the present research another new approach to artistic creativity is presented by introducing alexithymia types in the creativity arena. In particular it is tested whether Type II alexithymics (highly vulnerable to psychological distress and suffering from both neuroticism and psychopathology; see Moormann et al., 2008) displayed significantly higher

scores on artistic, neuroticism and psychopathology than the three remaining types. For the mechanism behind artistic creativity the Art Theory of Clive Bell (1919/1975) is chosen, in which an *'esthetic emotion'* is seen as the impulse for a work of art.

CREATIVITY

Despite the many different views on what creativity means Mumford (2003) notes that we seem to have reached a general agreement that creativity involves the production of novel, useful products or in Sternberg's (2011) words the production of *"something original and worthwhile"* (p. 479). However, it can be questioned whether this operationalization covers artistic creativity. An artwork can be seen as a novel, original product, but opinions differ on whether art is useful (*"l'art pour l'art"* for instance, see Schaffer, 1928), but more importantly the essence of art, the emotion, the drive for artistic creation is left out of this definition. According to Feist (1998) who performed a highly valuable meta-analytical study on scientific versus artistic creativity (p. 301):

> "The essence of much artistic creativity, whether visual, verbal, or musical is the expression of deep emotion, of experiences that move and touch. Being sensitive to these internal affective states is almost a prerequisite for being creative in these domains,"

Hence, Mumford's definition is very cognitive and a reflection of a Zeitgeist (last decades of the 20ieth century) where cognitive psychology was dominant and where emotions were treated as persona non grata, banned from experimental research and considered as 'noise'.

CREATIVITY AND THE MAD-GENIUS CONTROVERSY

In 1889 it was the Italian psychiatrist Cesare Lombroso (1836-1906) who first coined the terms *"genius and madness"* as one unity (Szasz, 2006). Towards the end of the 19th century psychiatrists started to realize that their patients could have extraordinary creative skills, no matter how *"crazy"* they were (Prinzhorn, 1922). Furthermore, research findings indicated that both the severity of insanity was greater, and the frequency of psychopathological symptoms was higher among highly talented creators than in the normal population (Ellis, 1926). The mad-genius controversy deals with the question whether creativity is associated with psychopathology and/or emotional lability. Hence, within the mad-genius controversy two camps can be distinguished. On the one hand the emotional instability or psychological distress camp, with Freud (1930) as its strongest exponent, stating that neurosis is essential for creativity, while on the other hand the psychopathology exponents prevail claiming that psychosis and mania are the source of creativity (Bergquist, 2006).

Depression, a common feature of neurosis, appears to be the most frequent disorder among creative people (Goertzel et al., 1978; Ludwig, 1990, 1995; Post, 1996; see also Simonton, 2005). In 1989 Jamison presented a study among artists, poets and writers with a much higher severe mood swing prevalence (such as in bipolar disorders) than in a normal population. Moreover, 90% of the artists poets and writers confirmed that these mood swings were necessary or at least highly important for their vocation. Kyaga et al. (2011) found in a large sample study concerning persons with schizophrenia, bipolar disorder, or unipolar depression, and their relatives an overrepresentation in creative professions for those with bipolar disorder as well as for undiagnosed siblings of those with schizophrenia or bipolar disorder. There was no overall overrepresentation, but overrepresentation for artistic occupations, among those diagnosed with schizophrenia. There was no association for those with unipolar depression or their relatives. Another largescale study (Roberts, 2012) reported a number of correlations between creative occupations and mental illnesses. Writers had a higher risk of anxiety and bipolar disorders, schizophrenia,

unipolar depression, and substance abuse, and were almost twice as likely as the general population to kill themselves. Dancers and photographers were also more likely to have bipolar disorder. Misset (2013) examined the association between mood disorders and intellectual and/or creative giftedness. Broadly speaking, Misset's data supported the association as it related to both creativity and mood disorders and high IQ and bipolar disorder but not to high IQ and depression. MacCabe et al. (2018) investigated the topic of artistic creativity and the risk for schizophrenia, bipolar disorder and unipolar depression and reported that students of artistic subjects at university are at increased risk of developing schizophrenia, bipolar disorder and unipolar depression in adulthood.

Observations of different psychiatric studies (Neihart, 1998) seem to indicate that creativity and madness are sharing three common features, e.g., certain cognitive processes, tolerance for irrationality and mood disorders. In the sixties of the last century Arieti (1976), well-known for his psychosis research, compared many studies on creativity and madness (see Preti, 2003). He concluded that thought processes typical for schizophrenics evoke unusual mental associations, which are highly inspiring for the creative individual. In a study on schizotypy and mental health amongst poets, visual artists, and mathematicians Nettle (2006) reported that poets and artists have levels of unusual experiences that are higher than controls, and as high as schizophrenia patients. However, they are relatively low on the dimension of introvertive anhedonia. Mathematicians are lower than controls on unusual experiences. The results suggest that artistic creatives and psychiatric patients share a tendency to unusual ideas and experiences, but creative groups are distinguished by the absence of anhedonia and avolition. Moreover, different domains of creativity require different cognitive profiles, with poetry and art associated with divergent thinking, schizophrenia and affective disorder, and mathematics associated with convergent thinking and autism.

CREATIVITY AND THE NORMAL, HEALTHY MIND

In contrast to the mad-genius controversy others argue that creativity is born out of a normal, healthy mind. This vision is prevalent in the humanistic perspective. Eisler (1990) discusses various humanists regarding their view on creativity, such as Schachtel, Fromm and Rogers, all emphasizing a life without prejudice and an open attitude towards the outer world. According to Maslow (1968) creativity embodies the tendency to self-actualization, the potential to unfold abilities, skills, even the fulfillment of a mission. Humanists consider creativity as the product of a maximal emotional health, which allows the individual to communicate with the environment. Lauronen et al. (2004) did a literature review and conclude that creativity and special abilities can be associated to both mental health and on the other hand, to psychopathology, but the direction of any causal link remains obscure. In addition, links may exist and exert various effects in different groups of mental disorders and in different forms of creativity.

ALEXITHYMIA TYPES AND ARTISTIC CREATIVITY

Several authors suggest that creative people display high empathy with people and are willing to express their thoughts and feelings (see for instance Wycoff, 1991). The link between artistic-creation and emotion is explicitly stated in Art Theories belonging to Expressionism. The significance of emotions in art was emphasized by Tolstoy even much earlier (see Fry, 1928, p. 293):

> "Tolstoy saw that the essence of art was that it was the means of communication between human beings. He conceived it to be par excellence the language of emotion."

