The Associations between the Big Five Personality Domains and Depression Severity

Lydia Mauritz | 1802232

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Author: Lydia Mauritz
Title: The associations between the Big Five Personality Domains and Depression Severity
Supervisor: Mira Karrasch
Abstract: Personality may play an important role in depressive disorders. The purpose of this study was to investigate the associations between the Big Five personality domains as outlined by the Five Factor Model and depression severity. The study used existing data where 470 adults reporting depressive issues completed an online survey. Personality and depression severity were assessed by the *Ten-item Personality Inventory* (Gosling, Rentfrow, & Swann, 2003) and the *Quick Inventory of Depressive Symptomatology* (Rush et al., 2003) respectively. Hierarchical multiple regression analysis revealed that personality significantly predicted the severity of depression where Emotional stability made the largest unique contribution to depression severity, followed by Extraversion and Conscientiousness. Emotional stability, Extraversion and Conscientiousness were inversely correlated with depression severity. Agreeableness and Openness were not significantly associated with depression severity. This study confirms the association between personality and depression, and extends the literature demonstrating associations between the Big Five and depression severity. Assessment of personality may be of clinical value in depressive disorders.
Keywords: Depression; Depression severity; Personality; Five Factor Model; Emotional stability; Extraversion; Conscientiousness; Agreeableness; Openness
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Handledare: Mira Karrasch
Abstrakt: Personlighet kan vara av signifikans för depressiva tillstånd. Syftet med denna studie var att undersöka associationerna mellan personlighetsdomänerna enlig femfaktorteorin och depressionens svårighetsgrad. Data som tidigare samlats in via en webbenkät med hjälp av deprimerade individer i vuxen ålder användes för analysen Personlighet mättes via *Ten-item Personality Inventory* (Gosling, Rentfrow, & Swann, 2003) och depressionens svårighetsgrad via *Quick Inventory of Depressive Symptomatology* (Rush et al., 2003). Hierarkisk multipel regressionsanalys visade at personlighet samvarierade med depressionens svårighetsgrad, varpå emotionell stabilite medförde den största delen av den unika variansen i depressionens svårighetsgrad, följt av extraversion och samvetsgrannhet. Emotionell stabilitet, extraversion och samvetsgrannhe korrelerade negativt med depressionens svårighetsgrad. Varken vänlighet eller öppenhe associerades med depressionens svårighetsgrad. Resultaten bekräftar sambandet mellan personlighet och depression, och utökar litteraturen då de påvisar associationer mellan personlighetsdomänerna enligt femfaktorteorin och depressionens svårighetsgrad Utvärdering av personlighet kan vara av klinisk relevans för depressiva tillstånd.
Nyckelord: Depression; Depressionens svårighetsgrad; Personlighet; Femfaktorteorin; Emotionell stabilitet; Extraversion; Samvetsgrannhet; Vänlighet; Öppenhet
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1. Introduction

1.1 Depressive Disorders: Current State of Affairs

According to the Global Burden of Disease Study, depression is ranked as the second leading cause of disability worldwide (Vos et al., 2015). At a global level, more than 300 million individuals are estimated to suffer from depression, equivalent to 4.4% of the world¶s population (World Health Organization [WHO], 2017). These statistics are alarming due to the significant debilitative consequences of depressive disorders, which are associated with poor mental as well as physical health, lowered quality of life, and increased mortality (WHO, 2008). Depressive disorders furthermore place an economic strain on society due to limited working capacity as a consequence of depression as well as costs of treatment (WHO, 2008). In light of the prevalence and significant consequences of depressive disorders, extensive research has been undertaken with regards to the depressive symptomatology and to develop treatments. Despite extensive research undertaken and a range of treatment alternatives available, disability due to depressive disorders are on the increase and particularly so in Western countries (WHO, 2017).

A broad range of treatment approaches such as psychotherapeutic methods, pharmaceutical treatment, electroconvulsive (ECT) treatment and other interventional approaches have been developed for depression. There are some differences between national guidelines for depression treatments where the guidelines in the United Kingdom recommend psychosocial treatments and psychotherapy for mild depression (National Institute for Health and Care Excellence [NICE], 2009), whereas Finnish guidelines recommend psychotherapy and pharmaceutical treatment (Duodecim, 2020). In moderate to severe depression, most guidelines recommend a combination of pharmacotherapy and psychotherapy, and in very severe depression where other interventions have failed, ECT is recommended (American Psychological Association [APA], 2019; Duodecim, 2020; NICE, 2009).

The literature suggests that depressed individuals benefit from a range of available treatment. Evidence from systematic reviews and meta-analyses demonstrate the success of various psychotherapeutic treatments in the reduction of depressive symptoms, including cognitive-behavioural therapy, psychodynamic therapy, interpersonal therapy, problem-solving therapy as well as other face-to-face psychological interventions (Barth et al., 2013; Cuijpers, Anderson, Donker, & van Straten, 2011; Linde et al., 2015). Moreover, evidence from a recent meta-analysis suggest the efficacy of pharmaceutical treatment via a variety of antidepressant drugs, such as selective serotonin reuptake inhibitors (SSRIs), serotonin-norepinephrine reuptake inhibitors (SNRI), as well as tricyclic anti-depressants (TCA), which appear to reduce depressive symptoms as compared to placebo in adults suffering from Major Depressive Disorder (MDD), demonstrating small effect sizes (Cipriani et al., 2018).

Although depression is a multifactorial biopsychosocial phenomenon, the introduction of pharmaceutical treatments targeting the serotonergic s\stem in the late 80¶s and earl\ 90¶s resulted in more focus being put on the biological aspects of depression. It must, however, be noted that the literature regarding the efficacy of antidepressant drugs with depressive disorders have been criticized with regards to a publication bias where evidence demonstrating the effectiveness of antidepressants are more likely to be published whereas evidence suggesting the contrary is not (Turner, Matthews, Linardatos, Tell, & Rosenthal, 2008). According to Turner et al. (2008) the selective publication of clinical trials ³<<lead to unrealistic estimates of drug effectiveness and alter the apparent risk-benefit ratio´ (p. 252). It must also be noted that antidepressant drugs were initially developed to treat major depressive episodes, but in recent years their usage has been prolonged and extended to the maintenance and prevention of relapse (see e. g., Findling, Robb, & Bose, 2013). Whilst initial clinical trials were very positive demonstrating the efficacy of antidepressant drugs which successfully reduced depressive

symptoms as compared to placebo (for review, see Klerman & Cole, 1965), no methodologically strong data are available for long-term efficacy (see e.g., Pigott, Leventhal, Alter, & Boren, 2010; Storosum, van Zweiten, Vermheulen, Wohlfarth, & van der Brink, 2001).

The heavily cited meta-analysis quoted above by Cipriani and colleagues (2018) compared different sorts of antidepressant drugs against one another and thus did not focus on the comparative effectiveness of pharmaceutical treatment as compared to other interventional approaches. Nor did Cipriani et al. (2018) evaluate the effectiveness of long-term pharmaceutical treatment and did not consider the impact of side effects associated with antidepressant drugs, including symptoms such as nausea, weight gain, sexual dysfunction, fatigue and insomnia to name a few (Ottosson, 2018). In a further meta-analysis and systematic review, Jakobsen and colleagues (2017) found that antidepressant drugs successfully reduced depressive symptoms, demonstrating small effect sizes, in line with Cipriani et al. (2018). Taking into account the impact of side effects, however, the authors concluded that ³<< the harmful effects of SSRIs versus placebo for major depressive disorder seem to outweigh any potentiall\ small beneficial effects´ (Jakobsen et al., 2017, p. 23).

Further questioning the efficacy of antidepressants, it is seemingly likely that long-term use increase chronicity both via pharmacological (Fava & Offidani 2011) and psychological mechanisms (Kemp, Lickel, & Deacon, 2014). A systematic review put forward by Fava and Offidiani (2011) reported that long-term use of antidepressant drugs enhances the biochemical vulnerability to depression which may serve to exacerbate the symptomatic expression and worsen long-term outcomes (see also Carlsson et al., 2007; Fava, 1994; Fava & Mangelli, 2003; Harvey, Silkey, Korstein, & Clary, 2007). Specifically, long-term use of antidepressant drugs may render individuals susceptible to a depressive episode in the future and decrease the likelihood of subsequent response to pharmacological treatment in terms of an oppositional

tolerance model. According to this model, prolonged treatment via antidepressant drugs recruit processes that oppose the initial effects of the drugs. When drug treatment ends, such processes operate unopposed and increase the vulnerability for relapse. Moreover, subsequent depression may not respond to pharmaceutical treatment due to mechanisms of tolerance and resistance. In this sense, antidepressant medications may be effective in the treatment of acute and major depressive episodes, but maintained usage may have paradoxical effects and propel a depressive episode into a recurrent and treatment-unresponsive condition.

Long-term use of antidepressant drugs may further increase chronicity via psychological mechanisms. For instance, Kemp et al., (2014) found that the attribution of depressive symptoms to a biochemical imbalance causes individuals to view their symptoms as chronic and intractable. Moreover, such attributions worsened prognostic pessimism and negative mood regulation expectancies leading to a view of pharmacotherapy perceived as more effective and credible than psychotherapy. On the contrary, however, evidence suggests that when the outcomes of depressive treatments are considered long-term, psychological therapies become more effective over time, whereas antidepressant treatment become less effective (McPherson & Hengartner, 2019). Indeed, authors are increasing**l**\ noting that ³<< treatments that are effective in the acute phase of illness are not necessarily the most suitable for post-acute and residual phase of maintenance´ (Fava & Offidani, 2011, p. 1600).

Depressive disorders are highly recurrent with more than half of those who recover from a depressive episode reporting one or more additional episodes in their lifetime (APA, 2000). It is notable that guidelines recommend elongated use of antidepressant medications, even after the resolution of depressive symptoms, to minimize risk of relapse and recurrence (APA, 2019; Duodecim, 2020; NICE, 2009). Instead, meta-analyses of direct comparisons in trials for

recurrent depression show that psychological treatment is superior to that of maintained antidepressant use in protecting against relapse (Biesheuvel-Liliefeld et al., 2014). In fact, some evidence suggest that antidepressant drugs prospectively relate to poorer long-term outcomes and impair recovery. For instance, Hengartner, Angst and Rössler (2019) investigated the outcomes of antidepressant drugs during acute inpatient care. When comparing outcomes after discharge, it was found that antidepressant users were at increased risk of rehospitalization as well as longer duration of subsequent rehospitalizations as compared to non-users. Due to the correlational findings, cause-and-effect cannot be established thus it is not possible to ascertain that antidepressant drugs per se was the cause of subsequent hospitalizations. Taken together, however, the literature reviewed above demonstrate that there is considerable evidence that calls into question the sustainable clinical benefits attributed to antidepressant drugs. This raises concern with regards to the frequency of pharmaceutical treatment with depressive disorders.

