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Navn: Hege Charlsen Øverkil og Selma Johansen Petterson

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Supervisor:

Christian Winther Farstad

Associate Professor of Leadership and Organization at Kristiania University College

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Hege Overkil

Hege Overkil

Selma Petterson

Selma Petterson

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Abstract

This study aimed to examine the psychometric properties of the Norwegian version of The Dark Triad of Personality at Work (TOP) and its associations with the Big Five, and relations to counterproductive academic behavior (CAB), and academic citizenship behavior (ACB). Correlation, simple linear regression and hierarchical regression analyses were conducted to assess this study's hypotheses. A substantial portion of the findings replicated prior validation studies of TOP and aligned with previous research and theories in the field, with a few exceptions. The results of the associations between TOP and Big Five factors and the relations between TOP, CAB, and ACB reveal strengths and weaknesses regarding TOP's psychometric properties, specifically construct- and criterion-related validity. No incremental validity of TOP explaining CAB beyond the Big Five was observed. Overall, this study contributes to the Norwegian validation of TOP and enhances the theoretical understanding of its relationship to the Big Five, CAB, and ACB. This study provides important practical and theoretical implications, as well as limitations that can guide theoretical direction and research. Future research is necessary to establish the psychometric properties of TOP more comprehensively and draw definitive conclusions regarding its entire validity.

1.0 Introduction

What causes people to behave in the way they do? Why do different individuals behave variously in seemingly similar situations? These questions can be partly answered by personality. Personality can be defined as “*a dynamic organization, inside the person, of psychophysical systems that can create the person’s characteristic patterns of behavior, thoughts, and feelings*” (Allport, 1961, p. 28). Traditionally, research has investigated associations at a general domain level of personality traits and typically concluded that certain traits are advantageous, and others are not (Ferguson et al., 2014). A majority of personality research has been based on the Five-Factor Model, focusing on the brighter side of personality (Kaiser et al., 2015). The bright side of personality reflects positive traits and captures desired characteristics when people do their best, such as an individual's capability of being cooperative, outgoing, reliable, and rule-abiding (Kaiser et al., 2015).

Lately, an expanded interest in the darker side of personality has occurred (Spain et al., 2014), which has led to the arising of a relatively new concept, the "Dark Triad" (Paulhus & Williams, 2002). The term originates from Paulhus and Williams (2002), who labeled a cluster of personality traits the Dark Triad: Machiavellianism, narcissism, and psychopathy. These traits are considered part of the dark side of personality due to their associations with adverse behavior, such as lack of empathy, manipulation, and deceitfulness (Paulhus & Williams, 2002).

There is a growing awareness that personality has a critical role in predicting various types of behavior (Cooper, 2021). Especially, towards how dark personality traits in the workplace can predict and affect organizational outcomes (Spain et al., 2014), such as job performance (Kaiser et al., 2015), employee commitment, and organizational success (Mathieu & Babiak, 2015). The negative behavior associated with the dark side of personality can have significant consequences for both organizations and individuals. Therefore, the importance of accurately measuring these dark traits can not be understated. There are various measures for assessing the Dark Triad. However, none of these measures are work-related and are therefore not applicable to organizational and occupational use. Nonetheless, the newly developed

measurement called The Dark Triad of Personality at Work (TOP) aims to measure work-related aspects of the Dark Triad of personality in occupational life (Schwarzinger & Schuler, 2019). The primary objective of this thesis lies in the contribution to the validation of the Norwegian version of TOP. TOP was developed by Hogrefe in 2010, initially for a German-speaking work population. In the following years, it has been adapted and thoroughly validated for an English-speaking population. TOP also exists in Norwegian, Swedish, Finnish, Dutch, Italian and Czech (Hogrefe, n.d.). More details about TOP and its content will be accounted for in the literature review.

Overall, TOP has established satisfying psychometric properties in German and English samples. However, TOP remains to be thoroughly validated in a Norwegian context. For this reason, we want to contribute to the validation of the Norwegian version of TOP. This will be done by collecting data from Norwegian students completing higher education. Even though TOP is mainly tailored to the general working population, it has been successfully tested on students, making TOP suitable for this target group. Moreover, it is valuable and interesting for the collective examinations of measures used in this study to use students as a target group.

1.1 Purpose of study and research question

This study aims to examine and evaluate the psychometric properties of the Norwegian version of TOP. To achieve this, we incorporate measures of the Big Five personality traits by NEO-FFI-3, counterproductive academic behavior (CAB), and academic citizenship behavior (ACB). TOP's construct-, criterion-related, and incremental validity will be assessed through various statistical analyses, including correlation analyses as well as simple linear- and hierarchical regression analyses. Additionally, the CAB/ACB scale will be examined through confirmatory factor analysis (CFA) to ensure its suitability for analyses.

Previous developmental and validation studies of TOP have mainly focused on individuals with work experience (Schwarzinger & Schuler, 2019). However, in this thesis, we aim to assess TOP's psychometric properties using students as participants. This approach is valuable because it expands the understanding of the psychometric properties of TOP by investigating its

applicability in a population of students. For the nature of the thesis, it would be natural to analyze the item-level of TOP. However, due to limitations imposed by the commercial actor Hogrefe, who owns and distributes TOP, we are not permitted access to the item-level of the test. This denies us to conduct analyses revealing results on the internal structure of TOP. Nonetheless, TOPs items are thoroughly developed and critically reviewed and analyzed, as well as gone through a comprehensively quality assured process (Schwarzinger & Schuler, 2019). To clarify, we were granted access to data from the second-order factor level and will conduct analyses and contribute to the validation based on that. A more comprehensive elucidation of TOP's factor structure will be accounted for in subsequent chapters. For further reading on TOPs items and test development, please refer to the Hogrefe (n.d.) website.

Contributing to the validation of the Norwegian version of TOP is important for both practical and theoretical purposes. First, for making it possible to measure darker personality traits in an occupational setting in Norway. It could be applicable in several organizational processes, such as recruitment and selection for special positions, coaching and leadership development (Hogrefe, n.d.). Second, a comprehensive understanding of individuals' levels of these darker personality traits allows organizations to enhance their comprehension of the impact of such traits and implement measures to mitigate their adverse consequences. Third, exploring the relationship between student behavior and the Dark Triad moves the study beyond the established connections between work-related behavior and the Dark Triad. This approach lets us unveil a more comprehensive picture and enables us to gain insights into how these traits influence behavior beyond the workplace setting. Fourth, this study aims to replicate and enhance the theoretical understanding of the dark side of personality by empirically investigating occupational Dark Triad's associations and relations to the Big Five traits and CAB and ACB.

Finally, in order to examine construct validity, we intend to explore TOP factors associations to the NEO-FFI-3 factors. To investigate criterion-related validity, we intend to investigate TOP factors relations to constructs beyond workplace behavior, specifically CAB and ACB. In order to investigate incremental validity, we aim to determine whether TOP adds value and

increases the degree of prediction of CAB beyond NEO-FFI-3 alone, or not.

The overarching research question guiding the study is the following:

Research question: To what degree will the Norwegian version of TOP reveal adequate psychometric properties?

2.0 Literature review

The primary objective of this thesis is to contribute to the validation of the personality test TOP. As the TOP factors are built upon the Dark Triad constructs, narcissism, Machiavellianism, and psychopathy, a thorough literature review of these constructs, and their associations to the Big Five factors will be encountered first to enhance our understanding of the superior topic. Subsequently, an elaboration of various existing scales of the Dark Triad, a comprehensive review of TOP, and an overview of the validation assessments utilized in this thesis will be accounted for. Finally, the Dark Triad's connections to counterproductive and citizenship behavior will be reviewed.

2.1 The Dark Triad of Personality

The term *Dark Triad* was presented by Paulhus and Williams (2002) to elucidate the existing research on aversive personalities considered to be in the ordinary dimension of functioning. The constructs of narcissism, Machiavellianism, and psychopathy were included due to their extensive empirical research and considerable attention in the literature (Kowalski, 2001). Despite the constructs' different origins (Miller et al., 2019), the empirical overlap between them has caused confusion and debate in the field. However, the clustering of the Dark Triad by Paulhus and Williams (2002) has facilitated a more unified understanding of the relationship between these three constructs. Moreover, it was followed by an explosion of research (Furnham et al., 2013) which indicated the success of the Dark Triad clustering. Even though there is a debate concerning the theoretical similarities between the concepts, it is necessary to recognize and differentiate them as distinct constructs. Therefore, separate descriptions will be provided for each of these constructs.

While the Dark Triad characteristics are typically discussed in a negative manner due to their origin and descriptions, empirical research has uncovered certain positive aspects associated with these traits in specific contexts (Jonason et al., 2014; Hogan & Hogan, 2001) and under specific conditions (Harms et al., 2011). For instance, Grijalva et al. (2015) found that narcissists are likely to emerge as leaders and moderate levels of narcissism contribute to leadership effectiveness.

Clinical and subclinical concepts are usually distinguished within the personality field (LeBreton et al., 2006). The subclinical term refers to continual distributions in larger populations, whereas the clinical term refers to people being monitored in a forensic or clinical setting (Ray & Ray, 1982). The difference between clinical and subclinical samples can be essential in understanding the origin of the Dark Triad. While the subclinical constructs of narcissism and psychopathy were developed from clinical literature and research (Furnham & Crump, 2005), the terms of the constructs are frequently misused. To provide clarity, the following literature reviewed on the Dark Triad and the intention of this thesis is exclusively related to subclinical interpretation.

As mentioned, separate descriptions of narcissism, Machiavellianism, and psychopathy will be provided in this section. The main objective is to acquire a comprehensive understanding of the underlying mechanisms that influence the operationalization of the distinct factors in TOP. Whereas the TOP factor self-centered work approach corresponds to an occupational version of narcissism, enforcement-focused work attitude is reflected in the occupational version of Machiavellianism, and uncommitted-impulsive work style corresponds to the occupational version of psychopathy. Additionally, a discussion of the current debate surrounding the potential overlap among these traits will be presented.

2.1.1 Narcissism

Narcissism has its roots in Greek mythology and the story of the character Narcissus (Campbell & Miller, 2011), an individual that fell in love with his image due to pride and vainness (Judge et al., 2006). Since that, the concept has evolved. It has received significant attention within empirical

research (Campbell & Miller, 2011), as a construct in social psychology (Foster & Campbell, 2007) and as a personality disorder in the clinical area illustrated by Narcissistic Personality Disorder within the American Psychiatric Association's Diagnostic and Statistical Manual for Mental Disorders (2013).

Vulnerable- and grandiose narcissism are two different sorts suggested within the literature (Dickinson & Pincus, 2003; Miller et al., 2008). The vulnerable form represents overt self-inhibition, modestness (Dickinson & Pincus, 2003), negative emotions, bitterness and hostility, self-centeredness, and a desire for appreciation and acceptance (Miller et al., 2012). A grandiose form is characterized by dominance, lack of modesty (Miller et al., 2012), arrogance, exploitation, entitlement, and enviousness (Dickinson & Pincus, 2003). These two types mainly differ regarding self-esteem, negative emotionality, and extraversion and dominance (Miller et al., 2008). To illustrate, the vulnerable variants are less equipped to regulate their self-esteem compared to the grandiose type and usually rely on others' feedback in order to do so. The grandiose variants control their self-esteem through overt self-enhancement, denial of shortcomings, and undervaluation of those who threaten their self-esteem (Dickinson & Pincus, 2003). Measures of The Dark Triad primarily refer to and measure the grandiose variant of narcissism (Glenn & Sellbom, 2015; Maples et al., 2014; Raskin & Terry, 1988), including self-centered work approach in TOP (Schwarzinger & Schuler, 2019).