The association between emotion and artistic creativity is explicitly stated in Bell's Art Theory, called *'Significant Form'*. In Bell's vision (1919/1975) the emotional experience (an aesthetic emotion) is the source for the creative impulse (p. 163):

> "The artist says, or rather feels, to himself - I should like to express that in words or in lines and colors, or in notes. But to make anything out of his impulse he will need something more than this vague desire to express or to create. He will need a definite, fully conceived form into which his experience can be made to fit. And this fitting, this matching of his experience with his form, will be his problem."

The above means that a match between an internal and an external representation should be made. This process is called *'the artistic problem'* by Bell. Furthermore, if the match between the internal and external representation is a successful one the work will have *'significant form'*, and becomes a work of art (see Fry, 1928). According to Bell, if the creative impulse has not been an aesthetic emotion (a longing to express, to create a form that shall match a certain feeling) the work will lack significant form, and as a consequence is not considered to be a work of art, but merely a nice representation (nice painting, nice dance). It is pleasing, beautiful, but something essential is lacking. In the present study we are not dealing with the question what is or is not art. That is beyond the scope of our investigation, but we are interested in what fires the making of a work of art. In Bell's vision an aesthetic emotion is the artistic impulse. The artist's struggle, the artistic problem is to find significant form that matches this emotional experience. In psychodynamic terms, Bell's notion implies that people who become emotionally excited try to discharge this physiological state by engaging in imaginative activities such as daydreaming, wishful-thinking and fantasizing. In fact, this is exactly what Freud (1916/17) meant with primary process thinking (a regression in the service of the Ego, which enables a return to more primitive, childish ways of thinking with plenty of room for fantasy). People not familiar with the alexithymia construct could even wonder whether such a disorder of affect regulation has an impact on imagination and fantasy. According to Krystal (1988), the kind of operative thinking (pensée opératoire) found in alexithymia in combination with the severe blocking of wish-fulfillment fantasy and the limited ability to think abstractly and to use symbols and metaphors has a serious impact on creativity. Sifneos came up with the term alexithymia after observing a great number of patients suffering from psychosomatic complaints. In his article

on "Alexithymia, Clinical Issues, Politics and Crime" Sifneos (2000) launched the following definition (p. 113):

> "Alexithymia, a term I introduced for better or for worse in 1972, involves a marked difficulty to use appropriate language to express and describe feelings and to differentiate them from bodily sensations, a striking paucity of fantasies and a utilitarian way of thinking which Marty et al. have called pensée opératoire."

Hence, according to both Sifneos and Krystal alexithymia hampers creativity. However, after the introduction of alexithymia types around the millennium a slightly different, more elaborated picture emerges. Research on the Bermond-Vorst Alexithymia Questionnaire has demonstrated that within the alexithymia construct two alexithymia dimensions can be distinguished (Vorst & Bermond, 2001; Bermond et al., 2007): An Affective (reduced ability to experience emotions and reduced fantasizing, called *Affective Alexithymia*) and a Cognitive (reduced ability to verbalize, identify, and analyze emotions, called *Cognitive Alexithymia*). By combining extreme scores on both dimensions four alexithymia types can be distinguished, each with a distinct personality profile or style (Moormann & Pijpers, 2004; Moormann et al., 2008; Bermond et al., 2018a, b), and a distinct neurobiological substrate (Goerlich-Dobre et al., 2015). In *Type I* alexithymia (Solitary Personality Style) both the Affective and Cognitive dimension are impaired. In fact, this type incorporates all alexithymia features (full blown alexithymia) as originally described by Sifneos and Krystal, and therefore Type I alexithymics are not likely to be creative. The opposite of Type I is *Lexithymia* (Outgoing Personality Style), characterized by both an unimpaired Affective and Cognitive dimension. Hence, Lexithymics are not alexithymic at all and should possess all the ingredients for being both psychologically healthy and creative, as research on alexithymia types (Moormann et al., 2008) suggests that an unimpaired Affective dimension facilitates creativity. At the same time, such an unimpaired Affective dimension heightens vulnerability to stress in sport (see Moormann et al., 2018a). Furthermore, an unimpaired Cognitive

dimension is associated with psychological well-being (see Moormann et al. 2008; Bermond et al., 2018a). It seems as if the unimpaired Cognitive dimension allows the lexithymic individual to manage the sensitivity to psychological distress. If lexithymics indeed turn out to be creative then Lexithymia would explain the Humanistic view, where creativity is considered to be associated with a healthy, open mind. And what about the unhealthy mind? *Type II* alexithymia seems the most likely candidate for the link between artistic creativity and the sick mind when incorporating Bell's Art Theory in the Theory of Alexithymia Types. The combination of an unimpaired Affective (becoming easily emotionally aroused and having a rich fantasy -> no Affective Alexithymia) with an impaired Cognitive (where the cognitions accompanying the emotional experience are lacking -> Cognitive Alexithymia), called Type II alexithymia (Neurotic Personality Style), increases the vulnerable to psychological distress and psychopathology (Van Dijke, 2018 on BPD and SoD; Moormann et al., 2018a,b on being overloaded by distress and somatization; Bermond et al., 2018a on fearfulness and rumination). In the present research it is stated that it is just this highly unpleasant mental state (a marked difficulty to verbalize, identify and analyze emotions when becoming emotionally aroused) that almost forces the individual to discharge him/herself by finding other modes of expression, such as painting, sculpture, music, and dance.