In sum, evidence suggests the efficacy of antidepressant medications in the treatment of depressive episodes (Cipriani et al., 2018), but no methodologically strong data are available for long-term efficacy (Turner et al., 2008). Over time, modest beneficial effects may be outweighed by harmful properties, such as the impact of side effects associated with antidepressant medications (Jakobsen et al., 2017) and an increase in chronicity via pharmacological (Fava & Offidani, 2011) and psychological mechanisms (Kemp et al., 2014). Statistics highlight the prevalence of recurrent depression (APA, 2000) and evidence suggests the superiority of psychological treatment over maintained antidepressant use (Biesheuvel-Liliefeld et al., 2014). The overemphasis on the biological aspect of depression (i.e. a biochemical imbalance) and the rising number of individuals using antidepressants over the long-term is thus one possible factor that may explain the persistence and rise in disability due

to depression. Depression is a multifactorial biopsychosocial phenomenon and scientific focus on psychosocial factors seems very much needed.

Whilst psychological explanations of depression traditionally describe it as a unitary disease, advances in evolutionary psychology note that depression is a heterogeneous syndrome which entail various depressive subtypes (Rantala, Luoto, Krams, & Karlsson, 2018). Depressive disorders are currently distinguished in terms of two main categories: MDD and dysthymia (WHO, 2017). MDD involve depressive symptoms such as lowered mood, apathy, and decreased energy; depending on the number and severity of symptoms, a depressive episode is categorized as mild, moderate or severe. Dysthymia refers to a persistent and chronic form of mild depression where the symptoms are similar to a depressive episode, but are less intense and last longer. MDD and dysthymia are diagnosed based on the number of reported symptoms and a threshold of their sum-score according to diagnostic manuals, such as the *International Statistical Classification of Diseases and Related Health Problems* (11th ed.; ICD-11; WHO, 2019) and the *Diagnostic and Statistical Manual of Mental Disorders* (5th ed.; DSM-5; APA, 2013). However, the diagnostic tools themselves are based on the assumption that depression is a unitary disease where all symptoms are equally good indicators of one underlying disorder.

Evidence suggesting that depressive disorders represent a heterogeneous syndrome that extend beyond that of MDD and dysthymia stems from observations that patients with MDD have unique symptom profiles and symptoms may have opposite features, such as insomnia and hypersomnia or increased and decreased appetite (Fried & Nesse, 2015), which seem counterintuitive. According to recent work put forward by Rantala et al., (2018), depression can be distinguished in terms of a range of subtypes, such as depression induced by infection, long-term stress, loneliness, traumatic experience, hierarchy conflict, grief, romantic rejection, postpartum events, the season, chemicals, somatic disease and starvation. These subtypes

represent evolutionarily shaped psychological adaptations in response to adverse life events. However, such adaptive states of lowered mood may result in pathological states of depression due to a mismatch between the current environment and the ancestral environment in which these behavioural features evolved.

Rantala et al., (2018) argue that individuals suffering various depressive subtypes vary remarkably in symptom profile, pathophysiology and treatment responsiveness. Appraisal of the subtype and consideration of adaptive components are thus essential and should inform treatment. If a depressive symptom represents an adaptive response in order to solve the problem which triggered the depressive episode, the symptoms may not respond well to pharmacological treatment. In fact, Rantala et al., (2018) argue that ³<< in cases where a depressive episode is a functional response to adversit\, suppressing it medicall\ could be harmful´ (p. 612). In line with an approach considering depression as a heterogeneous syndrome, there is a need to not only contemplate the presence or absence of depressive symptoms but to align treatment with regards to the depressive subtype and to customize interventions. A further area of interest that may serve to tailor treatment with depressive disorders is that of personality acknowledging individual differences.

1.2 Personality and the Five Factor Model

Personalit\ is defined as ³<< the d\namic organi]ation within the individual of those ps\choph\sical s\stems that determine [a person¶s] characteristic behaviour and thought´ (Allport, 1961, p. 28). All individuals posit a personality such as a characteristic manner of thinking, feeling, behaving and relating to others that is evident in everyday behaviour across an array of situations. To date, the Five Factor Model (FFM) is the most widely adopted

framework describing personality traits as relatively stable patterns of thoughts, feelings and behaviours (Costa & McCrae, 1992). According to the FFM, personality can be outlined along five broad dimensions: Emotional stability versus Neuroticism (calm and emotionally stable as opposed to anxious and easily upset), Extraversion versus Introversion (extraverted and enthusiastic as opposed to reserved and quiet), Conscientiousness versus Undependability (dependable and self-disciplined as opposed to disorganized and careless) Agreeableness versus Antagonism (good-sympathetic and warm as opposed to critical and quarrelsome) and Openness to Experience versus Closedness to Experience (open to new experiences and complex as opposed to conventional and uncreative). Each of the five domains can further be differentiated into narrower facets (see Table 1).

There is substantial support for the validity and reliability of FFM. The five factors have been replicated across self, peer and spouse ratings (Costa & McCrae, 1992) and the existence of the FFM has been demonstrated cross-culturally in numerous countries and across continents (McCrae, Terracciano & 79 Members of the Personality of Cultures Project, 2005; Schmitt et al., 2007), ³<< suggesting the FFM is a human universal´ (Gurven, von Rueden, Massenkoff, Kaplan, & Lero Vie, 2012, p. 354). The FFM has, however, been subject to critique (see Block, 1995, 2001, 2010). It has been argued that there are limitations to the scope of the model and authors note that the Big Five does not explain all of human personality. For instance, Puanonen and Jackson (2000) analysed personality data and concluded that multiple dimensions of personality exist beyond the Big Five, such as domains of religiosity, masculinity and femininity, sense of humor, risk-taking and egotism to name a few. Methodological issues have further been raised due to the fact that the model is based on lexical hypothesis (i.e. on the verbal descriptions of individual differences) and consequently traits that are not well represented in language are less likely to be represented by the model (Puanonen & Jackson, 2000). Moreover,

the atheoretical nature of the model have been criticized where it is not based on underlying theory, but is derived via statistical factor analysis (e.g., Eysenck, 1992). However, although the FFM is not based on prior theory, this does not dispute the existence of the Big Five, but convey that their underlying causes are unknown. Despite the criticism raised in response to the FFM, defences for the model have been made (see Costa and McCrae, 1995) and the model is adopted due to its wide applicability.

Table 1

The Five Factor Model of Personality

Neuroticism versus Emotional stability

Anxiousness: fearful, apprehensive vs relaxed, unconcerned and cool

Angry hostility: bitter, angry vs even-tempered

Depressiveness: pessimistic, glum, despondent vs optimistic

Self-consciousness: timid, embarrassed vs self-assured, glib, shameless

Impulsivity: tempted, urgency vs controlled, restrained

Vulnerability: fragile, helpless vs stalwart, brave, fearless, unflappable

Extraversion versus Introversion

Warmth: affectionate, attached vs cold, aloof, indifferent

Gregariousness: sociable, outgoing, involved, vs withdrawn, isolated

Assertiveness: forceful, dominant vs unassuming, quiet, resigned

Activity: active, energetic, vigorous vs passive, lethargic

Excitement-seeking: daring, reckless vs cautious, monotonous, dull

Positive emotions: high-spirited vs anhedonic

Openness versus Closedness to experience

Fantasy: imaginative, dreamer, unrealistic vs practical, concrete

Aesthetic: aesthetic vs unaesthetic

Feelings: responsive, sensitive vs unresponsive, constructed, alexythymic

Actions: unpredictable, unconventional vs routine, habitual, stubborn

Ideas: odd, peculiar, strange, indiscriminative vs pragmatic, rigid

Values: broad-minded, permissive vs traditional, dogmatic, inflexible

Conscientiousness versus Undependability

Competence: efficient, perfectionistic vs lax, negligent

Order: organized, methodological, ordered vs haphazard, disorganized, sloppy

Dutifulness: reliable, dependable, rigid vs casual, undependable, unethical

Achievement-striving: ambitious, workaholic vs aimless, desultory

Self-discipline: devoted, dogged, preservative vs negligent, hedonistic

Deliberation: reflective, thorough, ruminative vs careless, hasty, rash

Agreeableness versus Antagonism

Trust: trusting, gullible vs skeptical, cynical, suspicious, paranoid

Straightforwardness: honest, naïve vs cunning, manipulative, deceptive

Altruism: giving, sacrificial vs selfish, stingy, greedy, exploitative

Compliance: cooperative, docile vs oppositional, combative, aggressive

Modesty: self-effacing, meek vs confident, boastful, arrogant

Tender-mindedness: empathic, soft-hearted vs callous, ruthless

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1.2.1 The Big Five and Depression

A dimensional explanation of personality, as offered by the FFM, can serve to inform how personality relate to both psychological distress as well as good mental health. Indeed, research demonstrate that specific personality traits can provide a vulnerability or a resilience to stress which help to explain why some develop psychopathological conditions in response to adverse life events whereas some remain unscathed (Campbell-Sills, Cohan, & Stein, 2006). Of interest for the present study was the contribution of personality to psychological distress.

Accumulating research demonstrates associations between the Big Five and psychopathology (Malouff, Thorsteinsson, & Schutte, 2004), including depression (Hakulinen et al., 2015; Kotov, Gamez, Schmidt, & Watson, 2010). First, associations between Emotional stability and depression have been found to be particularly robust. Research propose that individuals high in Neuroticism (i.e. low in Emotional stability), are at increased risk for depression (Petersen, Bottonari, Alpert, Fava, & Nierenberg, 2001), experience more severe cases of depression (Bienvenu & Stein, 2003) and are more likely to suffer from recurring

depressive episodes (Hirschfeld, Klerman, & Andreasen, 1986). Second, evidence demonstrate associations between Extraversion and depression finding that low levels of Extraversion (i.e. higher levels of Introversion) predict depressive symptoms (Hakulinen et al., 2015; Kotov et al., 2010) and that low levels of sociability (i.e. Introversion) are associated with depressive symptoms (Elovainio et al., 2017). The pattern of associations between these personality traits and depression may not be surprising given that emotional lability (i.e. Neuroticism) as well as a lack of interest to engage in activities and social withdrawal (i.e. Introversion) are characteristic of a depressive state.

The literature further suggests associations between Conscientiousness and depression where high levels of Conscientiousness (i.e. low levels of Undependability) have been proposed to mitigate the stress-depression relationship. For instance, Connor-Smith and Flachsbart (2007) found that individuals high in Conscientiousness engaged in more adaptive coping strategies, such as problem-solving and cognitive restructuring, as compared to individuals high in Neuroticism who engaged in more maladaptive coping strategies, such as withdrawal and denial. In line with such findings, evidence further demonstrate that high levels of Conscientiousness were associated with lower levels of depression and greater subjective wellbeing (Malouff et al., 2005; see also Chen, Peng, Ma, & Dong, 2016). Taken together, such findings suggest an association between Conscientiousness and depression whereby higher levels of Conscientiousness predict adaptive coping strategies which serves to prevent a depressive episode in response to adverse life events.

The associations between Emotional stability, Extraversion and Conscientiousness and depression have been extensively investigated and replicated in a number of studies thus findings appear well-established. Less is known, however, with regards to the role of Agreeableness and Openness with depressive disorders where the literature is scarcer. A line of

research, however, suggests that Agreeableness is related to facilitative emotional regulation which may serve to be preventative of a depressive episode. Indeed, Agreeableness has been suggested to ³<< pla\ a broad role in down-regulating negative affect´ (Ode & Robinson, 2007, p. 2144). For example, Haas, Omura, Constaple and Canli (2007) found that individuals high in Agreeableness (i.e. low in Antagonism) were likely to engage in both automatic and effortful control of their emotions, and particularly so in response to negative stimuli. Corroborating such findings, Tobin, Graziano, Vanman and Tassinary (2000) found that individuals high in Agreeableness engaged more in emotion regulation following negative emotional stimuli than those lower in Agreeableness. Whereas limited research has examined the direct role of Agreeableness with depressive disorders, the literature suggests that high levels of Agreeableness may serve to prevent a depressive episode given that Agreeableness is associated with facilitative emotional regulation.