2.1.2 Machiavellianism

Unlike narcissism and psychopathy, Machiavellianism has no clinical association (Jones & Paulhus, 2009). The term evolved from the personality psychologist Richard Christie, who, based on Niccolo Machiavelli, a chief political advisor who wrote advice on maintaining political control, drew parallels to an individual's social behavior (Jones & Paulhus, 2009).

Characteristics such as being cold and manipulative are typical of Machiavellianism (Glenn & Sellbom, 2015), and it involves, according to Miller et al. (2019, p. 353), “*deliberate and strategic interpersonal manipulation aimed at acquiring and maintaining power and control*”.

Machiavellians are less likely to act due to allurements but are more discreet and calculated (Furnham et al., 2013). Even though Machiavellians do not

engage in antisocial behavior regularly, cheating, lying and betrayal are not unusual. They regularly view other people negatively and believe themselves to be exceptional manipulators, as may not necessarily be the case due to a weakened emotional intelligence (O'boyle et al., 2012).

2.1.3 Psychopathy

The concept of psychopathy originates from the clinical literature and has a long history in psychology (Furnham & Crump, 2005). After initially being considered a clinical disorder, research eventually argued that it could also be considered a personality trait (O'boyle et al., 2012). Hare (1980) was the first to measure and operationalize the concept empirically, and his Psychopathy Checklist influenced modern research in the psychopathy field. The concept is associated with antisocial behavior and criminal acts (O'boyle et al., 2012; Neumann et al., 2015), and psychopaths are likely to execute their deviant visions (Furnham et al., 2013), such as sexual assault, murder, and other criminal acts to achieve their ends (Megargee, 2009, cited in O'boyle et al., 2012). Psychopaths are easily considered bullies and are likely to pose a physical threat (Furnham et al., 2013). Characteristics of psychopathy include a lack of guilt and remorse when causing harm to others, which is of serious concern for those around individuals high in psychopathy (O'boyle et al., 2012). They are usually emotionally superficial and impulsive. Psychopathic individuals are generally skilled and charismatic in relationships with others and tend to use exploitative strategies (O'boyle et al., 2012). Moreover, some similar personality traits characterize psychopathy as narcissism (e.g., lack of empathy, grandiose sense of self-worth, and evilness), but the concepts are different in its relation to disinhibition, which is described as an inability to perceive emotional experiences and develop conscience through socialization (Patrick, 2006).

As a result of the association with antisocial conduct and criminal acts, most studies have been carried out in the clinical psychology and forensics fields (Neumann et al., 2015). It is important to note that there is a distinction between the clinical aspects of psychopathy and psychopathic traits (Patrick, 2006). Psychopathy is related to Antisocial Personality Disorder (ASPD) (American Psychiatric Association, 2013) which requires a history of antisocial

behavior and criminal acts that is not necessarily present in individuals with psychopathic traits (Smith & Lilienfeld, 2013).

2.1.4 The Dark Triad: Similar or different constructs?

The relationship between the three traits and their overlap is one of the hottest discussions in the scientific field of the Dark Triad. Both narcissism, psychopathy, and Machiavellianism share similar characteristics, such as lack of empathy, aggressiveness, self-promotion and interpersonal antagonism (Paulhus & Williams, 2002). Further, the elements have also been found to overlap empirically (Fehr & Samson, 2013; Gustafson & Ritzer, 1995; McHoskey, 1995). The common characteristics of the constructs and positive inter-correlations have caused some to consider them as similar constructs (McHoskey et al., 1998). Further, Furnham et al. (2013) argue that in the literature on each of the traits, a “construct creep” has occurred, referring to a tendency to isolated explore constructs causing the individual version of the constructs to expand its scopes (Jones & Paulhus, 2011).

Research has found a particularly large overlap between Machiavellianism and psychopathy (Furnham et al., 2013; Muris et al., 2017; Vernon et al., 2008). Of the three constructs, studies have found the smallest mean correlation between Machiavellianism and narcissism, which illustrates the independence of these two constructs (Wu & LeBreton, 2011). Furman et al. (2013) meta-analysis illustrates the inter-correlations presence. They argue that similarity in correlations is not the same as similar outcomes, highlighting the importance of understanding how similarity should be treated. Despite the debate, the most widespread point of view is that the Dark Triad traits overlap but are distinct constructs of Machiavellianism, narcissism, and subclinical psychopathy (Paulhus & Williams, 2002) with different origins (Miller et al., 2019).

2.2 The Dark Triad and the Big Five

This section entails a thorough literature review of the Big Five traits and their associations with the Dark Triad traits to obtain a comprehensive understanding of their interrelationships and investigate TOP’s construct validity. The Dark Triad is related to *normal personality* (Furnham et al., 2013;

Spain et al., 2014) and therefore linked with more general personality models, such as the dimensions within the Five-Factor Model (Furnham et al., 2013). This model describes the most prominent aspects of personality traits (Goldberg, 1990) and consists of extraversion, agreeableness, conscientiousness, neuroticism, and openness to experience (Costa et al., 1991). All Big Five traits are associated with one or several Dark Triad traits (Furnham et al., 2013). For instance, there are consistently negative associations between the Dark Triad and conscientiousness and agreeableness (Furnham et al., 2013; Jakobwitz & Egan, 2006; Jonason et al., 2010; Paulhus & Williams, 2002). Descriptions of high scores on the Big Five factors are retrieved from Cooper (2021) and imply the following:

- *Neuroticism*: Anxious, angry, depressed, hostile, self-conscious, impulsive, vulnerable.
- *Extraversion*: Warm, excitement-seeking, assertive, active and positive emotion.
- *Agreeableness*: Trusting, altruistic, straightforward, cooperative, modest, and tender-minded.
- *Conscientiousness*: Competent, self-disciplined, orderly, dutiful, motivated to achieve and thinks before acting.
- *Openness to experience*: Imaginative, moved by art, emotionally sensitive, novelty-seeking, and tolerant.

2.2.1 Narcissism and the Big Five

In general, narcissism is positively related to extraversion, openness to experience (O'boyle et al., 2015; Paulhus & Williams, 2002; Vize et al., 2018), and conscientiousness (O'boyle et al., 2015), and negatively related to agreeableness (O'boyle et al., 2015; Paulhus & Williams, 2002) and neuroticism (O'boyle et al., 2015). However, within the literature there are identified both positive and negative associations between narcissism and neuroticism (Wu & Lebreton, 2011). Grandiose narcissists are argued to score high on extraversion and low on agreeableness, whereas vulnerable narcissists are argued to be neurotic and score low on agreeableness (Campbell et al., 2011). Narcissism's positive relation to conscientiousness could be explained

by narcissists striving for achievement (O'boyle et al., 2015). However, the relation is weak (O'boyle et al., 2015) and meta-analytical findings report an uncorrelated relationship between narcissism and conscientiousness (Vize et al., 2018). Narcissism's negative relation to agreeableness is not surprising, considering narcissist tendencies to be self-centered, overconfident, dominant, and unwilling to take criticism. Moreover, narcissism's positive relation to extraversion and openness to experience is as expected, as narcissists are considered extraverted individuals with interpersonal skills who seek situations to acquire admiration from others (Campbell et al., 2011).

2.2.2 Machiavellianism and the Big Five

Regarding the associations between Machiavellianism and the Big Five traits, O'boyle et al. (2015) discovered in their meta-analysis Machiavellianism to be negatively related to agreeableness and conscientiousness, also supported by Paulhus & Williams (2002). The negative relationship is not surprising considering Machiavellians tendencies to cynically manipulate and sacrifice relations in order to reach their objectives (O'boyle et al., 2015) which is contradictory to being sympathetic and altruistic (Costa & McCrae, 1992) and more in line with the characteristics of low agreeableness such as egocentric and competitive behavior (Costa & McCrae, 1992). Moreover, Machiavellianism is weakly positively related to neuroticism which could be explained by their potentially higher levels of anxiety and anger (O'boyle et al., 2015; Ashton et al., 2000) and elevated susceptibility to negative emotions (Muris et al., 2017).

Furthermore, one could expect a negative relationship between openness to experience and machiavellians, as they are not thought to be necessarily creative, tolerant for ambiguity, or have intellectual curiosity (O'boyle et al., 2015). However, machiavellianism has not been found to be significantly associated with openness to experience (Lee & Ashton, 2005; O'boyle et al., 2015; Paulhus & Williams, 2002; Vize et al., 2018). Furthermore, even though machiavellians entails a social element, it does not necessarily indicate that they entail the behaviors classical for extraverted individuals, such as warmth and gregariousness (O'boyle et al., 2015). Thus, one could expect a negative relationship between machiavellianism and

extraversion, except empirical evidence indicates an uncorrelated relationship (Lee & Ashton, 2005; O'boyle et al., 2015; Paulhus & Williams, 2002; Vize et al., 2018).

2.2.3 Psychopathy and the Big Five

In regard to psychopathy, there is a general understanding for the negative relation to conscientiousness and agreeableness (Paulhus & Williams, 2002; O'boyle et al., 2015). The characteristics of psychopathy, such as not being considerate of others' feelings and lack of remorse and respect for others, are not in line with the descriptions of agreeableness and conscientiousness (O'boyle et al., 2015), reasoning the negative relation. Psychopathy's relation to openness to experience, extraversion, and neuroticism are not as certain (O'boyle et al., 2015). As some find a somewhat moderate positive relation to openness to experience and extraversion and a negative relation to neuroticism (Paulhus & Williams, 2002), others find very small positive relations (O'boyle et al., 2015), and others find them to be uncorrelated (Vize et al., 2018). Some argue that psychopaths are the lowest on neuroticism of the Dark Triad traits, consistent with their lack of anxiety (Paulhus & Williams, 2002). Others that have found a small positive association between psychopathy and neuroticism (O'boyle et al., 2015) could be explained by psychopaths being related to some of the neuroticism facets, such as anger, hostility and impulsivity (Wu & Lebreton, 2011). The inconsistent findings could be explained by researching the overall factors rather than the Big Five facets (Wu & Lebreton, 2011).

Even though Paulhus & Williams (2002) found a somewhat moderate positive correlation between psychopathy and extraversion, O'boyle et al. (2015) found a very small relation, and others have found it to be uncorrelated (Vize et al., 2018). The association with extraversion could be explained by psychopaths' tendencies to be charming, but their characteristics related to lack of empathy would not advance their social interactions quality (O'boyle et al., 2015). Considering psychopaths' relation to openness to experience, a positive relation could relate to their imaginative and active fantasy, as well as being novelty-seekers (O'boyle et al., 2015). It could be argued for a negative relation if taking into account psychopaths' unlikelihood to be open towards

others viewpoints, feelings and values (O'boyle et al., 2015). As mentioned and equivalent to extraversion, the relation between psychopathy and openness to experience is not certain (O'boyle et al., 2015), and some also find no correlation between the two (Vize et al., 2018).

2.3 Measuring the Dark Triad of Personality

This chapter aims to provide an understanding of the existing Dark Triad measurements, with the specific purpose of elucidating the position of TOP and its unique contributions to the current body of research.

Traditionally, the Dark Triad has been assessed using three standard methods for subclinical measurement. The Self-Report Psychopathy Scale-III (Hare, 1985) measures psychopathy, Narcissistic Personality Inventory (Raskin & Hall, 1979) measures narcissism, and Machiavellianism Inventory-IV measures Machiavellianism (Christie & Geis, 1970). These measures are widely used in research; however, they have faced criticism for being developed to measure only one of the constructs in the Dark Triad. Consequently, problems have arisen concerning discriminant validity when combined (Furnham et al., 2013). Further, due to the extensive number of items in the three measures, the methods have been criticized for not being time efficient and not appropriate for practical use (Jones & Paulhus, 2014).