A critical reader might argue: "And what about writing novels and poems? That's highly verbal per definition. How can novels or poems be created if the writer or poet cannot verbalize emotions?" Yes, at first sight this seems odd, but closer inspection clarifies that being a writer or poet does not exclude someone from finding it difficult to express one's own emotions in words when becoming emotionally excited. Lies the beauty of a good novel or poem not in what is hidden, what is not obvious, what lies in the eyes of the beholder? In Freud's terminology when interpreting dreams, it is not the manifest but the latent content that counts (Freud, 1913). According to Stekel (1912) dream and poetry are almost identical psychic mechanisms. The dream derives its material from the depths of the unconscious and likewise true artistic talent consist of the ability to draw upon one's unconscious powers. Stekel continues by referring to Goethe, who argued

that he has written down most of his poems at night, in a dream-like trance. Other poets relate similar dream-like experiences. Furthermore, analogous to sublimation, expressing oneself in art when one struggles in finding words for emotions gives a relief from this highly unpleasant inner mental state. In fact, this is what often happens in creative therapies, where patients who cannot express emotions associated with traumatic experiences in words (most psychotherapies are highly verbal), are asked to discharge their tensions in drawings, paintings, sculptures, drama, music or dance. By applying uncovering techniques, the therapist may help the patient to interpret and give meaning to the creative products, in particular when helping the patient to attach verbal labels to the emotional experience. This uncovering procedure might also mean that a successful therapy may take away the need for artistic creation. This issue will be dealt with in greater detail in the discussion.

The last type, namely *Type III* alexithymia (Affective Alexithymia in combination with an unimpaired Cognitive dimension), the opposite of Type II (unimpaired Affective dimension in combination with Cognitive Alexithymia), needs some explanation as well. Though Type III individuals (Narcissistic Personality Style) report the highest level of psychological health and have leadership qualities, their personality profile has narcissistic features (Moormann et al., 2008; Bermond et al. 2018a). The impaired Affective dimension makes them, just as Type I individuals stress resistant (Moormann & Pijpers, 2004; Moormann et al., 2008; Moormann et al., 2018a) while at the same time blocking artistic creativity. They are the prototypes of successful managers and political leaders.

EXPLORATION AND HYPOTHESES

Before going to the hypotheses, first it will be investigated how the Affective and Cognitive alexithymia dimensions of the BVAQ (Bermond et

al., 1994; Vorst & Bermond, 2001), the domains Neuroticism, Extraversion, Openness, Agreeableness and Conscientiousness of the NEO-PI-R (Hoekstra, Ormel & Fruyt, 1996), the scales Negativity and Psychopathology of the Shortened Dutch adaptation of the MMPI-S/NVM (Luteijn et al., 1980), and the scale Artistic of a Dutch adaptation (ABIV) of the Strong Vocational Interest Blank (Evers, 1979) relate to each other.

From the *perspective of the mad-genius controversy* it is hypothesized that:

1a) Type II alexithymics will have significantly higher scores on Artistic, Neuroticism, Negativity and Psychopathology than all other types, and

1b) Type II alexithymics will have significantly higher scores on Artistic than Lexithymics.

From the *humanistic perspective* promoting 'healthy' creativity it is hypothesized that:

2a) Lexithymics will have significantly higher scores on Openness than all other types, and

2b) Lexithymics will have significantly higher scores on Openness than Type II alexithymics.

From the *perspective of Cognitive Alexithymia* (an unimpaired Cognitive Alexithymia Dimension is associated with psychological health while an impaired Cognitive Alexithymia Dimension is associated with psychological illness) it is hypothesized that both Lexithymics and Type III Alexithymics, having an unimpaired Cognitive Alexithymia dimension will display:

3a) Significantly lower scores on Neuroticism, Negativity and Psychopathology, and

3b) Significantly higher scores on Extraversion and Conscientiousness than Type I and Type II alexithymia, suffering from Cognitive Alexithymia (see Moormann et al., 2008).

METHOD

Subjects

A total of 1061 undergraduates of Leiden University (80.4% women, 19.6% men from 18 to 60 years of age; M = 22.84, SD = 5.91) participated in our research.

Procedure

The four questionnaires were administered on the Mental Information Processing and Neuropsychological Diagnostic System (MINDS'96 Test Manager, see Brand & Houx, 1992). The questionnaires were part of a much larger test battery and over the years, tests have been added and removed. Therefore, the number of valid cases per test differs: N = 1061 for the ABIV (Artistic), N = 1012 for the BVAQ (Alexithymia), N = 694 for the NVM (Negativism and Psychopathology), and N = 143 for the NEO-PI-R (Neuroticism, Extraversion, Openness, Agreeableness, and Conscientiousness). All tests were administered in a mandatory bachelor course on psychological assessment. When completing the tests at the very beginning of the course the students were not yet familiar with the meaning of the scales. At the end of the course each student had to write a psychological report, based on his /her own test results. This procedure resulted in a personality profile, where the student had to indicate strengths and weaknesses when becoming a professional psychologist. These reports were graded.

Instruments

The Bermond Vorst Alexithymia Questionnaire (BVAQ; Bermond et al., 1994; Bermond et al., 2018b). The five subscales (Vorst & Bermond, 2001) relate to a reduced ability to: (a): verbalize emotional experiences (Verbalizing), (b) identify emotional feelings (Identifying), (c) reflect upon emotions (Analyzing) which is equivalent to Marty and de M'Uzan's (1963) "pensée opératoire," (d) fantasize (Fantasizing), and (e) experience emotional feelings (Emotionalizing). Reliability and validity of the BVAQ are good (Vorst & Bermond, 2001; Bermond et al., 2007; Bermond et al., 2015). For the *Affective and Cognitive alexithymia dimensions* derived from the 2nd order factor structure of the five subscales scores ≥ percentile 70 were used as an indication of impairment while scores ≤ percentile 30 were used as an indication of un-impairment. In the Moormann et al. studies of 2004, 2008 and 2012 and 2018 the same cut-off scores for the alexithymia types were used, based on a mixed population of 354 undergraduate students (267 females and 68 males between 18 and 56 years of age) and 105 psychiatric patients (28 males and 75 females between 19 and 77 years of age), resulting in the following cut-off values: raw scores ≥54.0 related to an impaired cognitive component while raw scores ≤43.0 related to an unimpaired cognitive component. Regarding the affective component raw scores ≥42.0 related to an impaired affective, while raw scores ≤34.0 related to an unimpaired affective component. People with an impaired Affective dimension (Type I and Type III) suffer from *Affective Alexithymia*, while people with an impaired Cognitive dimension (Type I and Type II) suffer from *Cognitive Alexithymia*. This distinction allows for a more differentiated picture in the relation between alexithymia and personality than only using subscales or the Sum Total of alexithymia. Finally, it is worthwhile mentioning that the most widely used alexithymia scale the TAS-20 (Toronto Alexithymia Scale; see Bagby et al., 1994) only measures Cognitive Alexithymia (the sum total of the TAS-20 correlates .80 with the Cognitive dimension of the BVAQ; see Vorst & Bermond, 2001) and does

not cover Affective Alexithymia, which in the case of creativity is a serious handicap.