Evidence regarding the relationship between Openness and depression is scarce, and existing evidence is mixed and inconclusive. Early findings suggest an association between high levels of Openness and depression, with depressed participants exhibiting significantly higher levels of Openness (i.e. lower levels of Closedness) than non-depressed ones (Wolfenstein & Trull, 1997; see also Bagby, Schuller, Levitt, Joffe, & Harkness, 1996). Moreover, Openness accounted for a significant proportion of the variance in depression scores that extended beyond that of Emotional stability and Extraversion. On the contrary, more recent evidence suggests that Openness is associated with positive emotional tendencies. For instance, Bardi and Ryff (2007) found that Openness amplified positive emotional tendencies during life transitions and predicted subjective well-being among a sample of elderly women. Findings suggesting that Openness is related with subjective well-being is conflicting with the early evidence suggesting

associations between Openness and depression rendering the role of Openness in depression in need of clarification.

In line with the literature reviewed above, evidence from recent meta-analyses found significant associations between Emotional stability (low), Extraversion (low) and Conscientiousness (low) (Hakulinen et al., 2015; Malouff et al., 2005) and depressive symptoms. However, associations between Agreeableness and Openness and depressive symptoms were not significant. Corroborating such findings, a further meta-analysis investigating the relationship between the Big Five and depression diagnosis found that Emotional stability (low), Extraversion (low) and Conscientiousness (low) predicted depression diagnosis whereas Agreeableness and Openness did not (Kotov; Gamez, Schmidt, & Watson, 2010).

1.3 The Present Study

Despite extensive research undertaken and multiple alternatives for treatment available, depression is persistent, enduring and often long-lasting thus represent a major area of concern. Explanations for the persistence of depressive disorders are multifaceted but may in part be attributable to a reductionist view of depression as mostly a biochemical imbalance and a rising number of individuals using antidepressants over the long-term. Meanwhile, depression is a multifactorial biopsychosocial phenomenon and a heterogeneous which can be viewed in terms of psychologically adaptive responses in cases of adverse life events. A turn of scientific focus onto psychosocial aspects of depression represent an area of relevance and of particular interest for the present study is the interaction between personality and depression. Knowledge of the interaction between personality and depression may serve to inform and customize treatment.

Accumulating evidence display associations between personality according to the FFM and depression (Hakulinen et al., 2015; Kotov et al., 2010; Malouff et al., 2005). Whereas associations between Emotional stability, Extraversion and Conscientiousness and depression appear well-established (Hakulinen et al., 2015; Kotov et al., 2010; Malouff et al., 2005), the role of Agreeableness and Openness in depression are exploratory. The present study sought to extend the literature regarding the associations between personality as outlined by the FFM and depression. Specifically, the study investigated the associations between the Big Five and depression severity.

Instead of investigating the severity of depression, most previous studies have focused on the depressive symptomatology and depression diagnoses (Hakulinen et al., 2015; Kotov et al., 2010; Malouff et al., 2005), based on the ICD-11 (WHO, 2019) and DSM-5 (APA, 2013) with a focus on the presence or absence of symptoms rather than the intensity of symptoms. It has been argued that such a dichotomous approach may not necessarily be representative of reality where the subjective experience is of significance (Rush, Guillon, Basco, Jarret, & Trivedi, 1996). For this reason, the present study examined the severity of depression as reported by depressed individuals, with regards to personality.

In line with evidence from meta-analyses demonstrating associations between the Big Five and depression variables (Halukinen et al., 2015; Kotov et al., 2010; Malouff et al., 2005), it was hypothesized that (H1) personality would be associated with depression severity. It was further hypothesized that (H2) higher levels of Emotional stability, (H3) higher levels of Extraversion and (H4) higher levels of Conscientiousness would be predict with less severe depression. Moreover, it was hypothesized that (H5) Agreeableness and Openness would not be associated depression severity.

2. Method

The present study was part of the Depression Treatment and Cognitive Function Project (DETRECO) at the Department of Psychology, Åbo Akademi University. The primary aim of this project was to investigate depressive treatments and cognitive functioning. Ethical approval for the project was granted by the Board of Ethics at the University of Åbo Akademi.

2.1 Procedure

Data was collected via an online survey (SOILE) developed at the Braintrain Research Center of at the Department of Psychology at Åbo Akademi. The survey consisted of two parts: a set of questionnaires and a set of cognitive tests. The survey was launched online on the 15th of December 2015 and data collection finished on the 1st of February 2017. The online participation ensured anonymous participation ensuring rights of confidentiality. The present study employed only the data gathered via questionnaires, such as scales that assessed depression severity and personality (see 2.3 for Instruments).

2.2 Sample

The data gathered enabled a convenience sample whereby participants were recruited via announcements at various health care services in Finland, internal recruitment ads at Åbo Akademi University and via social media platforms (e.g. Facebook). Individuals diagnosed with MDD, individuals who reported the experience of former or current depression and/or individuals who reported usage of antidepressant medications were invited to take part in the study. General inclusion criteria further involved a set age range of 18-55 years living in Finland

or Sweden. The upper age limit was set considering cognitive impairment in elderly may be a confounding factor in the performance of cognitive tests. An initial sample of 522 participants volunteered to take part in the study. 9 participants were removed from the data prior to the analyses due to not meeting the age limit (i.e. older than 55 years). 13 participants were additionally excluded from the analyses due to not fully answering all questions on the scale that assessed personality. 30 participants failed to complete the scale measuring depression severity and were further removed from the data set. This rendered a final sample of 470 participants included for the final analyses (see Table 2 for Demographic Characteristics).

Table 2

Demographic Characteristics of the Present Sample

Demographic Variable	*N*	*Percentage*
Age		
Min	18	
Max	55	
Mean (SD)	28.28 (8.393)	
Gender		
Female	366	77.9
Male	88	18.7
Trans	2	.4
Other	14	3
Educational level		
Primary education	14	3
Vocational education	38	8.1
High school	208	44.3
Vocational university	48	10.2
Bachelor	110	23.4
Master	33	7
Licentiate or PhD	8	1.7
Other	11	2.3

Note: *N*=470

2.3 Instruments

2.3.1 Depression Severity

To measure the severity of depression, the *Quick Inventory of Depressive Symptomatology* (QIDS-SR_{16}; Rush et al., 2003) was used (see Appendix A). The scoring system converts 16

responses into nine domains: 1) sad mood, 2) concentration, 3) self-criticism, 4) suicidal ideation, 5) interest, 6) energy/fatigue, 7) sleep disturbances, 8) decrease or increase in appetitive as well as a decrease or increase in weight and 9) psychomotor agitation/retardation (Rush et al., 2003). Each symptom is measured on a scale of 0-3. A total score is calculated summing the responses of question 5, 10, 11, 12, 13 and 14; the highest score of any of the four sleep items (one ± four); the highest score on any of the appetite/weight items (six - nine); the highest score of the psychomotor items (15-16). This rendered a range of 0-27. The severity of depression is interpreted as following: 0-5 (none), 6-10 (mild), 11-15 (moderate), 16-20 (severe), and 21-27 (very severe). The scale reveals good internal consistency (D=.86) and is sensitive to symptom change similarly to that of longer scales, such as the 30-item Inventory of Depressive Symptomatology ($IDS\text{-}SR_{30}$; Rush et al., 1996) and the 24-item Hamilton Rating Scale for Depression ($HAM\text{-}D_{24}$; Hamilton, 1960), indicating high concurrent validity (Rush et al., 2003).

2.3.2 Personality

Personality according FFM was assessed using the *Ten-item Personality Measure* (TIPI; Gosling, Rentfrow, & Swann, 2003) (see Appendix B). On the scale, participants were presented with ten pairs of personality traits and asked to indicate to the extent they would agree with the specific traits. Specificall\, participants were asked to give a response to the question: ³I see m\self as<<´ and rate the e[tent to which the\ agreed that the traits applied to them on a scale of 1 (disagree strongly) to 7 (agree strongly). Extraversion was assessed asking as to whether participants viewed themselves as extraverted and enthusiastic, and reserved or quiet (reversed). Agreeableness was assessed as to whether participants viewed themselves as sympathetic and warm, and critical and quarrelsome (reversed). Conscientiousness was assessed as to whether

participants viewed themselves as dependable, and self-disciplined, and disorganized and careless (reversed). Emotional stability was assessed as to whether participants viewed themselves as calm and emotionally stable, and anxious and easily upset (reversed). Openness was assessed as to whether participants viewed themselves as open to new experiences, and complex or conventional and uncreative (reversed). To calculate an overall score, the items contacting the opposite end of the trait-dimension were reversed (e.g. reserved or quiet as a measure for Extraversion) and a sum score for each personality dimension was calculated summing the responses, rendering a range between 2-14.

2.4 Data Analysis

The statistical analyses were performed using IBM SPSS Statistics 24.0 for Windows (IBM Corp, 2016). Prior to the main analysis, preliminary analyses were conducted whereby the data was screened and checked for parametric assumptions. For the main analyses, a two-step hierarchical multiple regression was performed in order to investigate whether the personality according to the FFM predict depression severity among depressed adults. Step-one included demographic variables, such as age and educational level, to control for potential confounding effects. Gender was not included despite the potential confounding effect due to the unsteady distribution participants where the majority of the sample were female (see Table 2). Step-two of the analysis included the Big Five (Emotional stability, Extraversion, Conscientiousness, Agreeableness and Openness), in addition to age and educational level.

3. Results

3.1 Preliminary analyses

Prior to the main analyses, preliminary analyses screened the data and ensured that parametric assumptions were met. First, scatterplots revealed that the relationships between the independent variables (IVs) and dependent variable (DV) were all linear thus that the assumption of linearity was met. Second, the assumption of multicollinearity was met after inspection of Pearson correlations which displayed that none of the relationships of the IVs reached the .8 threshold, as recommended by Tabachnick and Fidell (2013). Collinearity statistics of tolerance and Variance of Inflation (VIF) further suggested that the assumption was met (all tolerance and VIF values were greater than 0.2 and less than 10 respectively). Third, the assumption of independent residuals was met where the Durbin-Watson value was close to 2 (Durbin-Watson=2.145). Fourth, the assumption of homoscedasticity was interpreted as met whereby the plot of standardized residuals versus standardized predicted values displayed no observable signs of funneling. Fifth, the P-P plot for the model suggested that assumption of normality of the residuals was met. Finall\, Cook¶s Distance values were all below 1, suggesting individual cases were not unduly influencing the model.

3.2 Main analysis

A two-stage hierarchical multiple regression was conducted to investigate the effects of the predictor variables, such as the Big Five, on the outcome variable of depression severity. Age and educational level were entered at step-one, to control for potential confounding effects, and the Big Five were entered at step-two. The analysis revealed that at step-one, age and educational level did not significantly contribute to the regression model, $F(2.467)=.483$,

p=.617, and accounted for approximately 0% of the variation in depression severity (see Table 3). Introducing the personality variables rendered the model statistically significant, $F(7.462)=9.357$, $p<.001$, and accounted for approximately 12% of the variance to depression severity. In other words, age and educational were not associated with depression severity. However, about a tenth of the variability in the severity of depression was accounted for by the Big Five.