The first measure developed to measure the Dark Triad combined is the Dirty Dozen (DD) scale (Jonason & Webster, 2010). As the DD includes 12 items measuring the Dark Triad, the scale has been criticized for being too short, which has raised questions regarding reliability and construct validity (Jones & Paulhus, 2014). The Short Dark Triad (SD3) developed by Jones and Paulhus (2014) integrates 27 items from the three methods mentioned above and thereby measures narcissism, psychopathy and Machiavellianism collectively. SD3 has been found to provide valid and reliable measures of the Dark Triad and demonstrate better psychometric properties than the DD (Jones & Paulhus, 2014). However, the items in SD3 are not directly related to work and, as such, may not be suitable for organizational and occupational purposes. The critique toward these existing scales, and the lack of an adequate measurement assessing the Dark Triad at work underscores the importance of contributing to the validation of TOP.

2.4 Validating TOP: The Dark Triad of Personality at Work

This section provides a detailed and comprehensive description of the TOP personality test, emphasizing its relevance to the present thesis. Additionally, prior empirical studies of TOP's associations with the Big Five factors will be reviewed. Finally, this chapter will provide an overview of the specific validity measures employed in this study.

As already mentioned, TOP was developed by Hogrefe in 2010, and is a measurement specifically designed to assess work-related aspects of the Dark Triad of personality in occupational settings (Schwarzinger & Schuler, 2019). TOP was initially developed and standardized using a German-speaking work population, and has subsequently undergone adaptation and validation in English, and does also exist in Norwegian, Swedish, Finnish, Dutch, Italian and Czech (Hogrefe, n.d.). While various measurements for the Dark Triad exist, TOP stands out as the first measure tailored to the occupational context. This is momentous because, despite the growing interest in the constructs and their implications for organizational psychology, there has been a lack of suitable instruments to measure the Dark Triad in the workplace (Wille et al., 2013). TOP serves as a valuable tool for selection and recruitment for specific positions, leadership development, research, consulting, and coaching purposes (Schwarzinger & Schuler, 2019). The test allegedly has adequate psychometrics, more specific good reliability, and a high degree of construct and criterion-related validity (Schwarzinger & Schuler, 2019).

The three work-related factors of the Dark Triad measured by TOP are self-centered work approach, enforcement-focused work attitude, and uncommitted-impulsive work style, which are operationalized through 11 subscales based on their empirical proximity (Schwarzinger & Schuler, 2019). The development and construction of factors, subscales and items are based on items of other existing Dark Triad scales and has thereby been formulated to an occupational context. Even though the TOP factors are based on the Dark Triad traits (narcissism, Machiavellianism, subclinical psychopathy), it does not measure these constructs as a whole, nor does it measure clinical versions, but rather the most important aspects of occupational assessment (Schwarzinger & Schuler, 2019). The following paragraph will elaborate on the three different

factors for a better understanding of what it measures.

Self-centered work approach corresponds to an occupational version of narcissism and captures whether individuals have an overstatement of self-worth in terms of one's significance, impact at work, leadership skills, and the enjoyment of exercising dominance and authority over subordinates. Self-centered work approach entails five subscales: claim to leadership, belief in persuasive power, need for authority, appetite for risk, and sense of superiority (Schwarzinger & Schuler, 2019). Enforcement-focused work attitude is reflected in the occupational version of Machiavellianism, which measures distrustful attitude and emotional toughness towards coworkers, confidence in individual strengths, and the ability to succeed in the workplace. Enforcement-focused work attitude covers three subscales, namely: unsentimentality, assertiveness and skepticism. The uncommitted-impulsive work style corresponds to the occupational version of the psychopathy lifestyle factor, which measures unstructured workstyle in relation to careless or irresponsible actions, with a readiness to deviate from patterns or employ dishonesty to obtain professional goals. Uncommitted-impulsive work style encompasses three subscales: flexibility, impulsivity and extenuation (Schwarzinger & Schuler, 2019). As previously discussed, there is a debate in the field on whether the three Dark Triad traits are overlapping constructs. These potential overlaps are both expected and considered in the development of TOP, and the factors should and do demonstrate a certain degree of correlation (Schwarzinger & Schuler, 2019). Moreover, the TOP constructs are found to have a differentiated relationship with external criteria in accordance with general non-work-related research on the Dark Triad measures (Schwarzinger & Schuler, 2019).

2.4.1 TOP and the Big Five

This section will elaborate on the prior TOP validation studies examining TOP's factors' associations with the Big Five factors. The work by Schwarzinger and Schuler (2019) serves as a valuable reference, presenting previous research of TOP and reports both converging and diverging findings compared to the existing literature on the Dark Triad and the Big Five.

In their research, Schwarzinger & Schuler (2019) identified negative

associations between self-centered work approach and neuroticism and agreeableness, and a positive association to extraversion. Whereas the German examination of TOP did not find significant relation to conscientiousness, the English one did. No significant relations were found to openness to experience (Schwarzinger & Schuler, 2019). Regarding enforcement-focused work attitude, Schwarzinger and Schuler (2019) observed negative relations with agreeableness and openness to experience. Whereas the German examination found a significant positive relation to neuroticism, the English one did find a positive relation, though not significant. No significant relations were found to extraversion and conscientiousness (Schwarzinger & Schuler, 2019). For uncommitted-impulsive work style, Schwarzinger and Schuler (2019) observed results that align with the theoretical framework of psychopathy. Specifically, they found negative associations between uncommitted-impulsive work style and agreeableness, as well as conscientiousness. Conversely, they found a positive relationship between uncommitted-impulsive work style and neuroticism. Notably, the English examination of TOP did find a negative significant relation to Extraversion, whereas the German version did not. Furthermore, no significant relations were found to openness to experience (Schwarzinger & Schuler, 2019). Our hypotheses on TOP's construct validity will be based on the research and theory previously discussed on Dark Triad and the Big Five and previous findings of TOP. Hence, we hypothesize the following:

H1: Self-centered work approach will have a positive association with extraversion and openness to experience, a negative association with neuroticism and agreeableness, and will not have a significant association with conscientiousness.

H2: Enforcement-focused work attitude will have a positive association with neuroticism, a negative association with agreeableness and conscientiousness, and will not have a significant association with openness to experience and extraversion.

H3: Uncommitted-impulsive work style will have a negative association with agreeableness and conscientiousness, a positive association with neuroticism, and will not have a significant association with extraversion and openness to experience.

2.4.2 Measurement validation

Various criteria are proposed for validating the psychometric properties of a measurement depending on the type of research design and measurement (Hinkin, 1998). In general, validation involves evaluating the psychometric properties of a measurement with the intention to ensure its validity, reliability, and accuracy. Validity refers to the extent to which the measurement accurately measures what it intends to measure, while reliability pertains to the consistency and accuracy of the measurement tool over time and across various conditions (Bell et al., 2019). Reliability is a prerequisite for validity (Brahma, 2009). Ensuring validity and reliability of obtained data with the measurement, increases both the quality, relevance of the data, and the confidence in drawing conclusions (Peters et al., 2007).

To contribute to the validation of TOP, this thesis will examine construct-, criterion-related-, and incremental validity. Construct validity refers to whether the measure adequately captures the intended construct. Criterion-related validity examines whether measurement outcomes align with external criteria (Flick, 2011). Incremental validity assesses whether adding an extra variable will enhance the ability to predict a given behavior, such as combining various test scores (Cooper, 2021). Together, these assessments generate evidence of validity, which is crucial for ensuring quality in measures (Schmitt & Klimoski, 1991), and creates a bond between psychometric measurements and theory (Brahma, 2009).

A substantial challenge within organizational research involves providing sufficiently validated measurements (Barrett, 1972). Unreliable and inaccurate measurements can generate biased or erroneous results, either under- or overestimating of effects (Peters et al., 2007). They can also result in unjustifiable conclusions and problematic interpretations (Hinkin, 1995; Peters et al., 2007), threatening our understanding of organizational phenomena (Hinkin, 1995). Given the gravity of these issues, it is crucial to validate

measures adequately. Hence, our contribution to the validation of TOP aims to establish adequate and satisfactory construct-, criterion-related-, and incremental validity, which may enhance the robustness of TOP and increase confidence in drawing conclusions about the dark side of personality in the workplace.

2.5 The Dark Triad, Counterproductive Behavior and Citizenship Behavior

The subsequent section aims to provide a comprehensive review of the existing literature pertaining to counterproductive- and citizenship behavior, with specific emphasis on their relations to the Dark Triad. The primary objective is to acquire a comprehensive understanding of the research landscape, enabling the basis for the examination of TOP's relationship to counterproductive academic behavior (CAB) and academic citizenship behavior (ACB), and ultimately evaluating TOP's criterion-related validity. Additionally, as this thesis aims to explore the potential added value of TOP in predicting CAB beyond the Big Five, a brief review will be provided in order to hypothesize the incremental validity of TOP in this context.

The current study will examine CAB and ACB relationship to TOP. In the workplace, these are referred to as organizational citizenship behavior (OCB) (Gore et al., 2012) and counterproductive work behavior (CWB) (Hakistan et al., 2002). Few studies have examined these constructs in an academic manner, as the majority of research has been done in a workplace setting (Gore et al., 2012), and to our knowledge, no research has investigated the relationship between the Dark Triad and CAB and ACB. Thus, incorporating students in this research, may enhance the generalizability of findings beyond specific professional contexts.

Given the scarcity of research on the Dark Triad's relationship with CAB and ACB, the majority of the following literature review will be built on Dark Triad traits relation to OCB and CWB. Subsequently, as previous validation studies of TOP have assessed the instrument's criterion-related validity on OCB and CWB measures, these will be presented as well.

2.4.1 Counterproductive behavior and citizenship behavior

Understanding the relationship between personality and workplace behavior is one of the main concerns within organizations (Gruys & Sackett, 2003), and OCB and CWB have received increased attention. The two are considered contrasting types of behaviors (Sypniewska, 2020). OCB refers to employee behavior that is beneficial for the organization and usually goes beyond prescribed duties and roles, including prosocial and altruistic behavior (Williams & Shiaw, 1999), civic virtue, conscientiousness, and sportsmanship (Gore et al., 2012). Williams and Shiaw (1999) argue that positive effects experienced by an employee, or being in a good mood, will contribute to and enhance the employee's willingness to perform acts of OCB. In contrast, CWB consists of the darker side of an individual's behavior (O'boyle et al., 2012). Spector & Fox (2005, cited in Wu & Lebreton, 2011) defines CWB to include behavior intended to harm the individuals in organizations or the organization itself. Examples of CWB include employee theft, abusive supervision (O'boyle et al., 2012), sabotage, rumor spreading, and interpersonal aggression (Penney & Spector, 2002).

The majority of research on personality and OCB have built on the Five-Factor model (Gore et al., 2012). Research suggests that the Big Five traits predict some aspects of CWB (Wu & Lebreton, 2011) and OCB (Gore et al., 2012). For instance, conscientiousness, agreeableness, and neuroticism is found to have positive associations with OCB (Gore et al., 2012). There has been a growing interest in how CWB occurs (Wu & Lebreton, 2011). The Dark Triad has, in general, received much attention for its relevance towards negative consequences for organizations and leadership (Spain, 2019), and it is argued that inhibiting dark personality traits could be related to and predict misbehavior such as CWB (O'boyle et al., 2012; Furnham et al., 2013; Spain, 2019). For instance, cutting corners is more likely for individuals inhibiting dark traits, and cheating and plagiarism are academic examples of such acts (Furnham et al., 2013). The following section will elaborate on the Dark Triad traits relations to CWB and OCB.