The Dutch Revised NEO Personality Inventory or NEO-PI-R (Hoekstra, et al., 1996) is an authorized adaptation of Costa and McCrae's (1985) Revised NEO manual. In the present research only the five domains will be used: 1. *Neuroticism*: identifies individuals who are prone to psychological distress; 2. *Extraversion*: quantity and intensity of energy directed outwards into the social world; 3. *Openness* to Experience: the active seeking and appreciation of experiences for their own sake. It should be noted that the domain Openness is associated with creativity (MacCrae, 1987; Kaufman, 2013; Kaufman & Gregoire, 2016). People high in openness for instance, desire artistic expression (Roberts & Robins, 2000); 4. *Agreeableness*: the kinds of interactions an individual prefers from compassion to tough mindedness; and 5. *Conscientiousness*: the degree of organization, persistence, control and motivation in goal directed behavior. The internal consistency of the Dutch NEO-PI-R is very good, ranging from .86 to .92. The Dutch NEO PI-R has been extensively validated. Research has shown evidence of convergent, discriminant and factor validity (Hoekstra, Ormel & Fruyt, 1996).

The Dutch adaptation of the Strong Vocational Interest Blank (Campbell, 1971) or the Amsterdamse Beroepen Interessen Vragenlijst (ABIV; Evers, 1979). In 260 items the ABIV makes a qualitative description of vocational interests, divided in 18 basic interest scales. The internal consistency rates were computed among a group of 390 males and are high to very high. Reliability rates as measured in a group of females were practically equal indicating that the scales can be used for both men and women. The test has been evaluated by the COTAN (Committee Test Affairs in the Netherlands; Evers, Van Vliet-Mulder, & Groot, 2000). Ratings for reliability and construct validity were good. Criterion validity was sufficient. Only the *Artistic* scale (16 items; $\alpha = 0.94$) will be used in our study. High scores on Artistic indicate interest in all kinds of art forms and culture. Being creative oneself matters, as well as being involved in the creation of something artistic or beautiful. Professionals with high scores have been found among painters and graphic designers. Furthermore, high

scores have been found in art history students and in individuals involved in cultural expression. Key items are 91 (sculptor), 175 (scene stylist), 190 (etching), 240 (illustrator of magazines). The other items relate to artist, cartoonist, designer of stained-glass windows, graphic designer, drawing, applied art, drawing wild animals, ceramist, art gallery, shop window designer, painting earthenware, and art advertisement designer.

The Dutch shortened version of the MMPI (NVM), consisting of five scales, meant to assess personality traits and psychopathology (Luteijn & Kok, 1985). In our study only two scales will be used. *Negativism* (NEG): high scorers on this scale show a negative, dissatisfied and hostile attitude towards others and their surroundings. High scorers are inclined to complain in reaction to feelings of displeasure. They often feel upset and display a self-defensive attitude. Furthermore, high scorers experience feelings of being psychologically overloaded (In 't Veld & Snellen, 2000). NEG has a good internal consistency (α =.79) and an excellent test-retest reliability (r =.91). *Psychopathology* (PSY): high scorers report having odd perceptions, delusions and/or paranoid ideas, especially in stressful situations. This scale is considered to be an indication of someone's psychological strength. High scorers have a low psychological strength and are apt to collapse under stress by displaying paranoid ideas, irreal thoughts, feelings of alienation, and psychotic behavior. Both internal consistency (α=.73) and test-retest reliability (r=.78) are satisfactory. According to the COTAN (Evers et al., 2000) the construct validity of the NVM is sufficient.

STATISTICAL ANALYSES

In the explorative part a Principal Component Analysis (PCA) will be conducted to investigate how the variables Artistic, Neuroticism, Extraversion, Openness, Agreeableness, Conscientiousness, Negativism, and Psychopathology cluster together in distinct factors. For testing hypotheses 1a & b, 2a & b, and 3a & 3b One-way ANOVAS with planned comparisons will be performed with alexithymia types as independent, and Artistic, Neuroticism, Extraversion, Openness, Agreeableness,

Conscientiousness, Negativism, and Psychopathology as dependent variable.

RESULTS

First, in the explorative part a data reduction technique was performed to investigate how the research variables group together and to see whether these clusters make sense from a theoretical point of view. The results of the PCA are given in Table 1. The PCA on Artistic (ABIV), both Alexithymia dimensions (BVAQ), the domains of the Big 5 Model (NEO-PI-R) and Negativism and Psychopathology of the NVM or MMPI-S resulted in 3 factors, explaining 56.74% of the total variance.

Table 1. Rotated Component Matrix with Varimax rotation and Kaiser normalization on Artistic, Alexithymia dimensions, Big 5 domains and Negativism and Psychopathology

	Components		
	1 Neuroticism	2 Creativity	3 Psychopathology
Artistic	.02	*.44*	-.09
COG dimension	*.70*	-.24	-.03
AFF dimension	-.17	*-.77*	.05
Neuroticism	*.74*	.29	.22
Extraversion	*-.58*	.36	.10
Openness	-.34	*.79*	-.02
Agreeableness	.02	.23	*-,73*
Conscientiousness	*-.67*	-.08	.03
Negativism	*.55*	.34	*.56*
Psychopathology	-.02	-.05	*.79*

Factor 1 with an Eigenvalue of 2.4 explained 24.04% of the total variance, had high positive loadings on the Cognitive Alexithymia dimension (impaired), Neuroticism, and Negativism in combination with high negative loadings on Extraversion and Conscientiousness. Those

variables cover the *Neuroticism* construct and are associated with Cognitive Alexithymia, related to psychological unwell-being. The second factor with an Eigenvalue of 1.9 explained 18.58% of the total variance and was called *Creativity*, because of the high positive loadings on Openness and Artistic in combination with a high negative loading on the Affective alexithymia dimension (unimpaired) indicating that emotions, fantasy and creativity are highly linked to each other. The third factor with an Eigenvalue of 1.41 explained 14.11% of the total variance and was called *Psychopathology,* because of the high positive loadings on Psychopathology and Negativism in combination with a high negative loading on Agreeableness. It should be noted that Negativism, denoting being overloaded mentally, had high loadings on both the Neuroticism and Psychopathology factor, implying that both factors are associated with feeling overloaded or not well. Furthermore factor 1 supports the notion that an impaired Cognitive alexithymia dimension is associated with emotional lability and psychological distress, while an unimpaired Affective alexithymia dimension is associated with creativity (see Moormann et al., 2008).