Post hoc analyses further revealed that of the personality dimensions included, Emotional stability made the largest unique contribution to the model and was inversely related with depression severity, that is, participants that scored higher on measures of Emotional stability reported less severe depression. Following Emotional stability, Extraversion was inversely correlated with depression severity, that is, participants that scored higher on measures of Extraversion reported less severe depression. Following Extraversion, Conscientiousness was further inversely related with depression severity, that is, participants that scored higher on measures of Conscientiousness reported less severe depression. Finally, neither Agreeableness nor Openness significantly contributed to the model. Taken together, more severe depression was primarily predicted by lower levels of Emotional stability, lower levels of Extraversion and lower levels of Conscientiousness.

Table 3

Summary of Descriptive Statistics, Intercorrelations and Hierarchical Multiple Regression Analysis for Variables Predicting Depression Severity

Variable	*Mean*	*SD*	*Correlation with depression severity*	Multiple Regression Weights *ü*	R^2	*R2adj*	R^2*change*
Depression severity	14.22	4.645					
Step 1					.002	-.002	.002
Age	28.28	8.393	.031	.040			
Education	5.83	1.432	-.026	-.051			
Step 2					.124	.111	.122
Emotional stability	6.28	2.848	-.259***	-.227***			
Extraversion	7.12	3.338	-.187***	-.166***			
Conscientiousness	9.07	2.971	-.180***	-.166***			
Agreeableness	9.74	2.466	-.053	.022			
Openness	9.51	2.733	-.109*	-.047			

Note. N=470; *p<.05. ** p <.01. *** p <.001.

4. Discussion

4.1 Summary and Exploration of Results

This study examined the associations between personality according to the FFM and depression severity among a sample of adults reporting depressive issues. Results revealed that personality was significantly associated with depression severity, consistent with H1. The study thus confirms the associations between personality and depression and are congruent with previous research demonstrating associations between personality according to the FFM and depressive symptoms (Hakulinen et al., 2015; Malouff et al., 2005) and depression diagnosis (Kotov et al., 2010). It must, however, be noted that personality accounted for a relatively small amount of the variation to depression severity. The previous literature has identified further factors predictive of depression severity, such as age, marital status, relationship difficulties, unemployment and lifestyle stresses (Richards, 2011; Richards et al., 2016; Richards & Salamanca-Sanabria 2014). Nevertheless, the present study highlights that personality is a factor that is of significance with regards to depression severity.

Consistent with H2, H3 and H4, Emotional stability, Extraversion and Conscientiousness were significantly associated and inversely correlated with depression severity. In other words, higher levels of Emotional stability (i.e. lower levels of Neuroticism), Extraversion (i.e. lower levels of Introversion) and Conscientiousness (i.e. lower levels of undependability) were associated with less severe depression. Moreover, neither Agreeableness nor Openness were significantly associated with depression severity, in line with H5 and H6. Such findings are congruent with the previous literature finding that lower levels of Emotional stability, Extraversion and Conscientiousness were associated depressive symptoms and depression diagnosis whereas Agreeableness and Openness were not (Halukinen et al., 2015; Kotov et al.,

2010; Malouff et al., 2005).

The fact that Agreeableness has not been found to be associated with depression severity can seem somewhat counterintuitive and surprising as previous research has shown associations between Agreeableness and facilitative emotional regulation (Ode & Robinson, 2007; Haas et al., 2007; Tobin et al., 2000). More facilitative emotional regulation would, in turn, intuitively seem like a factor that could decrease the likelihood of a depressive episode. As such, it seems possible that Agreeableness would be inversely correlated with depression severity with higher levels of Agreeableness promoting constructive emotion regulation, which would serve to alleviate depressive symptoms. However, it must be noted that the present study investigated depression severity within a sample of individuals that were already depressed. If individuals that are high in Agreeableness are able to downregulate negative affect, which is *preventative* of a depressive episode, it is possible that the depressed individuals in the present sample did not display high levels of Agreeableness in the first place. However, detailed investigation of the sample revealed relatively high levels of Agreeableness as compared to normative data (see Appendix B).

The finding that Openness is not associated with depression severity is similarly somewhat unexpected and seem conflicting with evidence demonstrating higher levels of Openness in depressed participants as compared to non-depressed ones (Wolfenstein & Trull, 1997). If depressed individuals exhibit higher levels of Openness, it seems likely that higher levels of Openness would predict more severe depression. Furthermore, the finding is not consistent with the literature demonstrating associations between Openness and positive emotional tendencies and subjective well-being (Bardi & Ryff, 2007). If higher levels of Openness predict variables that are associated with good mental health and well-being, it seems possible that Openness would predict less severe depression. Nevertheless, the present findings provide some

clarification on the matter demonstrating that Agreeableness and Openness are not associated with depression severity.

4.2 Strengths

The present study has several strengths, such as the large sample enabling high power with regards to the statistical analyses and the statistical analyses further controlled for the influence of potential confounding variables (e.g., age and gender). The main strength of the present study, however, is its originalit\; it was the first, to the author¶s knowledge, to e[plore associations between personality according to the FFM and depression severity within a sample of adults living in Finland. Previous research has largely investigated the interaction between personality and depression considering the depressive symptomatology and depression diagnosis (Hakulinen et al., 2015; Kotov et al., 2010; Malouff et al., 2005). However, the present study investigated the self-reported severity of depression which may be more representative of reality where mood problems are placed on a continuum, as opposed to according to predetermined categories, and where the subjective experience is of significance. Thereby, the study has good external validity.

4.3 Limitations and Future Directions

4.3.1 The Correlational Nature of the Results: The Stability of Personality Represent and Area of Debate and the Interaction between Personality and Psychopathology is Bidirectional

Notwithstanding aforementioned strengths, the present study also has a number of limitations, such as the correlational nature of the results, drawbacks associated with the study questionnaires and the representativeness of the sample. Due to the correlational experimental design, conclusions cannot be drawn about the causality of the associations between personality and depression severity. Whereas personality was originally considered a stable construct consistent over time (West & Graziano, 1989), emerging evidence has challenged this view and the stability of personality represent an area of debate (see e.g., Roberts & Delvecchio, 2000). For instance, it has been noted that Emotional stability scores generally increase following successful treatment of depression (Bagby, Joffe, Parker, Kelemba, & Harkness, 1995; Du et al., 2002; Haynes, 1992) rendering authors to conclude that personality traits are not stable and therefore cannot be used as indicators of vulnerability for depressive states (for reviews, see Barnett & Gotlib, 1988; Segal & Ingra, 1995). To date, however, evidence suggests that the interaction between personality and psychopathology is bidirectional (for reviews, see Klein, Kotov, & Buffard, 2011; Widiger, 2011). In this sense, an individual¶s characteristic wa\ of thinking, feeling, behaving and relating to others (i.e. personality) can serve to contribute to the development of mental disorder, just as suffering from a mental disorder itself can contribute to changes to personality.

Much of the literature on the interaction between personality and psychopathology is concerned with the contribution of personality to the aetiology of psychopathology (for reviews, see Krueger & Tackett, 2003; Widiger, Verheul, & van den Brink, 1999), and is referred to as

a vulnerability model of the interaction between personality and psychopathology (Widiger, 2011). However, research further demonstrates alterations in personality as a result of having suffered from a mental disorder (Costa, Bagby, Herbst, & McCrae, 2005), referred to as a scar model of the interaction between personality and psychopathology (Widiger, 2011). Many of the previous studies has treated the vulnerability and the scar model as opposing. However, authors have recentl\ proposed a dimensional conceptuali]ation where ³<<these two approaches ma\ ultimatel\ work in concert to provide the best e[planation´ (Tackett, 2006, p. 593). Highlighting the bidirectional nature of the interaction of personality and psychopathology in support of both models, the meta-analysis cited previously by Hakulinen et al., (2015) found that personality was prospectively associated with the development of depressive symptoms, but also that depressive symptoms were associated with changes to personality. Specifically, Emotional stability, Extraversion and Conscientiousness predicted the development of depressive symptoms, and depressive symptoms, in turn, predicted changes to Emotional stability, Extraversion and Conscientiousness, Agreeableness and Openness.

Of focus for the present study was the contribution of personality to the aetiology of depression and specifically to the severity of depression. However, due to the correlational nature of the results, it remains unknown as to whether personality accounted for the variance to the severity of depression or whether personality represented a function of depression severity. Whereas the previous literature notes the bidirectional interaction between personality and psychopathology (Hakulinen et al., 2015; Klein et al, 2011; Widiger, 2011), further disentangling the pathoplastic relationship represent an area of future investigation. Posing the question of whether the vulnerability or the scar model provide the better explanation of the relationship between personality and psychopathology (or whether they are equally good explanations) will clarify the nature of the relationship. A longitudinal experimental design

comparing premorbid personality with personality during the course of psychopathology as well as following treatment in the same sample may provide information regarding the causality of the interaction. However, even when premorbid longitudinal data are available, information of a person¶s affective histor\ would further be required to consider eventual ³scars´ prior to a depressive episode (Ormel, Oldhinkel, & Vollebergh, 2004; Schea et al., 1996).

4.3.2 Drawbacks Associated with Study Questionnaires: Limitations Associated with Self-Report Data and the Brief Assessment of the Big Five

Further limitations concern the questionnaires used for data collection. The Big Five and depression severity assessed via TIPI (Gosling et al., 2003) and QIDS-SR_{16} (Rush et al., 2003) respectively entail data based on self-report. Self-report data, however, may be limited with regards to introspective validity. In this sense, ratings that involve subjective judgement may be prone to memory errors and desirability biases. Whilst it might be difficult to make completely objective assessment of personality and depression severity, future research may strengthen the validity of assessment and ensure interrater reliability via other persons ratings. For instance, future research ma\ assess the Big Five via other observer ratings, which are known to be ³<< convergent but not wholly redundant within self-reports´ (McCrae et al., 2005, p. 548), such as the *Revised NEO Personality Inventory* (NEO-PI-R) (observer rating) (Costa & McCrae, 1992). With regards to depression severity, assessment can be made via the clinical rating version, such as the QIDS-C_{16} (Rush et al., 2003). Nonetheless, despite the limitations associated with study questionnaires on the basis of self-report, the choice of aforementioned scales is justified with regards to the overarching goals of study which sought to examine the subjective experience of depressive issues ensuring external validity.

Further limitations entail the brief instrument used for assessment of the Big Five (i.e., TIPI; Gosling et al., 2003). Whereas the QIDS-SR_{16} (Rush et al., 2003) used to assess depression severit\ has been well validated with regards to ps\chometric properties ³<< which supports the usefulness of this brief rating of depressive symptom severity in both clinical and research settings´ (Rush et al., 2003, p. 573), the TIPI scale ma\ be somewhat limited. Despite the value of TIPI, short measures are subject to drawbacks such as limited psychometric properties and the inability to measure narrower facets of multi-faceted constructs. Whereas the TIPI measure reaches adequate levels of psychometric properties with regards to convergent and discriminant validity, test-retest reliability and external correlations, the psychometric properties are ³<<somewhat inferior to standard Big Five instruments´ (Gosling et al., 2003, p. 523), such as the NEO-PI-R (Costa & McCrae, 1992), suggesting diminished concurrent validity.