2.4.2 Narcissism

Penny and Spector (2002) explored narcissism's relationship with CWB and found that narcissistic individuals are likelier to engage in CWB than those low in narcissism. Narcissists are likely to blame others for their failures and are predominantly concerned with their success and status (Campbell et al., 2005). For that reason, they could be inconsiderate of others and engage in manipulation and toxic behavior to self-promote. It would be reasonable to believe that narcissists are more likely to engage in CWB when faced with the opportunity to self-enhance (Wu & Lebreton, 2011). Accordingly, they could be likely to engage in CAB such as academic cheating in order to self-promote and appear impressive in academics. Especially as they are not likely to feel guilty (Brunell et al., 2011). Moreover, ACB includes considerate behavior (Gore et al., 2012), which does not necessarily align with narcissists behavioral tendencies (Campbell et al., 2005; O'boyle et al., 2012). Judge et al. (2006) found that narcissists in leadership positions are positively related to self-rated OCB and negatively related to others' ratings of OCB. Moreover, it is suggested that they are less likely to perceive themselves as engaging in CWB behavior which could explain such findings (Judge et al., 2006).

Narcissistic individuals are naturally drawn toward leadership positions, embracing superiority and the need for self-enhancement (Campbell & Campbell, 2009), and how they are outgoing, confident, and in need of power (Campbell et al., 2011). However, narcissists in positions of authority will not necessarily be effective, as they will mistreat their subordinates, advertise their interests rather than others, and overlook negative feedback (O'boyle et al., 2012). Narcissists could be argued not to be likely to learn from mistakes and are instead mainly concerned with outcomes only good for themselves and possibly bad for those around them, consequently making them damage and loose relationships (Campbell et al., 2011). Be that as it may, it could be that narcissists are likely to be well-liked mainly short-term (Campbell & Campbell, 2009) by using diverse interpersonal strategies such as presenting an extraverted and entertaining version of themselves (Campbell et al., 2005). This is likely to wear off long-term as relationships become more familiar (Campbell & Campbell, 2009), and other individuals will see through their

showing-off act (Campbell et al., 2005). Additionally, it could explain how narcissists can receive job offers more frequently than others (Wu & Lebreton, 2011). In previous validation studies of TOP, Schwarzinger & Schuler (2019) found that self-centered work approach only had a significant relation to CWB, and not to OCB. However, as Schwarzinger & Schuler (2019) observed a correlation between self-centered work approach and one of OCB's subscales, one could still assume that self-centered work approach would be negatively related to ACB. Based on theory discussed and previous findings, we hypothesize the following:

H4: Self-centered work approach will have a positive relationship with counterproductive academic behavior.

H5: Self-centered work approach will have a negative relationship with academic citizenship behavior.

2.4.3 Machiavellianism

In previous validation studies of TOP, Schwarzinger & Schuler (2019) identified that enforcement-focused work attitude were negatively related with OCB, and had no significant relation to CWB. Some research argues that Machiavellians are the least likely to engage in CWB of the Dark Triad traits (Kessler et al., 2010, cited in O'boyle et al., 2012), whereas others indicate that Machiavellians are more prone to engage in CWB, such as theft, abuse, and destruction (Giacalone & Knouse, 1990, cited in O'boyle et al., 2012). In addition, unethical behavior such as mistreatment and betrayal of coworkers are usual acts of Machiavellianism (O'boyle et al., 2012). Within academic settings, Machiavellianism is argued to predict essay plagiarism which makes sense considering how Machiavellians appreciate planning and self-control (Furnham et al., 2013). Becker and Dan O'Hair (2007) found that Machiavellianism is negatively associated with organizational and individual OCB. However, to put themselves in a good light, Machiavellians could show off OCB in a public display (O'boyle et al., 2012).

Machiavellians are usually successful in their careers in unstructured organizations with ambiguous policies, settings, and rules (O'boyle et al.,

2012), as it provides an opportunity for manipulative behavior (Becker & Dan O'Hair, 2007). Due to Machiavellians manipulation, lack of long-lasting relationships with others, and loyalty to managers and their teams, they would be less likely to experience success in their business careers. They are less likely to put in extra effort at work as they are consistently distrustful and assume they will not get paid back for it (O'boyle et al., 2012). Moreover, if they see a path toward reaching their goals, they will engage in hostile and unethical behavior without remorse as long as the end justifies the means. Machiavellians are willing to behave deceitfully, aggressively, and exploitative (Wu & Lebreton, 2011), and it is reasonable to believe that individuals high in Machiavellianism are more likely to engage in CWB than those low in Machiavellianism. Thus, we hypothesize the following:

H6: Enforcement-focused work attitude will have a positive relationship with counterproductive academic behavior.

H7: Enforcement-focused work attitude will have a negative relationship with academic citizenship behavior.

2.4.4 Psychopathy

Psychopaths are not likely to act in a way that pleases other individuals, as they are underlyingly insensitive to others (O'boyle et al., 2012). Due to psychopathy being related to criminal acts and impulsivity (O'boyle et al., 2012; Smith & Lilienfield, 2013), they are expected to be more associated with CWB than OCB (Smith & Lilienfield, 2013). Psychopathy is argued to be related to CWB, such as academic cheating (O'boyle et al., 2012) and exam copying (Furnham et al., 2013), which makes sense considering how they could act more spontaneously (Furnham et al., 2013). Psychopathy has been demonstrated to relate positively to CWB (Smith & Lilienfield, 2013). Such associations could be understood as they regard themselves as superior to others, engaging in selfish and self-promoting behavior, do not feel obligations to follow the rules, are not concerned with others' interests as much as their own, and potentially gain satisfaction from harming others (Wu & Lebreton, 2011).

Despite the notion that psychopathy is maladaptive, there has been argued that some components are adaptive to organizational settings (Smith & Lilienfeld, 2013). It could be likely that they thrive in business settings, given that their work demands rational, emotionless, and risk-taking behavior, with a focus on achievement independent of whether it harms other people and requires charismatic social skills (O'boyle et al., 2012). However, such an example would be the exception, as psychopaths' inconsistent behavior with basic morals and principles would be overall negative within organizations long-term (O'boyle et al., 2012). For instance, setting coworkers up in conflicts is often something they would accomplish (Babiak & Hare, 2006). Furthermore, findings indicate that psychopaths typically would be responsible for organizational misbehavior such as fraud, high job losses, and organizational environmental destruction (Boddy, 2006). Other research indicates that when psychopaths hold leadership positions, employees' commitment to the organization is negatively influenced (Boddy et al., 2010) and predicts negative employee attitudes, which in the long run, could harm job satisfaction and organizational success (Mathieu & Babiak, 2015). In previous validation studies of TOP, Schwarzinger & Schuler (2019) identified that uncommitted-impulsive work style had a negative relation to OCB and a positive relation to CWB. Thus, based on theoretical expectations and previous findings, we hypothesize the following:

H8: Uncommitted-impulsive work style will have a positive relationship with counterproductive academic behavior.

H9: Uncommitted-impulsive work style will have a negative relationship with academic citizenship behavior.

2.4.5 Does TOP add value beyond the Big Five?

By assessing the incremental validity of TOP in conjunction with the Big Five, our objective is to gain insights into the degree to which TOP enhances the prediction of CWB. Improving the understanding of the relation between personality traits and CWB could enhance organizations' opportunity to minimize the negative impacts of CWB (DeShong et al., 2015), and nudge

organizations to improve their screening and recruitment methods (DeShong et al., 2015). Moreover, considering CWBs potential serious negative impacts on organizations, such as significant financial costs (Bennett & Robinson, 2000), increased turnover, workplace conflict and decreased productivity (DeShong et al., 2015), underlines the value of researching this predictive relationship. Given these negative impacts, much attention has been placed on improving the prediction of CWB, with a focus on the relationship between the Five Factor Model and CWB (Jensen & Patel, 2011; Wu & Lebreton, 2011). According to Berry et al. (2007), the traits agreeableness, conscientiousness and emotional stability in the Five Factor Model have the greatest potential for predicting CWB.

Furthermore, there is a growing belief that the Dark Triad could help explain some of the variances in CWB that the Five-Factor Model cannot, as deviant personality may be better at explaining deviant behavior (Wu & Lebreton, 2011). Some have found narcissism to predict deviant workplace behavior more than any of the Big Five Factors (Judge 2006, cited in Wu & Lebreton, 2011), whereas others have found psychopathy to predict more of CWB than the Five-Factor model alone (Scherer et al., 2013). DeShong et al. (2015) found that the Five Factor Model predicts CWB to a larger extent than the Dark Triad. Pertinent to our study, Schwarzinger & Schuler (2019) has, in previous validation studies of TOP, examined whether TOP adds value beyond the Big Five alone in predicting CWB. Their results indicated a markedly weak increased explained variance by adding TOP, and the Big Five model alone explained approximately 20% of the variance in CAB. Hence, it is justifiable to expect that NEO-FFI will predict CWB to a certain extent. Even though Schwarzinger & Schuler (2019) demonstrated weak incremental validity, it would be reasonable to anticipate TOP to increase the overall prediction of CAB together with NEO-FFI. Thus, we hypothesize the following:

H10: TOP adds to the prediction of counterproductive academic behavior beyond NEO-FFI alone.

3.0 Methodology

This section presents the methodological approach employed to examine the thesis' hypotheses and research question. It includes a description of the research design, sample characteristics, data collection and procedure methods, and measurement tools utilized in the study. Additionally, ethical considerations pertinent to the research will be discussed.

3.1 Research design

The selection of a research approach depends on the research question, existing theory on the phenomenon as well as the nature of the study (Saunders et al., 2019). As research philosophies shape our assumptions and beliefs about knowledge development, it affects various aspects of the research process (Saunders et al., 2019). The ontological and epistemological foundations are fundamental philosophical assumptions in research (Bell et al., 2019) and are relevant to consider. Ontology refers to the assumptions we make about what it means for something to exist (Bell et al., 2019). As we consider the social reality investigated in this study as an external reality that exists independently of human interpretation and perception, our research study has an objectivist ontological foundation (Saunders et al., 2019). Epistemology comprises the theory of knowledge, specifically related to understanding how one can gain knowledge of reality (Bell et al., 2019). Thus, the present research study follows a positivist epistemological philosophical stand, as we are gathering data through objective, empirical observation to uncover generalizations about the social world (Saunders et al., 2019). In alignment with our objective positivist research philosophy, our research project takes a deductive approach, as our study utilized existing research and theory to formulate hypotheses and objectives (Brahma, 2009). In accordance with our deductive research approach, a quantitative research method is applied to collect numeric data. Hence, a cross-sectional research design was conducted to complete this study, allowing us to identify association patterns (Bell et al., 2019).

3.2 Data collection

In this thesis, data was collected using self-completion questionnaires. The CAB/ACB measure was administered using the web-based tool Qualtrics,

while the remaining two measures were administered through Hogrefe's test administration platform. The chosen design for this study is cross-sectional, which traditionally involves collecting data at a single point in time from multiple cases (Saunders et al., 2019). Consequently, the design has been criticized due to its potential to introduce systematic method error, often known as common method variance (Bell et al., 2019). To address these concerns, we adopted a three-time-point data collection approach except for one part of our sample that was collected at one point. Doing this allows us to mitigate some of the limitations associated with cross-sectional designs (Bell et al., 2019), as collecting data at multiple time points better account for potential biases and enhance the validity of the findings (Saunders et al., 2019). A comprehensive discussion of the methodological weaknesses and strategies to address them will be discussed in chapter seven.