The combination of extreme scores on the Affective and Cognitive alexithymia results in four alexithymia types. Recent research demonstrates that each alexithymia type is characterized by a distinct personality profile (Moormann & Pijpers, 2004; Moormann et al., 2008; Bermond et al., 2018a) and distinct neurological representations in the brain (Goerlich-Dobre, 2015). Based on the theoretical part in the introduction 3 main hypotheses with 3 subhypotheses have been formulated. In Table 2 descriptive statistics are given, needed to test these hypotheses by conducting One-way Anovas with planned comparisons.

In Hypothesis 1a (mad-genius perspective) it was stated that Type II alexithymics will have significantly higher scores on Artistic, Neuroticism, Negativity and Psychopathology than Type I alexithymics, Type III alexithymics and Lexithymics. The outcomes of the one-way ANOVAS with Artistic, Neuroticism, Negativity and Psychopathology as dependent variable and alexithymia types as independent variable were significant for Artistic, Neuroticism, Negativity and Psychopathology (see Table 3). The strength of the relationship between alexithymia types and Artistic,

Neuroticism, Negativism, and Psychopathology, as assessed by *Partial* η^2, was medium for Artistic, large for Neuroticism, large for Negativism, and medium for Psychopathology. The *Levene's Tests of Equality of Error variances* were not significant for Artistic and Neuroticism, but significant for Negativism and Psychopathology. Therefore, Contrast Tests assuming equal variances were used for Artistic and Neuroticism, while Contrast Tests not assuming equal variances were used for Negativism and Psychopathology. The results from Table 3 indicated that Type II Alexithymics scored significantly higher on Artistic, Neuroticism, Negativism and Psychopathology than the three other alexithymia types. Hence, *strong evidence was found for Hypotheses 1a.*

In Hypothesis 1b it was stated that Type II alexithymics (neurotic personality profile) will have significantly higher scores on Artistic than Lexithymics (healthy personality profile). Though Type II alexithymics did score higher on Artistic than Lexithymics (see Table 2), the difference was too small to reach significance (see Table 3). Hence, *Hypothesis 1b was not confirmed*.

In Hypothesis 2a (humanistic perspective) it was stated that Lexithymics, the counterpart of individuals with full-blown alexithymia (Type I) will have significantly higher scores on Openness to experience than all other types. The result of the one-way ANOVA with Openness as dependent variable and alexithymia types as independent variable was significant (see Table 3). The strength of the relationship between alexithymia types and Openness as assessed by *Partial* η^2, was large. The *Levene's Test of Equality of Error variances* was not significant. Therefore, a Contrast Test assuming equal variances was used.

Table 2. Descriptive statistics of the four alexithymia types as independent and Artistic, Neuroticism, Extraversion, Openness, Agreeableness, Conscientiousness, Negativism, and Psychopathology as dependent variables

	TYPE I			TYPE II			TYPE III			LEXITHYMIA		
	N	M	SD	N	M	SD	N	M	SD	N	M	SD
Artistic	123	.76	8.99	97	6.85	8.52	85	2.32	9.55	120	5.57	8.80
Neuroticism	13	136.46	29.16	7	158.29	23.31	10	119.70	23.62	16	128.88	21.57
Extraversion	13	144.69	18.76	7	156.00	29.07	10	170.00	14.73	16	171.69	17.53
Openness	13	159.00	13.06	7	170.00	15.51	10	171.10	19.08	16	184.31	19.77
Agreeableness	13	164.61	20.43	7	171.14	20.59	10	169.10	11.38	16	174.44	16.28
Conscientiousness	13	155.15	35.73	7	144.29	24.51	10	173.10	19.16	16	176.31	16.48
Negativism	81	18.91	7.41	60	25.18	8.54	63	14.10	6.10	80	18.25	7.13
Psychopathology	81	1.64	1.73	60	2.72	2.52	63	1.27	1.37	80	1.80	1.64

Table 3. Results of the One-way Anovas with planned comparisons to test hypothesis 1a,b, 2a,b, and 3a,b. The contrast coefficients relate to Type I, Type II, Type III, and Lexithymia respectively

Dependent variable	One-way ANOVA (2-tailed)	Levene's Test	Effect Size Partial η^2	Contrast Test (1-tailed)	Contrast Test (1-tailed)	Contrast Test (1-tailed)
				Hypothesis 1a *-1, 3, -1, -1* Hypothesis 1b *0, 1, 0, -1*	Hypothesis 2a *-1, -1, -1, 3* Hypothesis 2b *0, -1, 0, 1*	Hypothesis 3a *1, 1, -1, -1* Hypothesis 3b *-1, -1, 1, 1*
ART	*F* (3, 421) = 10.83***	ns	*.07*: medium	*t* (421) = 3.82*** (1a) *t* (421) = 1.05 ns (1b)		
N	*F* (3, 42) = 3.66*	ns.	*.21*: large	*t* (42) = 2.95**(1a)		*t* (42) = 3.03** (3a)
E	*F* (3, 42) = 5.53**	ns.	*.28*: large			*t* (42) = 3.41*** (3b)
O	*F* (3, 42) = 5.16**	ns.	*.27*: large		*t* (42) = 3.24*** (2a) *t* (42) = 1.82* (2b)	
A	*F* (3, 42) = .78; ns	ns.				
C	*F* (3, 42) = 3.71*	ns.	*.21:* large			*t (42) = 3.23*** (3b)*
NEG	*F* (3, 280) = 23.91***	sig.	*.20:* large	*t* (80.42) = 6.75***(1a)		*t* (233.23) = 6.64*** (3a)
PSY	*F* (3, 280) = 6.92***	sig	*.07:* medium	*t* (71.89) = 3.35***(1a)		*t* (180.58) = 2.84** (3a)

*: p≤.05; **: p≤.01; ***: p≤.001.

ART = Artistic; N= Neuroticism; E = Extraversion; O = Openness; A = Agreeableness; C = Conscientiousness; NEG = Negativism; PSY = Psychopathology.