The TIPI scale allowed for investigation of the broader personality dimensions of the FFM but did not consider narrower facet-level constructs (see Table 1). It has been suggested that the narrower constructs rather than broader ones are better predictors of specific criteria (Paunonen & Ashton, 2001). Whilst both broad factors and the narrower facets predict a number of behavioural criteria, the narrower facets are able to ³<< substantiall\ increase the ma[imum prediction as achieved b\ the broad factors´ (Puanonen & Ashton, 2001, p. 524). It ma\ be possible that the seemingly counterintuitive findings concerning the factors of Agreeableness and Openness outlined previously can be accounted for considering the narrower facets, given that these are better predictors of specific criteria as compared to the broad factors. In fact, in addition to finding higher scores in the broad factor of Openness in depressed participants, Wolfenstein and Trull (1997) also found that depressed participants specifically scored higher on Openness facets of Aesthetics, Feelings and Fantasy. Moreover, they found that Aesthetics was directly related to depression scores whilst Fantasy was implicated as a moderator of the

relation between Extraversion and depression. As such, it appears that the narrower level facets are independently and differentially related to specific criteria. Future research may utilise measures of the Big Five that takes into consideration the narrower facet constructs, such as the 240-item NEO-PI-R (Costa & McCrae, 1992). This may provide a more precise idea of how personality relate to criteria and possibly enable insights with regards to seemingly counterintuitive findings.

It is, however, worth noting that the present study called for a briefer measure of the Big Five and similarly to that of TIPI, other short measures of the Big Five do not provide facet scores either (e.g., the 15 item Big Five Inventory [BFI]; Gerlitz & Schupp, 2005). For the specificities of the present study, the choice of shorter measures was justified on the basis to eliminate item redundancy reducing fatigue, frustration and boredom associated with longer scales, which may be particularly apparent within a sample of depressed individuals characterised by diminished abilities of concentration. Nevertheless, the results of the present study are congruent with results from meta-analyses (e.g., Hakulinen et al., 2015; Malouff et al., 2005; Kotov et al., 2010) where investigations employed a diverse range of measures of the FFM including longer scales considering the narrower facet constructs, such as versions of the International Personality Item Pool (IPIP; Goldberg, 1992), versions of the BFI (John, Donahue, & Kentle, 1991) and the NEO-PI-R (Costa & McCrae, 1992). Given that the present results are in line with the previous findings, this lends indirect support for the use of the briefer TIPI scale which appears to yield similar results to that of studies utilising more extensive measures.

4.3.3 The Representativeness of the Sample and Possibilities for Generalisation

A final limitation that must be mentioned is that of possibilities of generalisation of the results due to representativeness of the sample. First, the representativeness of the sample is complicated due to the potential effect of comorbidity, referred to as the presence of one or more additional conditions co-occurring that a primary condition (Davey, 2015). Comorbidity is common and statistics reveal that the majority of individuals diagnosed with a disorder has a history of more than one disorder (Kessler et al., 1994). MDD often co-occur with Generalised Anxiety Disorder (GAD), with more than half of individuals with MDD also meeting the criteria for GAD (Watson, 2005) and MDD also frequently occur with disorders such as substance abuse, eating disorders and personality disorder (Mineka, Watson, & Clark, 1998; Widiger & Clark, 2000). It is thus possible that some participants reporting issues with depression also experienced issues with regards to other conditions. However, as the study did not control for such influences, it remains unknown as to whether the presence of comorbid conditions had confounding effects on the results. Additionally, the study did not screen nor control for manic symptoms and thus it is possible that some of the participants suffered with a bipolar condition rather than unipolar depression. However, the presence of bipolar conditions remains unknown. Future research may utilise comorbidity scores in an attempt to control and limit potential confounding effects due to comorbidity and screen for manic episodes.

Second, participants were recruited on the basis of reporting an MDD diagnosis, the experience of current or former depression and/or taking antidepressants. It is possible that individuals who participated in the study on the basis of the experience of former depression did not meet depressive criteria at the time of data collection. Moreover, it is possible that some individuals who participated in the study on the basis of taking antidepressants took them for reasons other than due to issues with depression. Antidepressants are further prescribed for a

wider range of conditions, such as anxiety disorders, chronic pain conditions as well as to manage addictions (Ottosson, 2018). Detailed examination of the sample, however, reveal that only 20 participants did not meet the criteria for depression during the time of data collection whilst the remaining 450 did meet criteria, and taken as a whole, the sample revealed moderately severe depression (see Table 3). Thereby, the sample may be considered representative despite potential confounding effects of comorbidity and a failure to screen for manic episodes as well as the broad definition of depressed individuals during recruitment of participants. Nonetheless, future research may ensure the representativeness of a depressive sample and recruit participants on the basis of a current depression diagnosis only.

4.4 Theoretical and Clinical Implications

The present study has made contributions to the understanding of the role of personality with depression and display that personality contribute to variations in depression severity. The findings have theoretical implications suggesting that whereas FFM as a whole is associated with depression severity, detailed investigation suggests that Emotional stability, Extraversion and Conscientiousness are of significance whilst Agreeableness and Openness are not of relevance with regards to the severity of depression. The outcomes are further of clinical relevance suggesting that involvement of the Big Five personality assessment is of value in the treatment of depressive disorders. Management and treatment of depression may benefit from encompassing personality from the start in order to determine and tailor treatment. The potential value of personality assessment with clinical practice has been recognized already with a number of previous studies on personality and depression linking their results clinical practice, such as in the identification of at-risk individuals (Kovacs & Lopez-Duran, 2010), to tailor

treatment (Zinbarg, Uliaszek, & Adler, 2008) and in predicting treatment response (Quilty et al., 2008).

4.5 Conclusion

To conclude, depression has been extensively researched and is presented with a range of treatment alternatives and evidence suggests that various options for treatment are efficacious (Barth et al., 2013; Cipriani et al., 2018; Cuijpers et al., 2011; Linde et al., 2013). Despite the extensive research undertaken and range of alternatives of treatment, depressive disorders are on the increase (WHO, 2017). Such statistics indicate that whereas current treatment appear successful short-term, depression is persistent and often long-lasting. Explanations for the persistence and rise in depressive disorders are multifaceted and may in part attributable to a reductionist view of depression as mostly a biochemical imbalance and to the rising number of individuals using antidepressants over the long term. Meanwhile, depression is a multifactorial biopsychosocial phenomenon and a heterogenous syndrome which can be viewed in terms of psychologically adaptive responses in cases of adverse life events (Rantala et al., 2018). A turn of focus onto psychological features of depression thus seem well-needed. The study of personality represents an area of interest and research demonstrate associations between personality according to the FFM and depression (Hakulinen et al., 2015; Kotov et al., 2010; Malouff et al., 2005). Previous research demonstrates associations between the Big Five and depression symptoms and diagnosis (Hakulinen et al., 2015; Kotov et al., 2010: Malouff et al., 2005). The present study corroborates such findings and extend the previous literature demonstrating associations between the Big Five and depression severity. Emotional stability, Extraversion and Conscientiousness were associated and inversely correlated with depression severity. In other words, more severe depression was predicted by lower levels of Emotional

stability, Extraversion and Conscientiousness. Neither Agreeableness nor Openness were associated with depression severity. Findings must be interpreted in light of limitations such as the correlational nature of the results, drawbacks associated with study questionnaires and the representativeness of the sample. With that said, the present study is the first to date to demonstrate associations between the Big Five and depression severity in Finnish adults. The results have theoretical implications suggesting that Emotional stability, Extraversion and Conscientiousness are associated with depression severity whereas Agreeableness and Openness are not. Finally, findings are of clinical relevance suggesting that involvement of the Big Five personality assessment in the treatment of depressive disorders are of value.

Swedish Summary

Associationerna mellan personlighet enligt femfaktorteorin och depressionens svårighetsgrad

Introduktion

Depression utgör ett framträdande problem och representerar en av de ledande orsakerna till funktionsnedsättning globalt (Vos m.fl., 2015). Trots omfattande forskning och många alternativ för behandling ökar depression, och framförallt i västerländska länder (World Health Organisation [WHO], 2017). Behandlingsalternativ såsom psykoterapi, psykofarmaka, elbehandling och ytterligare interventioner har utvecklats för depression. Riktlinjer för behandling varierar något mellan länder, och i Finland rekommenderas psykoterapi eller läkemedelsbehandling för mild depression, kombinerad behandling för måttlig och svår depression och i svåra fall om tidigare behandling inte haft effekt rekommenderas elbehandling (Duodecim, 2020). Litteraturen föreslår att behandling via olika former av psykoterapi är effektiv för depressiva tillstånd (Barth m.fl., 2013; Cuijpers, Anderson, Donker, & van Straten, 2011; Linde m.fl., 2015) och detsamma gäller för behandling via psykofarmaka (Cipriani m.fl., 2018).

Depression är ett multifaktoriellt biopsykosocialt fenomen men mera uppmärksamhet har fästs vid de biologiska aspekterna av depression efter introduktionen av farmakologisk behandling via selektiva serotoninåterupptagshämmare (SSRI) mot slutet av 80-talet. Det bör dock noteras att antidepressiva läkemedel utvecklades som behandling för akuta depressiva episoder, men idag rekommenderas långtidsbehandling (se Findling, Robb, & Bose, 2013). Det bör vidare uppmärksammas att litteraturen som påvisar den gynnsamma effekten av antidepressiva läkemedel

anses vinklad. Det är nämligen så att forskning som tyder på att antidepressiva läkemedel har effekt oftare blir publicerad jämfört med evidens som påvisar motsatsen (Turner, Matthewsm Linardatosm Tell, & Rosenthal, 2008). Trots att verkan av antidepressiva läkemedel är konstaterad i placebokontrollerade studier (Cipriani et al. 2018), finns det inte stark evidens som förespråkar att denna har fortsatt gynnsam effekt på lång sikt (se Pigott, Leventhal, Alter, & Boren, 2010; Storosum, van Zweiten, Vermheulenm Woglfarth, & van der Brink, 2001).

Metaanalysen citerad ovan av Cipriani och kollegor (2018) jämförde effekten av diverse antidepressiva läkemedel men jämförde däremot inte farmakologisk behandling med andra behandlingsalternativ, såsom psykologiska behandlingsmetoder. Cipriani m.fl. (2018) utvärderade inte heller effekten av långtidsbehandling via antidepressiva läkemedel och avvägde inte inverkan av bieffekter. I en ytterligare metaanalys och systematisk undersökning fann Jakobsen med kollegor (2017) att SSRI reducerade depressiva symtom, och att effektstorleken för denna var liten, i linje med Cipriani m.fl. (2018). Jakobsen m.fl. (2017) beaktade även inverkan av bieffekter associerade med SSRI och konkluderade slutligen att den gynnsamma effekten av SSRI inte uppväger för potentiella skadliga effekter.