3.3 Measurements

3.3.1 TOP: The Dark Triad at work

The Dark Triad of personality was measured using the Norwegian translation of the TOP scale developed by Hogrefe (Schwarzinger & Schuler, 2019), consisting of 60 items with three overall factors and 11 subscales. The respondents were asked to respond to statements about their work behavior and personal attitudes on a 7-point Likert scale from 1 (*strongly disagree*) to 7 (*strongly agree*). Prior to this thesis, the back-forward technique (Brislin, 1970) was employed to translate TOP from English to Norwegian.

As mentioned in section 1.1, TOP is owned and distributed by the commercial actor Hogrefe. We were granted access to data from the 11 second-order factor level of TOP, which precludes analysis at the item-level. However, a comprehensive item-level analysis will be conducted in a public validation in the future. Therefore, in this thesis analysis, our contribution to the validation of TOP will be based on the second-order factor level. As stated before, this level encompasses claim to leadership, belief in persuasive power, need for authority, appetite for risk, and sense of superiority for self-centered work approach, as well as unsentimentality, assertiveness, and skepticism for enforcement-focused work attitude, and flexibility, impulsivity, and

extenuation for uncommitted-impulsive work style (Schwarzinger & Schuler, 2019).

3.3.2 CAB/ACB

The measure employed in this study comprises two different original scales. Hakistan et al. (2002) measure of counterproductive behavior was applied to measure CAB, which consisted of 40 items divided into nine subscales. As this version encompassed both CWB and CAB items, we did as Marcus et al. (2007) and eliminated all nonacademic items from the measure to clearly distinguish and separate CWB from CAB. *Substance abuse, cheating, petty personal gain, low personal standards, duplicity, misrepresentation, and indolence* were the final subscales, with a total of 26 items.. For the measure of ACB, we followed the approach by Gore et al. (2012) and adapted Williams and Shiaw's (1999) scale of OCB to apply to academic settings. The scale consists of 16 items divided into four subscales: *consideration, civic virtue, conscientiousness, and sportsmanship*.

As part of this project, both scales were subjected to a translation process from English to Norwegian using the back-forward technique (Brislin, 1970). Due to the translation of these measures, a thorough preliminary analysis was conducted using several factor analysis which will be presented in section 4.2 of this thesis. Respondents were asked to respond to a 7-point likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Our analyses demonstrated Cronbach's alpha values above .70 for ACB ($\alpha = .71$) and CAB ($\alpha = .73$).

3.3.3 NEO-FFI-3

To investigate the construct and incremental validity of TOP, a 60-item Norwegian version of NEO-FFI-3 was applied to measure the Big Five traits(Costa & McCrae, 1992). The NEO-FFI-3 contains self-descriptive statements that the participants respond to by using a five-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*) (McCrae & Costa, 2004). Research claims that the measure has high validity (Costa & McCrae, 1992) and that the Norwegian version of NEO-FFI-3 is consistent in its results, providing evidence supporting the five-factor model's stability (Martinsen et

al., 2011).

NEO-FFI-3 is owned and distributed by the commercial actor Hogrefe which imposes some limitations. Same as for TOP, we were not permitted access to the item-level of the test. Thus, we were granted access to the first-order factor level including extraversion, neuroticism, openness to experience, agreeableness, and conscientiousness. Additionally, NEO-FFI-3 is a short version and does not provide results for the 30 facets associated with the five overarching factors (Hogrefe, n.d.).

3.4 Procedure and sample

To test our hypotheses, we collected data from participants who are currently completing higher education. To obtain our sample, we targeted three bachelor classes and utilized our personal network in our graduating master class. Our supervisor was the intermediary in establishing contact with the various bachelor classes. We presented our research project for two of the bachelor classes, while our supervisor introduced the project for the third class.

The students were given an information letter regarding the project and a link to participate in the initial survey. This information was shared and made available to the students through the learning platform Itslearning and email. All students were invited to participate in the project and asked to complete three measures. In three of the four classes, the students who had completed the first measure (CAB/ACB) received the second questionnaire (TOP) two to three weeks later. The third questionnaire (NEO-FFI-3) was sent out continuously after two-three weeks of completion of TOP. Each student received four reminders two to three weeks apart. The fourth class completed all three questionnaires during one lecture, but at three different time points. Our sampling approach may be characterized as a convenience sampling method, as we announced our study for a group that could further self-select to participate (Stratton, 2021).

As some participants did not complete all three surveys and to utilize all data collected, we developed one dataset including all responses to the three measures, enabling us to have the largest possible sample size when investigating the various hypotheses. We started our data collection on January 18, 2023, and closed on May 3, 2023, making our data collection period three

months and three weeks. Demographic data, including age, gender, number of years studied, and participation in student associations, was collected through our CAB/ACB measurement. For the TOP and NEO-FFI-3 measure, only age and gender was collected. The total sample (N = 215) consists of 161 females (75%) and 54 males (25%). The mean age was 23.3 (SD = 3.58) years, and the mean years of study was 2.5 (SD = 1.58). Only 25% had participated in various student associations, whereas 75% had not.

3.5 Ethical considerations

An important consideration when conducting research is to conform to specific ethical guidelines and standards (Bell et al., 2019; Flick, 2011). Obtaining an informed consent form is a fundamental component of conducting ethical research (Crow et al., 2006). In our study, the participants were provided an informed consent form (Appendix 1), ensuring that they were fully informed about the research objective, how the data would be administered, and that they could withdraw at any time. Further, participation in this study was voluntary, and the participants were entitled to request the deletion of their data from the sample.

To ensure the project was meeting ethical standards, we contacted The Norwegian Centre for Research Data (NSD) and applied for approval for data handling before collecting data. Personal data collected through the survey included demographic data such as age, gender, number of years of study, and student associations. The personal data collected in the survey were treated confidentially and in compliance with data protection legislation, including the General Data Protection Regulation (GDPR) and Personal Data Act. Before analyses, all personally identifiable information was removed from the dataset to ensure anonymity. Further, in alignment with NSD's terms of agreement for the project deadline, all data collected in the research project will be deleted by 03.07.2023.

4.0 Data analyses

This section will focus on the data analyses process, providing a detailed explanation of steps taken to analyze the data obtained from the project. However, since this study does not specifically address hypotheses concerning the internal structure of the CAB/ACB measure, both the data

analysis and results regarding this measure are presented in this chapter. The collected data were processed, analyzed, and described using IBM SPSS Statistics version 29 and R-studio.

4.1 Preparing for data analyses

Before conducting statistical analyses, a fundamental task is to clean and screen the data for missing values and repeated responses. All missing values and repeated responses were excluded from the dataset. Items 14, 15, and 16 in the CAB/ACB measure were reversed coded as they were negatively worded. In the TOP and NEO-FFI measures, the variable age was computed from age in months to age in years to enhance interpretability. The factors in TOP and NEO-FFI were initially calculated by summing individual responses from multiple items. To simplify the interpretation of descriptive statistics (Meyers et al., 2013), these scores were converted into composite scores by dividing the summed score by the number of items within each factor. This transformation ensured that the composite scores maintained the range of the original Likert scale used in the assessment.

Descriptive statistics were conducted to assess the characteristics of the variables within our sample. As Meyers et al. (2013) recommend, we assessed our quantitative and categorical variables through frequencies descriptive statistics. To assess basic mean gender differences and student association membership, we conducted Exploratory descriptive statistics. We included Means (*M*), Standard Deviations (*SD*), Minimum, Maximum, Skewness, and Kurtosis for all descriptive statistics. Additionally, we included assessments of normality beyond skewness and kurtosis, such as histograms and normality plots, and boxplots to check for outliers (Pallant, 2020).

A review of the different boxplots indicated no extreme points but some outliers. After checking these outliers more closely, we assessed the various outlier's scores to be genuine, as they were within the range of possible scores for the given variable. Moreover, as the 5% trimmed mean and mean values are almost identical, we retained these cases (Pallant, 2020). Skewness and kurtosis less than ± 1.00 can be considered to have a relatively acceptable normal distribution (Meyers et al., 2013), and all of our variables were within this range. Reviewing all variables histograms and normal probability plots

indicated a reasonable normal distribution for all variables (Pallant, 2020).

4.2 Preliminary factor analysis and results CAB/ACB

Given that we have translated the CAB/ACB measure to Norwegian, we chose to assess the measurement properties of the translated version. This process involved examining various aspects such as factor structure, goodness of fit, and reliability to ensure the soundness and appropriateness of the measurement tool. By evaluating these properties, we aim to establish a solid foundation for subsequent analyses and interpretations of the data gathered using the CAB/ACB measure. As the CAB/ACB measure is two different measures (Williams & Shiaw, 1999; Hakistan et al., 2002), we performed two separate CFA's for the related items, and ultimately a CFA with both measures in one model. Several goodnesses of fit indexes were applied to assess and evaluate how well the structure fits the data, such as Chi-square (χ^2), the ratio between χ^2 and degrees of freedom ($\chi^2/d.f$), Root Mean Square Error of Approximation (RMSEA), Comparative Fit Index (CFI) and The Tucker-Lewis Index (TLI).

The Chi-square statistic (χ^2) enables the evaluation of the goodness of fit for a specific model and the comparison between two different models. A smaller χ^2 value indicates a better fit for the model (Hinkin, 1998). However, it has been shown that the Chi-square is sensitive to sample size differences (Hinkin, 1998; Meyers et al., 2013). An approach to address these problems is the ratio of χ^2 / degrees of freedom. Despite no consensus regarding the acceptable ratio, it has been suggested that a chi-square two or three times as large as the degrees of freedom is acceptable (Carmines & McIver, 1981). RMSEA measures how well the model reproduces the relationship between the variables in the population based on the observed data (Meyers et al., 2013). RMSEA values $< .05$ indicate a good fit, and values $< .08$ represent an adequate fit (Meyers et al., 2013). CFI assesses the degree to which the hypothesized model fits the data better than an independent or null model (Bentler, 1900). The current consensus in the field suggests that a CFI value of $.95$ or higher indicates a good fit between the model and the data (Meyers et al., 2013). The TLI measures improvement in fit by comparing the difference between the chi-square values of the hypothesized model and the baseline

model while considering the degrees of freedom. The TLI ranges from 0 to 1, where values closer to 1 indicate a better fit (Bentler & Bonnet, 1980). Hu & Bentler (1999) suggest a TLI close to .95 indicates a good fit.

4.2.1 ACB analysis and results

As ACB consists of 16 items, a one-factor model with 16 items was tested, in which the model turned out to be unsatisfactory ($\chi^2 = 305.55$, $df = 104$, $p = .000$, $RMSEA = 0.096$, $CFI = 0.654$, $TLI = 0.60$). As mentioned, ACB comprises four different subscales; these subscales were treated as separate factors in a subsequent CFA. Resulting in the investigation of a four-factor model with the 16 ACB items, in which the model turned out unsatisfactory ($\chi^2 = 159.03$, $df = 98$, $p = .000$, $RMSEA = 0.054$, $CFI = 0.90$, $TLI = 0.87$). An inspection of the modification indices suggested the removal of Item 16 for better model fit (Whittaker, 2012). Thereby, a four-factor model with 15 items was tested. The justified model indicated a somewhat good fit ($\chi^2 = 134.40$, $df = 278$, $p = .000$, $RMSEA = 0.049$, $CFI = 0.91$, $TLI = 0.89$). Despite the rejection of the model based on the Chi²-test, the RMSEA supported the acceptance of the model, indicating a good fit to the data. Further, the $\chi^2 /$ degrees of freedom ratio = .48, indicating an acceptable fit of the model. As a result, we proceeded to adopt a four-factor solution for the ACB items, incorporating 15 items.