The results from Table 3 indicated that Lexithymics scored significantly higher on Openness than the three other alexithymia types. Hence, *strong evidence was found for Hypotheses 2a*. Furthermore, *support was also found for Hypothesis 2b*, postulating that Lexithymics will have significantly higher scores on Openness than Type II alexithymics.

In Hypothesis 3 it was stated that both Lexithymics and Type III Alexithymics, having an unimpaired Cognitive Alexithymia dimension will display a healthier personality profile with 3a) significantly lower scores on Neuroticism, Negativism and Psychopathology) and 3b) significantly higher scores on Extraversion and Conscientiousness than Type I and Type II alexithymia, both suffering from Cognitive Alexithymia (see Moormann et al., 2008).

The outcomes of the one-way ANOVAS with Neuroticism, Negativism, Psychopathology, Extraversion and Conscientiousness as dependent variable and alexithymia types as independent variable were significant for Neuroticism, Negativity, Psychopathology, Extraversion and Conscientiousness (see Table 3). The strength of the relationship between alexithymia types and Neuroticism, Negativism, Psychopathology, Extraversion and Conscientiousness as assessed by *Partial* η^2 were large for Neuroticism and Negativism, medium for Psychopathology, and large for Extraversion and Conscientiousness. The *Levene's Tests of Equality of Error variances* were not significant for Neuroticism, Extraversion and Conscientiousness, but significant for Negativism and Psychopathology. Therefore, Contrast Tests assuming equal variances were used for Neuroticism, Extraversion and Conscientiousness, while Contrast Tests not assuming equal variances were used for Negativism and Psychopathology. The results from Table 3 indicated that Type III Alexithymics and Lexithymics scored significantly lower on Neuroticism, Negativism and Psychopathology than Type I and II Alexithymics. Hence, *strong evidence was found for Hypothesis 3a*. Furthermore, Type III Alexithymics and Lexithymics scored significantly higher on Extraversion and Conscientiousness than Type I and II Alexithymics. Hence *strong support for Hypothesis 3b was found as well*.

DISCUSSION AND CONCLUSION

First the results of data reduction will be discussed. Then the outcomes of the hypotheses will be dealt with and corresponding conclusions will be formulated. Some practical issues will be considered. This paragraph will be concluded with the limitations of our study and suggestions for future research.

Data Reduction Results

The conducted PCA resulted in a three-factor solution. *Factor 1* (NEUROTICISM) supports the notion (Moormann et al., 2008) that an impaired Cognitive alexithymia dimension (Factor 1) is associated with psychological unwell-being, characterized by emotional lability (Neuroticism), a negative, dissatisfied and hostile attitude towards others, and feelings of being overloaded (Negativism), in combination with low levels of energy directed outwards into the social world (Extraversion) and low levels of organization, persistence, control and motivation in goal directed behavior (Conscientiousness). It should be noted that the negative, dissatisfied and hostile attitude towards others fits well within what is called the artistic temperament, a less positive feature of many artists. Artists are often seen as "difficult."

Factor 2 (CREATIVITY) supports the notion that an unimpaired Affective alexithymia dimension is associated with interest in all kinds of art forms and culture such as found in art history students, or with being creative oneself, being involved in the creation of something artistic or beautiful, such as found in painters and graphic designers (Artistic). Moreover, Factor 2 embodies the active seeking and appreciation of experiences for their own sake (Openness), leading to a desire for artistic expression (Roberts & Robins, 2000). Finally, *Factor 3* (PSYCHOPATHOLOGY) is characterized by having odd perceptions, delusions, and an inclination to collapse under stress by displaying paranoid ideas, irreal thoughts, feelings of alienation, and psychotic behavior

(Psychopathology), a negative, dissatisfied and hostile attitude towards others, and feelings of being overloaded (Negativism), in combination with tough mindedness and lack of compassion (low on Agreeableness).
From the results above it is concluded that an *impaired Cognitive alexithymia dimension* is associated with emotional lability and feelings of being overloaded, while an *unimpaired Affective alexithymia* dimension promotes creativity. Low Agreeableness and feelings of being overloaded relate to Psychopathology.

Experiencing Emotions and Having Fantasy Are Essential for the Arts

Substantial evidence was found that emotionality (Emotionalizing) and imagination (Fantasizing) are closely linked to Artistic. This in agreement with Bell's Art Theory (1919) of Significant Form, where an aesthetic emotion is seen as the creative impulse for a work of art. Bell's vision fits within Expressionism. According to the 'Encyclopedia Britannica' (2020) Expressionism is an artistic style in which the artist seeks to depict not objective reality but rather the subjective emotions and responses, that objects and events arouse within a person. Expressionist artists sought to portray emotions and subjective interpretations. It was not important to reproduce an aesthetically pleasing impression of the artistic subject matter, they felt, but rather to represent vivid emotional reactions by powerful colors and dynamic compositions. Taking into account that Openness and the Affective alexithymia component have in common that both constructs share feeling and fantasy (it should be noted that the latter two are facets van de domain Openness) this explains theoretically why Artistic, an unimpaired Affective alexithymia dimension and Openness load on the same factor.

The experience of having strong emotional feelings implies that one becomes easily emotionally aroused. Over the years the BVAQ has been criticized (see Bermond, Oosterveld, & Vorst, 2015) on several grounds. One of them concerns the subscale reduced Emotionalizing, as not belonging to Sifneos' original definition of alexithymia, because it implicitly concerns

arousal (Bagby et al., 2009). However, one thing is for sure: alexithymia as formulated by Sifneos (2000) relates to emotions and the Greek word *alexithymia* means "lack of words for emotions." According to the commonly accepted definition (Baron, Byrne, & Kantowitz, 1980, p. 293), *emotion is a "subjective feeling state, involving physiological arousal, accompanied by characteristic behaviors."* Thus, arguing that physiological arousal does not belong to the alexithymia construct is comparable to denying that birds have feathers and as a consequence the persistence in denying that emotional arousal does belong to alexithymia is robbing alexithymia from one of its most essential features.