Litteraturen föreslår vidare att antidepressiva läkemedel bidrar till ett kroniskt förlopp, både via farmakologiska (Fava & Offidani, 2011) och psykologiska mekanismer (Kemp, Lickel, & Deacon, 2014). Det har föreslagits att långtida bruk av antidepressiva läkemedel resulterar i en biokemisk känslighet för depressivitet vilket ökar risken för framtida depression (Fava & Offidani, 2011). Medan antidepressiva läkemedel har god verkan vid akuta depressiva episoder är dessa möjligen inte lämpliga vid återkommande depressioner. Ytterligare undersökning föreslår att tillskrivandet av depressivitet utifrån en biokemisk obalans resulterar i att individer beaktar symtom som kroniska och omedgörliga (Kemp m.fl., 2014). Vidare föreslås det att ett sådant

tillskrivande resulterar i ett synsätt där läkemedelsbehandling anses som mera effektiv och tillförlitlig än psykologisk behandlingsmetod. Litteraturen föreslår dock att verkan av antidepressiva läkemedel minskar med tiden, medan effekten av psykologisk behandling tilltar (McPherson & Hengartner, 2019).

Statistik understryker att depression ofta är återkommande då det övervägande antalet av individer som återhämtar sig efter en depressiv episod rapporterar flertalet depressiva episoder under en livstid (American Psychological Association [APA], 2000). Det är noterbart att riktlinjer rekommenderar långtidsbehandling via antidepressiva läkemedel, och fortsatta bruk till och med då depressiva symtom avtagit, för att minimera risken för återfall (APA, 2019; Duodecim, 2020; NICE, 2018). Forskare som undersökt behandling för återkommande depressioner föreslår att psykologisk behandling är överlägsen fortsatta bruk av psykofarmaka (Biesheuvel-Liliefeld m.fl., 2014). Vidare föreslår litteraturen att fortsatta bruk av antidepressiva läkemedel möjligen försvårar det framtida förloppet. Faktum är att återkommande sjukhusvård är vanligare hos patienter som fortsätter behandling via medicinering jämfört med matchade kontrolldeltagare (Hengartner, Angst, & Rössler, 2019). Detta ifrågasätter effekten av antidepressiva läkemedel på lång sikt.

Trots omfattande undersökning och diverse behandlingsalternativ är depression ett framträdande problem. Förklaringen är mångfacetterad, men kan delvis tillskrivas ett reduktionistiskt synsätt där den biologiska aspekten (dvs. en biokemisk obalans) av depression mestadels uppmärksammats och behandling sker via antidepressiva läkemedel ordinerade över ett längre tidsspann. Medan den gynnsamma effekten av antidepressanter påvisats i flertalet studier (Bech, 2010; Cipriani m.fl., 2018; Jakobsen m.fl., 2017; Pigott m.fl., 2010; Storosum m.fl., 2001; Turner m.fl., 2008), antyder forskning som beaktar förloppet på längre sikt att effekten av medicinering avtar. Detta sker via skadliga effekter förbundna med antidepressiva läkemedel och

dess verkan över tid, såsom negativa bieffekter (Jakobsen m.fl., 2017) och tilltagandet av ett kroniskt förlopp via farmakologiska (Fava & Offidani, 2011) och psykologiska mekanismer (Kemp m.fl., 2014). Statistik understryker prevalensen av återkommande depressioner (APA, 2000) och påvisar att psykologisk behandling för denna är överlägsen fortsatta bruk av psykofarmaka (Biesheuvel-Liliefeld m.fl., 2014). Då den biologiska aspekten av depression överbetonas finns det stort behov av vetenskapligt fokus vad gäller psykosociala perspektiv.

Traditionell psykologisk teori beskriver depression som en enhetlig sjukdom. Framsteg inom evolutionär psykologi noterar dock att depression är ett heterogent syndrom som kan kategoriseras enligt flertalet depressiva subtyper (Rantala, Luoto, Krams, & Karlsson, 2018). För närvarande definieras två depressiva tillstånd: egentlig depression och dystymi. Egentlig depression och dystymi diagnostiseras baserat på mängden uppfyllda symtom under en viss tidsperiod, i linje med diagnostiska manualer, såsom *International Statistical Classification of Diseases and Related Health Problems* (11th ed.; ICD-11; WHO, 2019) och *Diagnostic and Statistical Manual of Mental Disorders* (5th ed.; DSM-5; APA, 2013). Dessa manualer är baserade på antagandet att depression är en enhetlig sjukdom varefter olika kombinationer av depressiva symtom indicerar underliggande sjukdom. Litteraturen påvisar dock att depression är ett heterogent syndrom utbrett bortom egentlig depression och dystymi (Rantala m.fl., 2018).

Det har föreslagits att depressiva tillstånd kan uppdelas i flertalet subtyper, såsom depression inducerad av infektion, kronisk stress, ensamhet, traumatisk upplevelse, hierarkisk konflikt, sorg, romantiskt avvisande, barnafödande, årstiderna, kemikalier, somatisk sjukdom och svält (Rantala m.fl., 2018). Dessa beskrivs som nedärvda adaptiva reaktioner som följer på negativa livshändelser och kan resultera i ett maladaptivt och patologiskt depressivt tillstånd. Individer som lider av diverse depressiva subtyper varierar vad gäller symtombilden och ger olika gensvar på behandling.

(Rantala m.fl., 2018). Följaktligen anser Rantala m.fl., (2018) att bedömning av den depressiva subtypen och adaptiva komponenter bör beaktas vid behandling. Rantala m.fl., (2018) noterar vidare att om en depressiv episod är en adaptiv respons kan farmakologisk behandling vara ogynnsam. I linje med en ståndpunkt där depression är ett multifaktoriellt biopsykosocialt fenomen och ett heterogent syndrom finns det behov för att beakta psykosociala aspekter av depression. I fokus för denna studie är interaktionen mellan personlighet och psykopatologi, såsom depression.

Personlighet definieras som den dynamiska process inom en individ som bestämmer en persons beteende och tankar (Allport, 1961). Diverse psykologiska teorier förklarar personlighet och femfaktorterorin är den mest framträdande av dessa. Femfaktorteorin förklarar personlighet enligt fem personlighetsdimensioner: emotionell stabilitet, extraversion, samvetsgrannhet, vänlighet och öppenhet (Costa & McCrae, 1992). Femfaktorteorin kan anses valid och reliabel eftersom de fem faktorerna påvisats i flertalet länder och världsdelar (McCrae, Terracciano, & 78 Members of the Personality Profiles of Cultures Project, 2005), vilket föreslår att femfaktorteorin är universiell. Det bör dock nämnas att femfaktorterorin har kritiserats (se Block, 1995, 2001, 2010) då denna inte är baserad på underliggande teori och är därmed ateoretisk. Detta betyder dock inte att femfaktorteorin inte är valid, utan enbart att dess underliggande mekanismer ännu är okända. Femfaktorteorin har också försvarats (se Costa & McCrae, 1995) och används trots begräsningar tack vare den breda tillämpbarheten.

Omfattade forskning påvisar samband mellan personlighetsdimensionerna enligt femfaktorteorin och psykopatologiska tillstånd (Malouff, Thorsteinsson, & Schutte, 2005), såsom depression (Halukinen m.fl., 2015; Kotov, Gamez, Schmidt, & Watson, 2010). Kopplingen mellan emotionell stabilitet och depression, extraversion och depression samt samvetsgrannhet och depression har påvisats i flertalet studier. Följaktligen verkar sådana samband robusta. Sambanden

mellan å ena sidan vänlighet och å andra sidan öppenhet och depression har inte undersökts i samma utsträckning. Samband mellan vänlighet och godartad emotionell reglering har emellertid påvisats (Haas, Omura, Constable, & Canli, 2007; Tobin, Graziano, Vanman, & Taasinary, 2000; Ode & Robinson, 2007). Då vänlighet är kopplad med godartad emotionell reglering är det möjligt att denna fungerar som en skyddande faktor och förhindrar tilltagandet av depressiva symtom som kan följa på negativa livshändelser. Det direkta sambandet mellan vänlighet och depression är dock outforskat. Litteraturen vad gäller kopplingen mellan öppenhet och depression är knapp och forskning som publicerats är inte konklusiv. Äldre undersökning påvisar samband mellan öppenhet och depressiva symtom (Wolfenstein & Trull, 1997), medan mera nutida forskning föreslår samband mellan öppenhet och positiva emotionella tendenser (Bardi & Ryff, 2007). I linje med litteraturen ovan påvisar metaanalyser samband mellan emotionell stabilitet och depression, extraversion och depression samt samvetsgrannhet och depression, medan vänlighet och öppenhet inte samvarierade med depression (Halukinen m.fl., 2015; Kotov m.fl., 2010; Malouff m.fl., 2005).

Kort sagt utgör depression ett framträdande problem. En förklaring till prevalensen för depressiva tillstånd kan möjligen delvis förklaras utifrån ett reduktionistiskt beaktande av depression där den biologiska aspekten av depression överbetonas. Istället utgör depression ett multifaktoriellt biopsykosocialt fenomen. Framsteg inom evolutionär psykologi noterar att depression är ett heterogent syndrom och föreslår att en depressiv episod kan beaktas som en nedärvd psykologiskt adaptiv reaktion som följer på negativa livshändelser. Det finns behov för beaktande av depression enligt psykosociala perspektiv och av fokus för denna studien är interaktionen mellan personlighet och depression. Utvärdering av personlighet medför möjligheter att redogöra för individuella skillnader. Samband mellan emotionell stabilitet och depression, extraversion och depression samt samvetsgrannhet och depression är väletablerade (Halukinen m.fl., 2015; Malouff m.fl., 2005; Kotov m.fl., 2010), medan samband mellan vänlighet och

depression samt öppenhet och depression är mindre utforskad. Avsikten med studien är att utvidga litteraturen vad gäller relevansen av personlighetsdomänerna enligt femfaktorteorin för depression. Mera specifikt undersöks sambanden mellan de fem personlighetsdomänerna enligt femfaktorteorin och depressionens svårighetsgrad. Tidigare undersökningar har fokuserat på depressiva symtom och diagnostisering. Detta fokus är nödvändigtvis inte representativt för verkligheten där den subjektiva upplevelsen är av relevans. Av denna anledning fokuserar studien på depressionens svårighetsgrad som rapporterad av deprimerade individer. I linje med tidigare metaanalyser som påvisar samband mellan personlighet och depressiva symtom och diagnos (Hakulinen m. fl. 2015; Kotov m.fl., 2010) är hypotesen att (H1) personlighet även har ett samband med depressionens svårighetsgrad. Studien har ytterligare prediktioner, såsom att (H2) emotionell stabilitet, (H3) extraversion och (H4) samvetsgrannhet är sammankopplade med depressionens svårighetsgrad. Sist framförs hypotesen att (H5) vänlighet och (H6) öppenhet inte har kopplingar till depressionens svårighetsgrad.