4.2.2 CAB analysis and results

As CAB consists of 26 items, a one-factor model incorporating the 26 items was tested for CAB, in which the model turned out to be unsatisfactory ($\chi^2 = 547.37$, $df = 299$, $p = .000$, $RMSEA = 0.063$, $CFI = 0.51$, $TLI = 0.47$). As CAB comprises seven different subscales, these subscales were treated as separate factors in subsequent analyses, resulting in the investigation of a seven-factor model with the 26 CAB items. The goodness of fit turned out to be unsatisfactory ($\chi^2 = 377.85$, $df = 278$, $p = .000$, $RMSEA = 0.041$, $CFI = 0.80$, $TLI = 0.77$). An inspection of the modification indices suggested the removal of Item 19, 23 and 25 to enhance the model fit (Whittaker, 2012). However, it was observed that upon removing item 25, factor 11 was left with only one remaining item. To ensure the reliability of measurement and avoid

having a factor with a solitary item, it was deemed appropriate to exclude both items from the analysis, subsequently leading to the removal of factor 11. With this purpose, we modified the model by removing the items step by step, as illustrated in Table 1. The more acceptable model consisted of six factors and 22 items in total. For a comprehensive overview of the original and deleted CAB and ACB items, please refer to Appendix 2.

Table 1

Goodness of Fit When Deleting Defective Items

Model	χ^2	<i>p</i>	d.f.	χ^2 /d.f.	RMSEA	CFI	TLI
Model 1	298.88	0.004	237	1.26	0.035	0.81	0.77
Model 2	270.19	0.006	215	1.26	0.035	0.82	0.79
Model 3	243.86	0.009	194	1.26	0.035	0.83	0.83

Note. Model 1: deleting item 25 and 26 (F11). Model 2: deleting item 25, 26 and 23. Model 3: deleting item 25, 26, 23 and 19.

Conclusively, the subscale analyses of both ACB and CAB demonstrated a notable improvement in model fit compared to the item-level analyses. This suggests that although the included items may measure similar constructs, they are conceptually intended to load onto distinct subscales. However, in order to attain a more satisfactory model fit, the exclusion of several items became necessary, leading to a loss of information. For example, the subscale related to misrepresentation, represented by factor 10, was compromised due to the weak alignment of item 23 with this specific construct. While the removal of items yielded improved statistical indicators, it is essential to acknowledge the adverse effect it had on the quality of specific factors, such as factor 10.

4.2.3 CAB/ACB in a two-factor model

To provide insight into whether the items from CAB and ACB tapped into different behavioral dimensions, or whether there was a significant overlap between them, we decided to integrate CAB and ACB items into one model. As the previous analyses revealed a better model fit when incorporating the subscales, we employed a parceling technique to group the remaining items

according to their respective subscales. Subsequently, these ten variables were used in an additional CFA with a two-factor solution. The goodness of fit for the two-factor ten variables model was unsatisfactory ($\chi^2 = 77.50$, $df = 34$, $p = .000$, RMSEA = 0.078, CFI = 0.75, TLI = 0.67). Based on the modification indices, the correlation between variables and factors was suggested (Civic Virtue-CAB, Conscientiousness-CAB, Sportsmanship-CAB). Allowing for these cross-loadings resulted in a justified and good model ($\chi^2 = 39.14$, $df = 31$, $p = .150$, RMSEA = 0.035, CFI = 0.95, TLI = 0.94). The identification of several cross-loadings not within the same measure suggests that while ACB and CAB represent distinct constructs, they also demonstrate a notable conceptual overlap, measuring certain facets of the same psychological domain, albeit in opposite directions. An examination of the standardized factor loadings revealed the presence of several weak loadings. This observation raises concerns about incorporating all items into a two-factor model. The standardized factor loadings of the variables on their respective factors are illustrated in Table 2, indicating the presence of several weak loadings with a lack of statistical significance.

Table 2*10 Standardized Factor loading from CFA for 2 factors*

	F1 (ACB)	F2 (CAB)
ACB		
V1 (Consideration)	0.583***	
V2 (Civic Virtue)	0.795***	(-0.347**)
V3 (Conscientiousness)	0.347***	(-0.408**)
V4 (Sportsmanship)	-0.106	(-0.392**)
CAB		
V5 (Substance Abuse)		0.449***
V6 (Petty Personal Gain)		0.255*
V7 (Cheating)		0.413***
V8 (Low Personal Standards)		0.732***
V9 (Duplicity)		0.188
V10 (Misrepresentation)		0.598***

Note. * $p < .05$, ** $p < .01$, *** $p < .001$. Allowed cross-loadings are in parentheses.

Furthermore, a Chi² difference test was conducted to establish whether CAB and ACB should be treated as a two-factor model or not. Here, the two-factor model was compared to a one-factor model. If the difference in the Chi² is significant, the null hypotheses of a similar fit for both models are rejected, indicating that the two-factor model should be retained (Schermelleh-Engel et al., 2003). The values for the one-factor model were $\chi^2 = 103.90$ ($df = 44$), whereas the two-factor model was $\chi^2 = 39.14$ ($df = 31$). The Chi² difference test indicated a $\Delta\text{Chi}^2 = 64.76$ ($\Delta df = 13$). The investigation of the Chi² distribution table at the .05 level, indicates that the critical Chi² value was 22.36. This indicates that $\Delta\text{Chi}^2 > 22.36$ (critical value), supporting that the two-factor model should be retained. Which further confirmed that the CAB and ACB measures are distinct and should be treated as separate constructs. To further investigate the presence of common method bias in our CAB/ACB scale, we conducted the Harman One-Factor test (Podsakoff et al., 2003). The analysis revealed that the first factor explained only 12% of the total variance, which is

well below the threshold of 50% (Baumgartner et al., 2021), suggesting that common method bias is not a significant concern in our data.

4.2.4 Reliability analyses

Reliability analyses was conducted using Cronbach's alpha to assess the internal consistency reliability of the CAB/ACB measure (Meyers et al., 2013). The general rule of Cronbach's alpha is that the items should not be too close to 1, indicating that the items ask the same, nor should they not be correlated at all, indicating that the items have nothing in common (Meyers et al., 2013). Different opinions exist regarding the threshold for acceptable Cronbach's alpha (Cooper, 2021; Field, 2018; Nunnally, 1978). Ideally, an alpha coefficient above .70 is preferred as it reflects strong item covariance (Hinkin, 1998). In line with this recommendation, we adopted a threshold of .70 as the criterion for accepting alpha values. Cronbach's alpha coefficients were computed separately for the items loading onto CAB and ACB. Our analyses demonstrated Cronbach's alpha values above .70 for ACB ($\alpha = .71$) and CAB ($\alpha = .73$).

4.3 Correlation and regression analyses

Prior to analyses, we transformed all variables to standardized scores, particularly since TOP (self-centered work approach, enforcement-focused work attitude, uncommitted-impulsive work style) and NEO-FFI-3 (extraversion, neuroticism, agreeableness, conscientiousness, openness to experience) includes different ratio on Likert-scales. Thus, it enables a comparison of the performance of the two measures within the same sample (Meyers et al., 2013).

As construct validity typically involves assessing the correlation between scales conceptually related and distinct (Hinkin, 1998), a Bivariate Correlation Analysis was conducted. The purpose was to examine if the TOP factors correlate as expected with the NEO-FFI-3 factors. Various correlation coefficients could be applied, whereas we chose Pearson's r correlation coefficient as it is the most widely used (Meyers et al., 2013) and the most appropriate for our variables (Pallant, 2020). Before correlation analysis, we assessed linearity for expected relationships through scatter plots which

indicated no curved relationships.

Both correlation and regression analyses were employed to examine criterion-related validity (Hinkin, 1998). Bivariate correlation analysis (Saunders et al., 2019) was initially conducted to explore the associations between the TOP factors and CAB and ACB. Subsequently, significantly correlated relationships were subjected to simple linear regression analyses (Meyers et al., 2013) to assess the strength of these associations. Hierarchical regression analysis was performed to assess whether the inclusion of all TOP factors affected the individual factor's prediction of CAB and ACB, and to control for age and gender (Meyers et al., 2013). A scatterplot of the standardized residuals indicated no systematic pattern, indicating no problem with homoscedasticity (Pallant, 2020). The multicollinearity statistics thresholds were established as Tolerance $> .10$ and VIF < 10 , following the guidelines proposed by Pallant (2018). As the analysis revealed the presence of a significant relationship between gender and ACB, a one-way ANOVA was applied to further explore the impact of gender on levels of ACB. As the variable gender only consists of two distinctive categories (Male/Female), no Post Hoc test was performed (Pallant, 2018).

A hierarchical regression analysis was conducted to investigate the incremental validity of TOP. The dependent variable in the analysis was CAB. In the first step of the regression model, we entered the NEO-FFI personality factors as predictors. Subsequently, in the second step of the model, we included the TOP factors along with all the predictors from the first model.

4.4 Exploratory analyses

In addition to our primary analyses, we incorporated an exploratory phase to assess if the TOP factors could predict specific CAB subscales more effectively than others. This exploratory approach aimed to identify any differential predictive patterns among the subscales. To accomplish this, we employed standard multiple linear regression analyses. Through these exploratory analyses, we sought to gain further insight into the potential nuances and variations in the predictive ability of the TOP factors within the context of CAB subscales.

5.0 Results

Descriptive statistics for all variables, including the number of responses (N), Means (M), Standard Deviations (SD), Minimum, Maximum, Skewness, and Kurtosis, are presented in Table 3. As seen in Table 3, there are different numbers of participants for the three measures. After participants completed the CAB/ACB measure ($N = 210$), several of them did not complete TOP ($N = 157$) and NEO-FFI-3 ($N = 134$). A reminder for the sake of interpretation of descriptive statistics: NEO-FFI-3 are measured on a five-point likert scale, whereas TOP and CAB/ACB are measured on a seven-point likert scale. All variables were standardized for further analysis. Correlations between all variables are presented in Table 4.

Table 3

Descriptive statistics

	N	M	SD	Min	Max	Skewness	Kurtosis
SC	157	4.04	0.68	2.32	5.65	-.264 (.194)	-.251 (.385)
EF	157	3.85	0.78	1.76	5.76	-.123 (.194)	.001 (.385)
UI	157	3.39	0.81	1.33	5.58	.027 (.194)	-.222 (.385)
E	134	2.87	0.54	1.50	3.92	-.161 (.209)	-.661 (.416)
N	134	1.94	0.74	0.33	3.83	.008 (.209)	-.507 (.416)
A	134	2.38	0.55	0.92	3.67	-.118 (.209)	-.345 (.416)
C	134	2.85	0.53	1.17	3.92	-.336 (.209)	-.051 (.416)
O	134	2.34	0.58	1.17	3.67	.229 (.209)	-.679 (.416)
ACB	210	4.77	0.70	2.47	6.27	-.364 (.168)	.161 (.334)
CAB	210	2.02	0.58	1.05	4.00	.763 (.168)	.399 (.334)

Note. Total unique respondents $N = 215$. SE of kurtosis and skewness are reported in parentheses. SC = self-centered work approach, EF = enforcement-focused work attitude, UI = Uncommitted-impulsive work style, E = extraversion, N = neuroticism, A = agreeableness, C = conscientiousness, O = openness to experience, ACB = academic citizenship behavior, CAB = counterproductive academic behavior.