Eysenck's Trait-Type Factor Analytic Theory

So far so good, the Cognitive dimension of alexithymia varies from psychological well-being (unimpaired) to psychological illness (impaired) and the Affective alexithymia dimension (Moormann et al., 2008) varies from creative (unimpaired) to non-creative (impaired). Furthermore, sport psychological research (Moormann et al., 2018a) indicates that the Affective dimension also varies from vulnerability to stress (unimpaired) to being stress resistant (impaired). Selecting extremities of two dimensions and combining them in four types had already been advocated in 1975 by Hans Eysenck in his Trait-Type Factor Analytic Theory (see Pervin, 1980, p. 240). Eysenck combined the neuroticism dimension with the extraversion dimension and related the resulting four types (each with its own personality trait cluster) to the four temperamental types of the ancient Greek physicians Hippocrates and Galen (Melancholic, Choleric, Phlegmatic and Sanguinic). The construction of alexithymia types with corresponding personality styles is similar to Eysenk's methodology, but now with other dimensions. Hence, in contrast to what Bagby et al. (2009) argued there isn't any methodologically justified objection not to apply the same Trait-Type Factor Analytic procedure to both alexithymia dimensions. Moreover, fMRI research came forward with distinct neurobiological substrates for the alexithymia dimensions (Van der Velde et al., 2014; Goerlich et al., 2014)

and the alexithymia types (Goerlich et al., 2015), just as Eysenck's dimensions Extraversion-Introversion and Emotional Stability-Neuroticism are rooted in a specific biological substrate (Pervin, 1980; Carver & Scheier, 2000).

Support for the Perspective of the Mad-Genius Controversy

Anyway, Type II alexithymia (AFF++ and Cog--) allowed us to investigate the mad-genius controversy. The results from Table 3 indicated that Type II Alexithymics scored significantly higher on Artistic, Neuroticism, Negativism and Psychopathology than the three other alexithymia types. Hence, empirical evidence was found for the association between artistic creativity and both the neurosis (Neuroticism and Negativism) and the madness (Psychopathology) camp within the mad-genius controversy. The relation between Type II alexithymia and Psychopathology is confirmed for instance by Van der Velde et al. (2015) who reported that a Type II alexithymia pattern, with high levels of cognitive alexithymia and normal or low levels of affective alexithymia, might be a vulnerability factor for psychosis.

Support for the Humanistic Perspective

Although Type II alexithymics scored significantly higher on Artistic than all other types, it should be noted that despite the finding that Lexithymics (AFF++ and COG++) scored lower than Type II alexithymics (AFF++ and Cog--), the difference between both types was too small to reach significance (rejection of Hypothesis 1b). This result implies that in addition to the tormented mind, artistic creativity can also sprout from a more balanced, well-developed mind. The latter supports the humanistic perspective where self-actualization is associated with creativity. Hence, *artistic creativity is not solely restricted to the dark arena of insanity but can flourish in the bright garden of psychological well-being as well*. When we

look at fashion designers, Yves Saint Laurent is a typical example of the neurotic, tormented artist with a difficult temper while Coco Chanel displayed emotional stability, combined with leadership qualities and a high commercial instinct. Rembrandt is another exponent of the healthy creativity branch. He is famous for his sublime art of painting, had founded a school for young painters with many pupils and just as Coco Chanel had a good commercial instinct. The same holds for Peter Paul Rubens. Vincent van Gogh however is a true exponent of the mad-genius controversy. His brother Theo had to support him financially, he cut off his left ear after a quarrel with Gauguin and eventually committed suicide. Another tragic figure is the extraordinary talented dancer-choreograph Vaslav Nijinski, who as a young adult never recovered from schizophrenia later in life and became catatonic. In contrast, Eduard Monet, one of the most famous impressionist painters had both a stable family life and a stable personality.

Openness to Experience as an Indicator for Creativity

Already in 1987 MacCrae suggested that creativity is particularly related to the personality domain of Openness to experience. More recently (2016) Kaufman and Gregoire reported that openness is the strongest personality predictor of creative achievement, not only for artists but for innovators of all stripes. Kaufman (2013) summarized a huge amount of research outcomes and concluded that openness to experience is the broadest personality domain of the Big Five, including a mix of traits relating to intellectual curiosity, intellectual interests, perceived intelligence, imagination, creativity, artistic and aesthetic interests, emotional and fantasy richness, and unconventionality. In clarifying the relation between openness and creative achievement, affective engagement and aesthetic engagement were associated with creative achievement in the arts, whereas explicit cognitive ability and intellectual engagement were associated with creative achievement in the sciences. Hence Kaufman linked affective and aesthetic engagement primarily to the arts, which is in line with Bell's Theory of Significant form.

Creativity Tapped with Artistic Is Not the Same as Creativity Tapped with Openness

Though Type II individuals had the highest scores on Artistic of all types, the difference with Lexithymics was not significant. Furthermore, Lexithymics (AFF++ and COG++), the counterpart of Type I (AFF-- and COG--) individuals with full-blown alexithymia, had significantly higher scores on Openness to experience than all other types, and more importantly within the unimpaired Affective dimension, supposed to promote creativity, it was found that the more outgoing and ambitious Lexithymic individuals had significantly higher scores on Openness than the troubled and temperamental Type II individuals. These results suggest that *creativity tapped with Artistic is slightly different from creativity tapped with Openness.* Troubled, Type II artist are consumed by their own problems (they feel overloaded). They suffer from Neuroticism or Psychopathology and simply don't have energy left for being conscientious. Art is their life. What matters to them is "l'art pour l'art" (Schaffer, 1928), a French slogan from the early 19th century, introduced by Théofile Gautier, that expresses the philosophy of the intrinsic value of art. Art for art's sake is sometimes described as autotelic, meaning *"inner-directed"* or *"self-motivated"*. Bell (1919) also advocated that art sprouts from an inner drive to create, from a struggle to find a form that matches an emotional experience, that can be expressed on canvas, in bronzes, in music, in dance or in poetry. Such artists are not extraverted, but their energy is directed at the inner world, the world of fantasy and imagination. They are sometimes difficult (artistic temper) and have anger outbursts, depression or periods of insanity. They are the Virginia Woolf, Yves St. Laurent, the Vincent van Gogh or Vaslav Nijinski type of artists. However, what about the Chanel, Rembrandt, and Rubens type of artists? According to the theory of alexithymia types the latter would be Lexithymic with the highest scores on Openness, another avenue to artistic creativity in addition to Artistic, but now paved with relatively high levels of Extraversion and Conscientiousness in combination with relatively low levels of Negativism and Psychopathology. The fact that Chanel,