Metod

Studien är en del av det omfattande projektet Depression Treatment and Cognitive Function (DETRECO) projektet som koordineras av Åbo Akademi, med det huvudsakliga målet att undersöka antidepressiv behandling och kognitiv förmåga. Studien beviljades tillstånd av den etiska nämnden vid Åbo Akademi. Data samlades in via en nätbaserad undersökningsplattform innefattande frågeformulär och kognitiva test mellan den 15e december 2015 och den 1 februari 2017. Endast frågeformulären användes för studien, såsom skattningsformulär avseende depressionens svårighetsgrad och personlighet. Depressionens svårighetsgrad skattades med hjälp av *Quick Inventory of Depressive Symptomatology* (QIDS-SR_{16}) (Rush m.fl., 2003) och personlighet med hjälp

av *Ten-item Personality Measure* (TIPI) (Gosling, Rentfrow, & Swann, 2003). Samplet rekryterades via bekvämlighetsurval där vuxna individer diagnostiserade med egentlig depression, individer som rapporterade upplevelsen av tidigare eller nuvarande depression och/eller individer som rapporterade att de brukade antidepressiva läkemedel var inbjudna att delta i studien. Det ursprungliga samplet bestod av 522 deltagare varefter 9 exkluderades då de inte mötte ålderskriterier och 42 deltagare togs vidare bort då de inte slutfört samtliga frågeformulär. Det slutgiltiga samplet som användes för den statistiska analysen innefattande följaktligen 470 deltagare. Den statistiska analysen genomfördes med programmet IBM SPSS Statistics 24.0 för Windows (IBM Corp., 2016). Då parametriska antaganden var säkerställda genomfördes en hierarkisk multipel regressionsanalys för att undersöka sambanden mellan personlighetsdimensionerna enligt femfaktorteorin och depressionens svårighetsgrad. Steg ett i regressionsanalysen inkluderade demografiska variabler för att kontrollera för potentiella ovidkommande effekter av dessa. Steg två innefattade demografiska variabler samt personlighetsvariabler.

Resultat

Hierarkisk multipel regressionsanalys visade att ålder och utbildning inte bidrog till regressionsmodellen, $F(2.467)=.483$, $p=.617$, och stod för ca 0% av variationen av depressionens svårighetsgrad (se Tabell 3). Däremot visade sig analysen signifikant då personlighetsvariablerna introducerades, $F(7.462)=9.357$, $p<.001$, som stod för ca 12% av variationen i depressionens svårighetsgrad. Analysen visade att emotionell stabilitet bidrog till den största variansen i depressionens svårighetsgrad, följt av extraversion och samvetsgrannhet. Emotionell stabilitet, extraversion och samvetsgrannhet var negativt korrelerade med depressionens svårighetsgrad. Individer som påvisade högre nivåer av emotionell stabilitet,

extraversion och samvetsgrannhet rapporterade således mindre svår depression. Varken vänlighet eller öppenhet associerades med depressionens svårighetsgrad.

Diskussion

I studien undersöktes samband mellan personlighet enligt femfaktorteorin och depressionens svårighetsgrad bland vuxna deprimerade individer. I linje med H1 påvisade resultaten ett signifikant samband mellan personlighet och depressionens svårighetsgrad. Studien bekräftar därmed det tidigare påvisade sambandet mellan personlighet och förekomsten av en depressionsdiagnos samt sambandet mellan personlighet och depressiva symtom (Hakulinen m.fl., 2015; Kotov m.fl., 2010; Malouff m.fl., 2005). Därtill utökar resultaten litteraturen och föreslår att personlighet även är av relevans för depressionens svårighetsgrad.

Emotionell stabilitet medförde den största delen av den unika variansen i depressionens svårighetsgrad, följt av extraversion och samvetsgrannhet. Dessa var negativt korrelerade med depressionens svårighetsgrad, i linje med H2, H3 och H4. Med andra ord predicerade högre nivåer av emotionell stabilitet, extraversion och samvetsgrannhet mindre svår depression. Varken vänlighet eller öppenhet var associerade med depressionens svårighetsgrad, i linje med H5 och H6. Därmed bekräftar resultaten den tidigare litteraturen som konstaterar att emotionell stabilitet, extraversion och samvetsgrannhet är kopplade med depressiva tillstånd, men inte vänlighet och öppenhet (Hakulinen m.fl., 2015; Kotov m.fl., 2010; Malouff m.fl., 2005).

Att vänlighet inte är kopplad med depressionens svårighetsgrad kan verka tämligen kontraintuitivt då litteraturen tidigare påpekat samband mellan vänlighet och godartad

känsloreglering (Ode & Robinson, 2007; Haas m.fl., 2007; Tobin m.fl., 2000). Man skulle förvänta sig att godartad känsloreglering därmed skulle minska risken för en depressiv episod och vara negativt korrelerad med depressionens svårighetsgrad. Det bör dock nämnas att studien undersökte depressionens svårighetsgrad hos individer som redan rapporterade depressiva symtom. Om individer som demonstrerar höga nivåer av vänlighet uppvisar godartad känsloreglering vilket förhindrar en depressiv episod är det möjligt att de deprimerade individerna som deltog i studien inte påvisade höga nivåer av vänlighet till att börja med.

Att öppenhet inte är kopplad med depressionens svårighetsgrad är inte i linje med den tidigare litteraturen som föreslår att deprimerade individer påvisar högre nivåer av öppenhet (Wolfenstein & Trull, 1997). Därmed skulle man förvänta sig att individer som påvisade högre nivåer av öppenhet skulle uppvisa svårare depression. Detta är vidare inte i linje med litteraturen som påvisar ett samband mellan öppenhet och positiva emotionella tendenser och subjektivt välmående (Bardi & Ryff, 2007). Om öppenhet predicerar subjektivt välmående skulle man förvänta sig att öppenhet skulle vara associerad med mindre svår depression. Trots dessa tämligen kontraintuitiva resultat klargör studien för rollen av vänlighet och öppenhet vid depression och föreslår att dessa inte kopplade med depressionens svårighetsgrad.

Studien har flertalet styrkor och är den första som undersökt samband mellan personlighet enligt femfaktorteorin och depressionens svårighetsgrad i ett finskt sampel. Medan den tidigare litteraturen beaktat variabler såsom depressiva symtom och diagnostik (Hakulinen m.fl., 2015; Kotov m.fl., 2010; Malouff m.fl., 2005) undersökte studien den självrapporterade depressiva svårighetsgraden. Denna är möjligen mera representativ för verkligheten där den subjektiva upplevelsen är av signifikans. Följaktligen har den föreliggande studien god extern validitet.

Trots styrkor har studien även begräsningar då slutsatser inte kan fastställas vad gäller det kausala sambandet mellan personlighet och depression. Litteraturen föreslår att interaktionen mellan personlighet och psykopatologi är tudelad: personlighet kan medföra en sårbarhet för psykopatologi och psykopatologi kan medföra förändringar i personligheten (Klein, Kotov, & Buffard, 2011; Widiger, 2011). Studien påvisar samband mellan personlighet och depressionens svårighetsgrad, men det återstår oklart om personlighet medförde variationer i depressionens svårighetsgrad, eller om depressionens svårighetsgrad medförde variationer i personligheten. Forskning som undersöker det kausala sambandet mellan personlighet och psykopatologi i en experimentell forskningsdesign utgör ett område för framtida undersökning.

Vidare begränsningar beträffar frågeformulären som användes för datainsamlingen. Både TIPI (Gosling m.fl., 2003) och QIDS-SR_{16} (Rush m.fl., 2003) innefattar självskattning och tillförlitligheten av denna kan ifrågasättas. Självrapporterade data är begränsad då denna förlitar sig på minnet och vad gäller social önskvärdhet. Medan det kan vara svårt att mäta personlighet mera objektivt kan tillförlitligheten av en självskattning förbättras via att även utvärdera personlighet via andra personers skattning av denna, och därmed förbättra interbedömarreliabilitet. Femfaktorteorin kan mätas med hjälp av *Revised NEO Personality Inventory* (NEO-PI-R) (observer rating) (Costa & McCrae, 1992) och depressionens svårighetsgrad med hjälp av *Quick Inventory of Depressive Symptomatology* (Clinician-Rated) (QIDS-C_{16}) (Rush m.fl., 2003).

Ytterligare begränsningar gäller det kortfattade frågeformulär vilket användes för att mäta de fem personlighetsdimensionerna: TIPI (Gosling et al., 2003). TIPI (Gosling et al., 2003) har något sämre psykometriska egenskaper jämfört med mera omfattande formulär som mäter femfaktorteorin (Gosling m.fl., 2003), såsom NEO-PI-R (Costa & McCrae, 1992). TIPI mätte vidare endast de breda personlighetdimensionerna, men beaktande inte de snävare koncepten (se

Tabell 1) och litteraturen föreslår att de snävare koncepten bättre predicerar beteende än de bredare dimensionerna (Paunonen & Ashton, 2001). Det är därmed möjligt att de kontraintuitiva resultaten gällande vänlighet och öppenhet kan förklaras utifrån de snävare koncepten. Framtida undersökning kan använda formulär med bättre psykometriska egenskaper och formulär som även beaktar de snävare koncepten av de bredare dimensionerna, såsom NEO-PI-R (Costa & McCrae, 1992).

Till sist är studien vidare begränsad vad gäller möjligheter för generalisering då studien inte kontrollerade för den potentiellt ovidkommande effekten förknippad med komorbiditet, vilket är vanligt förekommande (Kessler m.fl., 1994). Studien kontrollerade inte heller för möjligen förekommande maniska episoder och det är därmed möjligt att somliga deltagare led av bipolär sjukdom snarare än egentlig depression. Samplet inkluderade vidare individer med en depressionsdiagnos, individer som rapporterade tidigare eller nuvarande depression och/eller individer som nyttjade antidepressiva läkemedel. Det är dock mjöligt att individer som deltog i studien enligt en tidigare depressionsdiagnos inte är representativa för den depressiva populationen om dessa inte erfor depressiva svårigheter under tiden för datainsamlingen. Det är även möjligt att individer som nyttjade antidepressiva läkemedel brukade dessa för annan problematik då antidepressanter även ordineras för andra tillstånd, såsom ångestsyndrom, kronisk smärta och beroendeproblematik (Ottosson, 2018). Det kan dock noteras att endast 20 deltagare inte mötte kriterierna för depression medan de återstående 450 deltagarna mötte kriterierna. I sin helhet påvisade samplet depression som var av måttlig svårighetsgrad (se Tabell 3) och därmed kan samplet anses representativt för den depressiva populationen. Framtida undersökning kan endera säkerställa ett mera representativt sampel och rekrytera deltagare med en rådande depressionsdiagnos och kontrollera för komorbiditet och maniska episoder.

Studien har implikationer då den föreslår att personlighet enligt femfaktorteorin är av relevans för depressionens svårighetsgrad. Resultaten har teoretiska implikationer då de föreslår att emotionell stabilitet, extraversion och samvetsgrannhet är kopplade med depressionens svårighetsgrad, men inte vänlighet och öppenhet. Resultaten har kliniska implikationer och föreslår att utvärdering av personlighetsdomänerna enligt femfaktorteorin kan vara av värde för bedömning och behandling.