Table 4*Correlations between all variables*

	1	2	3	4	5	6	7	8	9	10
1. CAB	1.00									
2. ACB	-.21**	1.00								
3. E	.00	.14	1.00							
4. N	.23**	-.26**	-.41***	1.00						
5. A	-.14	.31***	.26**	-.21**	1.00					
6. C	-.30***	.42***	.32***	-.35***	.15	1.00				
7. O	-.15	.22**	-.07	.01	.19*	.02	1.00			
8. SC	.03	-.11	.06	-.11	-.54***	.19*	-.00	1.00		
9. EF	.11	-.23**	-.33***	.11	-.57***	-.19*	-.28***	.44***	1.00	
10. UI	.32***	-.38***	-.23**	.31***	-.60***	-.50***	-.06	.37***	.47***	1.00

Note. * $p < .05$, ** $p < .01$, *** $p < .001$. CAB = counterproductive academic behavior, ACB = academic citizenship behavior, E = extraversion, N = neuroticism, A = agreeableness, C = conscientiousness, O = openness to experience, SC = self-centered work approach, EF = enforcement-focused work attitude, UI = Uncommitted-impulsive work style.

5.1 Construct validity: TOP and NEO-FFI-3

Correlation analysis was conducted to examine the associations between TOP factors and NEO-FFI factors (see Table 4). The results revealed a significant negative correlation between the self-centered work approach and agreeableness ($r = -.54, p < .001$), whereas it did not demonstrate a significant correlation with extraversion ($r = .06, p = .489$), neuroticism ($r = -.11, p = .216$), or openness to experience ($r = -.00, p = .979$). Further, the analysis revealed a significant positive correlation between self-centered work approach and conscientiousness ($r = .19, p < .05$). Thus, H1 is partly supported.

Enforcement-focused work attitude did not exhibit a significant positive correlation with neuroticism ($r = .11, p = .227$), and demonstrated significant negative correlation with agreeableness ($r = -.57, p < .001$) and conscientiousness ($r = -.19, p < .05$). Additionally, enforcement-focused work attitude had significant negative correlation to openness to experience ($r = -.28, p < .001$) and extraversion ($r = -.33, p < .001$). Hence, there is moderate support for H2.

Uncommitted-impulsive work style was significantly negatively correlated with agreeableness ($r = -.60, p < .001$) and conscientiousness ($r = -.50, p < .001$) and significantly positively correlated to neuroticism ($r = .31, p < .001$). Uncommitted-impulsive work style had a significant negative correlation with extraversion ($r = -.23, p < .05$), and did not have a significant correlation with openness to experience ($r = -.06, p = .473$). Thus, H3 received comprehensive support.

5.2 Criterion-related validity: TOP, CAB and ACB

To assess the connections between TOP factors and CAB and ACB, both correlation, simple linear regression, and hierarchical regression analysis was conducted. Correlation analysis (see Table 4) revealed that only uncommitted-impulsive work style had a significant positive correlation with CAB ($r = .32, p < .001$), whereas enforcement-focused work attitude did not ($r = .11, p = .191$), and self-centered work approach was uncorrelated ($r = .03, p = .700$). Both uncommitted-impulsive work style ($r = -.38, p < .001$) and enforcement-focused work attitude ($r = -.23, p < .01$) had significant negative

correlations with ACB, whereas self-centered work approach did not ($r = -.11$, $p = .182$).

Simple linear and hierarchical regression analyses were conducted to examine the strengths of the correlated relationships between TOP factors and CAB and ACB, and to control for age and gender. Simple linear regression analyses (see Table 5) revealed uncommitted-impulsive work style to be the only predictor of CAB ($B = .34$, $p < .001$), suggesting that an increase in uncommitted-impulsive work style is associated with an increase in CAB. Both uncommitted-impulsive work style ($B = -.38$, $p < .001$) and enforcement-focused work attitude ($B = -.22$, $p < .01$) were found to negatively predict ACB, suggesting that an increase in uncommitted-impulsive work style and enforcement-focused work attitude independently is associated with a decrease in ACB. No other significant connections were found.

Table 5

Simple linear regression analyses between TOP factors and CAB and ACB

	<i>b</i>	<i>SE b</i>	β	<i>t</i>	<i>p</i>	<i>CI</i> ₉₅		<i>R</i> ²
						Lower	Upper	
CAB								
UI	0.34 ***	.08	.32	4.11	< .001	0.17	0.50	.10
EF	0.11	.06	.11	1.31	.191	-0.06	0.28	.01
SC	0.03	.07	.03	.39	.700	-0.14	0.20	.00
ACB								
UI	-0.38 ***	.08	-.38	-5.01	< .001	-0.53	-0.23	.14
EF	-0.22 **	.08	-.23	-2.82	.005	-0.38	-0.07	.05
SC	-0.11	.08	-.11	-1.34	.182	-0.27	0.05	.01

Note. * $p < .05$, ** $p < .01$, *** $p < .001$. CAB = counterproductive academic behavior, ACB = academic citizenship behavior, UI = uncommitted-impulsive work style, EF = enforcement-focused work attitude, SC = self-centered work approach.

The hierarchical regression of ACB and CAB included all three TOP factors in Model one, and controlled for age and gender in Model two (see Table 6). The analysis of ACB, including all three TOP factors, yielded a significant model $F(3, 148) = 5.33$, $p < .01$, and the TOP model explains 10% of the variance in ACB. Uncommitted-impulsive work style was the only significant predictor ($B = -.26$, $p < .001$). This suggests that the enforcement-focused work attitude and uncommitted-impulsive work style share

overlapping variance in explaining ACB, which also are indicated by their correlation $r = .47$ (see Table 4) Similarly, in the analysis of CAB with all three TOP factors, a significant model fit was observed $F(3, 148) = 6.06, p < .001$, and the TOP model explains 11% of the variance in CAB. Uncommitted-impulsive work style emerged as an independent predictor ($B = .38, p < .001$), and to a higher extent than in the simple linear analysis.

In relation to CAB and Model two, neither age ($B = -.04, p = .104$) nor gender ($B = -.09, p = .635$) exhibited significant effects, indicating their lack of predictive value. Uncommitted-impulsive work style did not have an individual changed effect on CAB. Regarding ACB, age did not demonstrate significance ($B = .03, p = .278$), whereas gender turned out significant ($B = -.39, p < .05$). The predictive value of uncommitted-impulsive work style decreased from Model one ($B = -.29, p < .001$) to Model two ($B = -.26, p < .01$). As the results indicate a significant gender difference in relation to ACB a one-way ANOVA was conducted to further explore this gender difference. The one-way ANOVA results revealed a significant gender difference for ACB $F(1, 208) = 10.10, p < .001$, and the mean plot reveals that males ($M = -.39, SD = .95$) are negatively associated with exhibiting ACB and women positively ($M = .13, SD = .98$). Hence, gender does influence the given effect in ACB. Collinearity statistics indicated no issues, as the analyses revealed acceptable tolerance numbers ($> .10$) and VIF values (< 10) for all regression analyses conducted.

Conclusively, the analysis rejects H4 and H5, and provides support for H6, H7, H8, and H9. Worth noting concerning H6, despite enforcement-focused work attitude losing its significant predictive value when combined with all TOP factors, it do demonstrate significant correlation and independent predictive value with ACB.

Table 6

Hierarchical regression analysis between TOP factors and CAB and ACB, and controlled for age and gender

	<i>b</i>	<i>SE b</i>	β	<i>t</i>	<i>p</i>	<i>CI</i> ₉₅		<i>R</i> ²
						Lower	Upper	
CAB								
<hr/>								
Model 1								.11
UI	.38***	.09	.36	4.03	<.001	.19	.57	
EF	-.03	.10	-.03	-.27	.788	-.22	.16	
SC	-.09	.09	-.09	-.99	.326	-.27	.09	
Model 2								.13
UI	.38***	.10	.38	3.96	<.001	.19	.56	
EF	-.03	.10	-.03	-.34	.736	-.22	.19	
SC	-.09	.09	-.09	-1.00	.321	-.27	.09	
Age	-.04	.02	-.13	-1.64	.104	-.09	.08	
Gender	-.09	.18	-.04	-.48	.635	-.45	.27	
<hr/>								
ACB								
<hr/>								
Model 1								.10
UI	-.29***	.09	-.29	-3.25	<.001	-.47	-.12	
EF	-.09	.09	-.09	-.95	.346	-.27	.10	
SC	.13	.09	.13	1.49	.137	-.04	.31	
Model 2								.14
UI	-.26**	.09	-.26	-2.88	.005	-.44	-.08	
EF	-.07	.09	-.07	-.79	.429	-.25	.11	
SC	.14	.09	.14	1.58	.117	-.04	.31	
Age	.03	.02	.09	1.09	.278	-.02	.07	
Gender	-.39*	.17	-.18	-2.28	.024	-.74	-.05	

Note. * $p < .05$, ** $p < .01$, *** $p < .001$. CAB = counterproductive academic behavior, ACB = academic citizenship behavior, UI = uncommitted-impulsive work style, EF = enforcement-focused work attitude, SC = self-centered work approach.

5.3 Incremental validity: Does TOP add any value?

The hierarchical regression analysis (Table 7) indicated a significant model fit for NEO-FFI-3 $F(5, 123) = 4.72, p < .001$. The predictors of model 1 explained 16% ($R^2 = 0.16, p < .001$) of the variance in CAB. The TOP factors provide a small, non-significant $F(3, 120) = 0.953, p = .418$ contribution to the NEO-FFI-3 model of $\Delta R^2 = .02$ (Table X). The findings revealed that including TOP as an additional predictor did not significantly improve the prediction of

CAB, rejecting hypothesis 10. The hierarchical regression analysis with ACB (Table 7) indicated a significant model fit for NEO-FFI $F(5, 123) = 10.02, p < .001$. Where the predictors in model 1 explained 29% ($R^2 = 0.29, p < .001$) of the variance in ACB. The TOP factors provide a small, non-significant $F(3, 120) = 0.734, p = .534$ contribution to the NEO-FFI-3 model of $\Delta R^2 = .01$ (Table 7). Collinearity statistics revealed that multicollinearity is not a problem, as all variables showed acceptable tolerance numbers ($> .10$) and VIF values (< 10).

Table 7

Hierarchical regression of NEO-FFI-3 and TOP factors on CAB and ACB.

Predictor	R	R ²	R ² _adj	ΔR ²
CAB				
Model 1: NEO-FFI-3	.40***	.16***	.14***	
Model 2: NEO-FFI-3 x TOP	.43	.18	.13	.02
ACB				
Model 1: NEO-FFI-3	.54***	.29***	.26***	
Model 2: NEO-FFI-3 x TOP	.55	.30	.26	.01

Note. *** $p < .001$.