Rembrandt and Rubens founded schools where pupils could learn 'le métier' indicates that they possessed leadership qualities, another feature associated with Lexithymia. Bermond et al. (2018a) for instance, reported that lexithymics scored significantly higher on 7 out of the 14 subscales of the Leadership Questionnaire (Rijnders, 1997). Type II artists don't have leadership qualities. They are not equipped to be head of a school of fashion designers or painters and therefore special managers are appointed to make a profit of their artistic talents. Sad enough, exploitation of the artist is no rarity. The history of creative pop musicians is swarmed up with such examples, not seldom with tragic endings. The same holds for other art forms. Vaslav Nijinski for instance was successfully promoted by the art director Sergei Diaghilev in his famous company the Ballet Russe. They even had a long-lasting love affair. However, when Nijinski fell in love with Romola de Pulszki, married her, got a daughter, the broken relationship with Diaghilev caused so much trouble, irritation, sadness and unpleasantness from both sides that Nijinsky's glorious dance and highly creative choreographic career came to a premature end. It is believed that the onset of Nijinsky's schizophrenia was speeded up when Nijinsky could not express his inner drives in dance anymore (Solpray, 1953).

Why Are Troubled Artists Reluctant to Cure Their Neuroses?

From Heinrich Heine to Edvard Munch, many resisted a treatment for their depression, fearing a loss of creative urges (Preston, 2013). Amy Winehouse, one of the popstars who died in 2011 at the young age of twenty-seven from alcohol poisoning was not only a great performing artist but being a highly gifted song writer at the same time. Hence, a creative artist as well. However, she had the reputation of an unstable party girl, often showing up to her club or TV performances too drunk to sing a whole set. She also started a tumultuous, on-again-off-again relationship with music video assistant Blake Fielder-Civil who admitted to introducing her to hard drugs (Biography, 2020). The song "Rehab," which addressed her refusal to receive treatment for substance abuse became a Top 10 hit in the United

Kingdom. With the almost alarming way the words -*"They tried to make me go to rehab and I said no, no, no"* and *"I won't go go go"* - are sung as if she wanted to warn the listener that detoxification would mean that her creativity would dry up as well. *"I am gonna I am gonna lose my baby. So I always keep a bottle near,"* (we assume that her baby symbolizes her art, her creativity). Preston (2013) claims that the worry for artists is that in banishing their black dogs they are also dousing the flames of inspiration, blunting the edge of their genius. Marcel Proust, the famous French novelist, a notorious neurotic himself, once claimed *"All great things come from neurotics."* Becker (1978), in The Mad Genius Controversy, shares this point of view. He refers to Freud's theorizing on the sublimation of libidinal energies on behalf of higher intellectual and aesthetic concerns that allows the genius to escape the fate of neurosis; it is the failure to successfully sublimate fixated infantile desires that creates a nearly insurmountable disposition to "obsessional neurosis." In this context, Becker refers to Stekel (1912), who considers the struggle inherent in the sublimation of libidinal impulses as leading to an inevitable disposition to neurosis: as such, all men of genius are judged neurotic. Indeed, Stekel argued that the neurotic condition constitutes the germ of creation and source of all progress. Is this true? Why on earth then do we see so many artists without serious mental disorders? What happens if an artist is cured from Type II alexithymia? First of all, it should be noted that the cluster of alexithymic characteristics constitutes a major obstacle in the process of treatment and contributes to the failure of response to therapy (Sifneos, 1975). Hence alexithymia is difficult to cure. However, let us put this obstacle aside for a moment and assume the following. If for instance, in a nonverbal creative therapy the artist is learned to attach verbal labels to the emotional experience would that mean that then the artist is robbed from his/her creativity, because the artistic impulse, the struggle to find words for an emotional experience does not exist anymore? Theoretically speaking, an artist cured successfully from Type II alexithymia, would become a Lexithymic, which is, as has been demonstrated in the present study, not an obstacle at all to be artistic creative. What then withholds the mad genius to become a healthy genius? Perhaps the fear of losing creativity is greater than the longing to become healthy.

Mileck (1978) in *"Herman Hesse. Life and art,"* formulates the dilemma as follows (p. 109):

> "Illness was at the risk of art. Cure was at the benefit of psychoanalysis. But psychoanalysis also posed a risk, not, however, because it might cure artists of their neuroses and thereby remove the cause of or a supplemental thrust in their creativity, but it may persuade some to put aside their art for the sake of emotional health."

Limitations and Future Research

Although we found support for our model where artistic creativity based on Bell's Theory of Significant Form is incorporated in the Theory of Alexithymia Types with corresponding Personality Styles (Moormann et al. 2008; Bermond et al., 2018a), with psychological well-being versus mental illness as possible outcomes, it is obvious that our attempt to entangle the complex knot between creativity and insanity versus psychological well-being is not free from weaknesses.

It is true that the scales Artistic and Openness both have very good reliability (internal consistency and/or test-retest reliability) and validity (construct and/or predictive validity) coefficients, but it should be noted that both scales are indirect measures of creativity as Artistic is primarily meant to measure vocational interests and Openness is primarily meant to measure the Big Five domain Openness to experience. However, regarding Artistic it can be argued that professionals with high scores have been found among painters and graphic designers (see Instruments), people who definitely are artistic creative. Concerning Openness to experience it should not be overlooked that this domain is obtained by factor analysis and that the content of the items within this factor determined its name. Hence the name Openness to experience is rather subjective and could have been named Creativity as well. Moreover, the same factor has been named differently as Inquiring Intellect, Culture, Intelligence, and Intellect (Carver & Scheier, 2000). In addition, the unipolar adjective scales of Knowledgeable and

Original within Intellect concern the bipolar adjective scales imaginative-simple and uncreative-creative. Finally, Kaufman and Gregoire (2016) reported that Openness is the strongest personality predictor of creative achievement.

A second, more serious weakness regards the respondents, consisting of 2nd year psychology university students. Sure, there are differences within this university student group between creative and less creative students, but future research would benefit from combining Raskin's (1936) qualitative, biographical approach on eminent scientists and men of letters (preferably extended with eminent representatives of other Arts) with a quantitative, quasi-experimental approach by conducting a Two-way Anova with Artistic and Openness as dependent and alexithymia types and creative groups (preferably added with a control group) as factors.

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