Avslutningsvis utgör depression ett framträdande problem. Trots omfattande undersökning och diverse behandlingsalternativ visar statistik att depression ökar. Ökningen kan möjligen delvis redogöras utifrån ett reduktionistiskt beaktande av depression där den biologiska aspekten överbetonas. Följaktligen beskrivs depression som mestadels förorsakad av en biokemisk obalans och härav följer att psykofarmaka ordineras över längre tidsspann. Depression är dock ett multifaktoriellt biopsykosocialt fenomen och det finns behov för vetenskapligt fokus vad gäller psykosociala perspektiv. Utvärdering av personlighet erbjuder en psykologisk förklaring som redogör för individuella skillnader. Denna studie föreslår att personlighet enligt femfaktorteorin samvarierar med depressionens svårighetsgrad. Resultaten uppvisar negativa samband mellan emotionell stabilitet och depressionens svårighetsgrad, extraversion och depressionens svårighetsgrad samt samvetsgrannhet och depressionens svårighetsgrad, medan vänlighet och öppenhet inte samvarierade med denna. Resultaten är i linje med den tidigare litteraturen som föreslår likartade samband mellan de fem personlighetsdomänerna och depressionsdiagnos samt depressiva symtom (Hakulinen m.fl., 2018; Kotov m.fl., 2010; Malouff m.fl., 2005). Studien utvidgar litteraturen och är den första som påvisar samband mellan personlighet enligt femfaktorteorin och depressionens svårighetsgrad i ett finskt sampel. Resultaten är dock begränsade då de inte kan redogöra för det kausala sambandet mellan personlighet och depressionens svårighetsgrad. Ytterligare begränsningar beträffar frågeformulären

som användes för datainsamlingen och det kan ifrågasättas huruvida samplet är representativt för den depressiva populationen. Resultaten har teoretiska implikationer och är av klinisk relevans.

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Appendix A: Quick loventory of Depressive Symptomatology (Self-Report) (QIDS-SRt6)

NAME: _____ TODAY'SDATE _____

Please circle the one response to each item that best describes you for the past seven days.

1. Falling Asleep:
   - O I never take longerthan 30 minutes to fall asleep.
   - 1 I take at !east 30 minmes to fall asleep, less than half the time.
   - 2 I take at least 30 minmes to fall asleep, more than half the time.
   - I take more than 60 minutes to fall alseep, more than half the time.
2. Sleep During the Night:
   - O I do not wake up at night.
   - 1 I have a restless, light sleep with a few brief awakenings each night.
   - 2 I wake up at !east once a night, but I go back to sleep easily.
   - 3 I awaken more than once a night and stay awake for 20 minmes or more, more than half the time.
3. Waking Up Too Early:
   - O Most of the time, I awaken no more than 30 minutes before I need to get up.
   - More than half the time, I awaken more than 30 minutes before I need to get up.
   - 2 I almost always awaken at !east one hour or so before I need to, but I go back to sleep eventually.
   - I awaken at !east one hour before I need to, and can't go back to sleep.
4. Sleeping Too Much:
   - O I sleep no longer than 7–8 hours/night, without napping during the day.
   - I sleep no longer than 10 hours in a 24-hour period including naps.
   - 2 I sleep no longer than 12 hours in a 24-hour period including naps.
   - I sleep longer than 12 hours in a 24-hour period including naps.

Enter the highest score on any ▮of the 4 sleep items (**1–4** above) ____

5. Feeling Sad:
   - O I do not feel sad
   - I feel sad less than half the time.
   - 2 I feel sad more than half the time.
   - I feel sad nearly all of the time.
6. Decreased Appetite:
   - O There is no change in my usual appetite.
   - I eat samewhat less often or lesser arnounts of food than usual.
   - 2 I eat much less than usual and only with personal effon.
   - I rarely eat within a 24-hour period, and only with extreme personal effon or when others persuade me to eat.
7. Increased Appetite:
   - O There is no change from my usual appetite.
   - I feel a need to eat more frequently than usual.
   - 2 I regularly eat more often and/or greater arnounts of food than usual.
   - I feel driven to overeat both at mcaltime and between meals.
8. Decreased Weight (Within the Last Two Weeks):
   - O I have not bad a change in my weight.
   - 1 I feel as if !'ve bad a slight weight loss.
   - 2 I have lost 2 pounds or more.
   - I have lost 5 pounds or more.
9. Increased Weight (Within the Last 1\vo Weeks):
   - O I have not bad a change in my weight.
   - 1 I feel as if !'ve bad a slight weight gain.
   - 2 I have gained 2 pounds or more.
   - 3 I have gained 5 pounds or more.

Enter the highest score on any ▮of the 4 appetitelweigbt cbange items (6–9 above)____

10. Concentration!Decision Making:
    - O There is no change in my usual capacity to concentrate or make decisions.
    - I occasionally feel indecisive or find that my anention wanders.
    - 2 Most of the time, I struggle to focus my anention or to make **decisions.**
    - I cannot concentrate weil enough to read or cannot make **even minor decisions.**
11. View of Myself:
    - O I see myscif as equally wonhwhile and deserving as other people.
    - 1 I am more self-blarning than usual.
    - 2 I largely believe that I cause problems for others.
    - I think almost constantly about major and minor defects in myself.
12. Thoughts of Death or Suicide:
    - O I do not think of suicide or death.
    - 1 I feel that life is empty or wonder if it's wonh living.
    - 2 I think of suicide or death several times a week for several **rninutes.**
    - I think of suicide or death several times a day in same detail, or I have made specific plans for suicide or have actually tried to take my life.
13. General Interest
    - O There is no change from usual in how interesled I am in other people or activities.
    - I notice that I am less interesled in pcople or activities.
    - 2 I find I have interest in only one or two of my formerly pursued activities.
    - I have virtually no interest in formerly pursued activities.
14. Energy Level:
    - O There is no change in my usual leve!of energy.
    - I get tired more easily than usual.
    - 2 I have to make a big effon to stan or finish my usual daily activities (for example, shopping, homework, cooking or going to work).
    - I really cannot carry out most of my usual daily activities because I just don't have the energy.

Continued

15. Feeling Slowed Down:
    - 0 I think, speak, and move at my usual rate of speed.
    - 1 I find that my thinking is slowed down or my voice sounds dull or flat
    - 2 It takes me several seconds to respond to most questions and I'm sure my thinking is slowed.
    - 3 I am often unable to respond to questions without extreme effort.

16. Feeling Restless:
    - 0 I do not feel restless.
    - 1 I'm often fidgety, wringing my hands, or need to shift how I am sitting.
    - 2 I have impulses to move about and am quite restless.
    - 3 At times, I am unable to stay seated and need to pace around.

Enter the highest score on either of the 2 psychomotor items (15 or 16 above) ____

Total Score:____ (Range 0–27)

Appendix B: Ten-item Personality luventory (TIPI)

Here are a number of personality traits that may or may not apply to you. Please write a number next to each statement to indicate the extent to which *you agree or disagree with that statement*. You should rate the extent to which the pair of traits applies to you, even if one characteristic applies more strongly than the other.

Disagree strongly	Disagree moderately	Disagree a little	Neither agree nor disagree	Agree a little	Agree moderately	Agree strongly
	2	3	4	5	6	7

I see myse/f as:

1. ____Extraverted, enthusiastic.
2. _____ Critical, quarrelsome.
3. _____ Dependable, self-disciplined.
4. _____ Anxious, easily upset.
5. _____ Open to new experiences, complex.
6. _____ Reserved, quiet.
7. _____ Sympathetic, warm.
8. _____ Disorganized, careless.
9. _____ Calm, emotionally stable.
10. _____ Conventional, uncreative.

TIPI scale scoring ("R" denotes reverse-scored items): Extraversion: 1, 6R; Agreeableness: 2R, 7; Conscientiousness; 3, 8R; Emotional Stability: 4R, 9; Openness to Experiences: *5,* IOR.

Normative data for the Ten-Item Personality Inventory (TIPI): Self-reported data

Ethnicity	Whole sample					Female					Male				
	E	A	C	ES	O	E	A	C	ES	O	E	A	C	ES	O
All ethnicities	(N = 1813)					(*N* = 1173)					(*N* = 633)				
Mean	4.44	5.23	5.40	4.83	5.38	4.54	5.32	5.51	4.66	5.40	4.25	5.06	5. 19	5.13	5.34
SD	1.45	1.11	1.32	1.42	1.07	1.47	1.11	1.11	1.45	1.06	1.41	1.10	1.15	1.31	1.09
White	(*N* = 1126)					(*N* = 760)					(*N* = 366)				
Mean	4.56	5.26	5.47	4.85	5.43	4.68	5.36	5.56	4.65	5.45	4.30	5.05	5. 27	5.27	5.39
SD	1.48	1.12	1.13	1.45	1.06	1.47	1.12	1.09	1.46	1.04	1.15	1.11	1.17	1.32	1.09
Rispanie	(*N* = 229)					(*N* = 146)					(*N* = 83)				
Mean	4.43	5.21	5.45	4.90	5.53	4.45	5.32	5.51	4.75	5.58	4.41	4.99	5. 34	5.16	5.44
SD	1.41	1.09	1.11	1.42	1.04	1.41	1.10	1.12	1.49	1.03	1.43	1.07	1.09	1.25	1.06
Asian	(*N* = 333)					(*N* = 191)					(*N* = 142)				
Mean	4.12	5.14	5.11	4.64	5.07	4.19	5.23	5.26	4.60	5.07	4.03	5.01	4. 90	4.70	5.07
SD	1.31	1.06	1.16	1.32	1.08	1.37	1.03	1.16	1.40	1.08	1.24	1.08	1.13	1.22	1.08
Black	(*N* = 56)					(*N* = 35)					(*N* = 21)				
Mean	4.38	5.37	5.57	5.14	5.53	4.27	5.14	5.67	4.87	5.23	4.57	5.73	5. 40	5.60	6.02
SD	1.46	1.17	1.03	1.38	1.05	1.46	1.20	0.92	1.36	1.06	1.47	1.06	1.19	1.32	0.83
Other ethnicities	(*N* = 61)					(*N* = 41)					(*N* = 20)				
Mean	4.07	5.21	5.34	4.89	5.43	4.21	5.16	5.56	4.83	5.51	3.78	5.33	4. 88	5.03	5.28
SD	1.54	1.16	1.06	1.25	1.12	1.64	1.23	1.03	1.29	1.11	1.30	1.03	0.99	1.18	1.15

Note. E, Extraversion; A, Agreeableness; C, Conscientiousness; ES, Emotional Stability; O, Openness.

PRESSMEDDELANDE

Associationerna mellan personlighet enligt Femfaktorteorin och depressionens svårighetsgrad

Pro-gradu avhandling i psykologi

Institutionen för psykologi och logopedi, Åbo Akademi

Resultaten från en pro-gradu avhandling vid Åbo Akademi tyder på ett samband mellan personlighet enligt femfaktorteorin och depressionens svårighetsgrad. Avhandlingen undersökte sambanden mellan emotionell stabilitet, extraversion, samvetsgrannhet, vänlighet och öppenhet och depressionens svårighetsgrad hos deprimerade individer i vuxen ålder, med hjälp av frågeformulär såsom *Quick Inventory of Depressive* Symtomatology (Rush m. fl., 2003) och *Ten-item Personality Inventory* (Gosling, Swann & Renfrow, 2003). Resultaten tyder på att personlighet enligt femfaktorteorin samvarierar med depressionens svårighetsgrad varpå lägre nivåer av emotionell stabilitet, extraversion och samvetsgrannhet predicerar svårare depression. Vänlighet och öppenhet var inte associerade med depressionens svårighetsgrad.

Pro-gradu avhandlingen var en del av det ett större projekt vid Åbo Akademi med det huvudsakliga målet att undersöka sambandet mellan behandling för depressiva tillstånd och kognitiv funktion. Sammanlagt 470 personer deltog i den föreliggande undersökningen varpå data insamlades via en nätbaserad undersökningsplatform.

Avhandlingen utfördes av Lydia Mauritz under handledning av Mira Karrasch.

Ytterligare information erhålles av:

Lydia Mauritz

Tel. +4676113201 e-post:

lydia.mauritz@abo.fi