5.4 Exploratory analysis of TOP factors and CAB subscales

Multiple linear regression analyses were performed to explore the predictive ability of TOP factors on various subscales of the CAB measure (see Table 8). A significant model fit was demonstrated for Low Personal Standard, $F(3, 148) = 6.42, p < .001$, explaining 12% of the variance. Similarly, a significant model fit was observed for the subscale Misrepresentation $F(3, 148) = 6.11, p < .001$, where the TOP model explains 11% of the variance in Misrepresentation. Uncommitted-impulsive work style emerged as the only significant predictor for Low Personal Standard ($B = .37, p < .001$) and Misrepresentation ($B = .38, p < .001$). The analysis did not reveal a significant model fit for Petty Personal Gain, $F(3,148) = 2.41, p = .069$. However, uncommitted-impulsive work style emerged as a significant predictor ($B = .27, p < .01$). As $R^2 = .05$, it indicates how the variables do not explain enough of the variance in Petty Personal Gain to gain a significant model. TOP did not predict *Substance Abuse* and *Cheating* and is therefore not included in Table 8.

Collinearity statistics were not an issue, as the analyses revealed acceptable tolerance numbers ($> .10$) and VIF values (<10) for all regression analyses conducted.

Table 8

Multiple linear regression analysis of TOP factors and CAB subscales

Subscales	<i>b</i>	<i>SE b</i>	β	<i>t</i>	<i>p</i>	CI ₉₅		<i>R</i> ²
						Lower	Upper	
Low Personal Standard								.12
UI	.37***	.09	.35	3.94	<.001	0.18	0.55	
EF	.03	.10	.03	.31	.755	-0.16	0.22	
SC	-.14	.09	-.14	-1.59	.114	-0.32	0.04	
Misrepresentation								.11
UI	.38***	.09	.36	4.08	<.001	-0.20	0.57	
EF	-.05	.10	-.05	-.49	.626	-0.24	0.14	
SC	-.06	.09	-.06	-.65	.515	-0.34	0.17	
Petty Personal Gain								.05
UI	.27**	.10	.24	2.59	.011	0.06	0.48	
EF	-.17	.11	-.15	-1.59	.113	-0.38	0.4	
SC	.00	.10	.00	.01	.988	-0.20	0.20	

Note. * $p < .05$, ** $p < .01$, *** $p < .001$. CAB = counterproductive academic behavior, ACB = academic citizenship behavior, UI = uncommitted-impulsive work style, EF = enforcement-focused work attitude, SC = self-centered work approach.

6.0 Discussion

The upcoming section will discuss the results derived from the current study, which aimed to assess the extent to which the Norwegian translation of TOP has satisfactory psychometric properties regarding construct-, criterion-, and incremental validity. Before delving into the discussion, it is essential to acknowledge that although a substantial portion of our hypotheses received support, some observed results did not align with theoretical expectations or previous research. It is evident that throughout the entire study, hypotheses related to the uncommitted-impulsive work style received comprehensive support, while the self-centered work approach attained limited support. A proper discussion of possible explanations will be accounted for in the following discussion sections and in the limitations chapter.

6.1 Construct validity: TOP and NEO-FFI-3

A solid portion of our identified associations between TOP factors and the Big Five align with previous findings and theoretical expectations. Initially, this provides evidence for construct validity for the Norwegian version of TOP. However, as mentioned, some of the relationships between the factors deviated from earlier findings, casting doubt on construct validity. Nevertheless, a discussion of these findings will be accounted for in the following section.

6.1.1 Self-centered work approach and the Big Five

This study hypothesized that self-centered work approach would have a positive association with extraversion and openness to experience, a negative association with neuroticism and agreeableness, and would not have a significant association with conscientiousness. Contrary to the hypothesized relationships, this study's findings did not support most associations between the self-centered work approach and the Big Five traits. Specifically, the expected associations with extraversion, neuroticism, and openness to experience were not observed. Only agreeableness demonstrated a significant association with self-centered work approach, and a surprisingly significant relationship was found to conscientiousness. In general, the observed associations indicate a lack of consistency between the results of the Big Five traits and the self-centered work approach compared to previous findings. Hence, H1 is just partly supported.

The observed negative relationship between the self-centered work approach and agreeableness is consistent with theoretical expectations and previous research (O'boyle et al., 2015; Paulhus & Williams, 2002; Schwarzingler & Schuler, 2019). This is not surprising considering individuals who exhibit narcissism tend to showcase a sense of self-importance, a need for dominance and control, and disregard for the needs and concerns of others (Campbell et al., 2011), not in line with altruistic and modest agreeable behavior (Cooper, 2021).

Surprisingly, the analysis revealed a positive association between the self-centered work approach and conscientiousness, which contradicts the hypothesis based on theoretical expectations (Schwarzingler & Schuler, 2019;

Vize et al., 2018). There are some inconsistencies in observed associations between these two, as there are reported uncorrelated relations (Vize et al., 2018) and weakly correlations (O'boyle et al., 2015). Even so, the observed positive association aligns with O'boyle (2015) and the English examination of TOP (Schwarzinger & Schuler, 2019) and could be explained by how narcissists often possess a strong desire for success and recognition, which may align with conscientious behavior such as being organized, hardworking, and diligent in fulfilling tasks and responsibilities, (O'Boyle et al., 2015).

Contrary to previous findings (O'boyle et al., 2015; Paulhus & Williams, 2002; Schwarzinger & Schuler, 2019), self-centered work approach did not demonstrate a positive association with extraversion and openness to experience nor a negative association to neuroticism. As narcissism is expected to entail extraverted individuals with interpersonal skills who seek out various situations to self-enhance and acquire admiration from others (Campbell et al., 2011), these findings are surprising. Schwarzinger & Schuler (2019) found both a positive correlation with extraversion and a negative one with neuroticism and a weak positive and an uncorrelated association to openness to experience. Thus, a possible explanation for why this study cannot confirm these relationships could be coincidences and little variation in the self-centered work approach variable, for instance, due to a smaller sample size which will be further discussed in limitations.

6.1.2 Enforcement-focused work attitude and the Big Five

This study hypothesized that enforcement-focused work attitude would have a positive association with neuroticism, a negative association with agreeableness and conscientiousness, and would not have a significant association with openness to experience and extraversion. The findings support a few of these hypothesized associations between enforcement-focused work attitude and the Big Five traits. Thus, H2 received moderate support.

Specifically, the significant negative associations with agreeableness and conscientiousness are consistent with previous research and theoretical expectations (O'boyle et al., 2015; Paulhus & Williams, 2002). The negative association with agreeableness aligns with Machiavellian's tendency to manipulate others cynically (O'boyle et al., 2015) and egocentric and

competitive behavior, contrasting with sympathetic and altruistic traits (Costa & McCrae, 1992). Similarly, the negative relationship with conscientiousness could imply how Machiavellians would instead exploit others, engage in deceptive tactics, and take shortcuts to achieve their objectives, rather than following ethical behavior (O'boyle et al., 2015).

Surprisingly, the results did not provide a significant association between enforcement-focused work attitude and neuroticism. This may suggest that enforcement-focused work attitude conceptualization does not necessarily translate into higher levels of anxiety and anger (O'boyle et al., 2015; Ashton et al., 2000) or elevated susceptibility to negative emotions (Muris et al., 2017). The findings are similar to the English examination of TOP and contradictory to the German examination (Schwarzinger & Schuler, 2019). As previous research has obtained weak associations, it may help explain the non-existing relationship in this study (O'boyle et al., 2015; Ashton et al., 2000) and why other research has achieved different results.

The unexpected negative association between enforcement-focused work attitude and openness to experience and extraversion challenges previous research that has not consistently found significant associations. However, the association between enforcement-focused work attitude and openness to experience aligns with Schwarzinger & Schuler's (2019) prior studies of TOP. Previous research indicates an uncorrelated association between enforcement-focused work attitude and extraversion (Lee & Ashton, 2005; O'boyle et al., 2015; Paulhus & Williams, 2002; Vize et al., 2018). Machiavellians do not necessarily contain classical extraverted behaviors, such as warmth and gregariousness (O'boyle et al., 2015), contributing to explaining the revealed negative association between the two.

6.1.4 Uncommitted-impulsive work style and the Big Five

This study hypothesized that uncommitted-impulsive work style would have a negative association with agreeableness and conscientiousness, a positive association with neuroticism, and would not have a significant association with extraversion and openness to experience. The results demonstrated support for most of the hypothesized associations between uncommitted-impulsive work style and the Big Five traits, providing

comprehensive support for H3.

The analysis revealed a significant association between uncommitted-impulsive work style and agreeableness and conscientiousness, which aligns with previous research (Paulhus & Williams, 2002; O'boyle et al., 2015; Schwarzinger & Schuler, 2019). Whereas conscientiousness entails aspects such as being organized, responsible, and dutiful, and agreeableness entails typical prosocial, cooperative, and compassionate behavior (Cooper, 2021), psychopathic tendencies are rather characterized by impulsivity, irresponsibility, lack of self-discipline (O'boyle et al., 2012), remorse, conscience, and consideration of others feelings (O'boyle et al., 2015). In other words, justifying these results.

The results did also support the hypothesized association between uncommitted-impulsive work style and neuroticism, in line with some previous findings (O'boyle et al., 2015; Schwarzinger & Schuler, 2019), and could be explained by psychopaths' association with anger, hostility, and impulsivity (Wu & Lebreton, 2011). Additionally, it supported the hypothesis claiming that uncommitted-impulsive work style would not have a significant association with openness to experience, aligned with previous research (Schwarzinger & Schuler, 2019; Vize et al., 2018), and the notion of how they would not necessarily be open toward other people's viewpoints or feelings (O'boyle et al., 2015).

Moreover, the results indicated a weakly negative association between uncommitted-impulsive work style and extraversion, contrary to initial hypothesized association and unexpected based on previous research (Paulhus & Williams, 2002; O'boyle et al., 2015). However, the observed association aligns with the English examination of TOP (Schwarzinger & Schuler, 2019) and could be explained by the potential antisocial behavior (O'boyle et al., 2012; Neumann et al., 2015) and lack of empathy present with individuals' psychopathic tendencies (O'boyle et al., 2015).

6.2 Criterion-related validity: TOP, CAB and ACB

To assess TOP's criterion-related validity, we examined associations and relationships between TOP, CAB, and ACB. Overall, the TOP model accounts for a meaningful yet weak proportion of the variance in CAB and

ACB, indicating that other factors explain a substantial portion of the variance and should be considered. Nevertheless, the findings revealed that uncommitted-impulsive work style and enforcement-focused work attitude are significantly associated with and can negatively predict ACB. Only uncommitted-impulsive work style is significantly associated with and can positively predict CAB, whereas the self-centered work approach indicates no association with either one. Hence, the uncommitted-impulsive work style appears to be the most critical component of the Dark Triad.

The lack of association between enforcement-focused work attitude and CAB is surprising, as one would expect darker traits to be related to darker behavior. Theoretical assumptions have been made about how Machiavellians may be more likely to engage in essay plagiarism due to their association with planning and self-control (Furnham et al., 2013) and unethical behavior such as mistreatment and betrayal (O'boyle et al., 2012). However, some research argues that Machiavellians are the least likely to engage in CWB (Kessler et al., 2010, cited in O'boyle et al., 2012), which could explain our unrelated findings concerning CAB. Nevertheless, the present findings replicate Schwarzingler & Schuler's (2019) findings of enforcement-focused work attitude and CWB. The uncorrelated finding could imply that the CAB/ACB measure does not capture the *darker* behavior associated with enforcement-focused work attitude. On the other hand, the findings indicating that enforcement-focused work attitude negatively predicts ACB are consistent with previous research (Becker & Dan O'Hair, 2007; Schwarzingler & Schuler, 2019), which indicates support for their manipulative tendencies and how they are less likely to engage in altruistic and prosocial behavior. Interestingly, enforcement-focused work attitude is not a unique negative predictor of ACB when assessing the overall TOP model, which, as mentioned previously, may be due to a shared overlap between enforcement-focused work attitude and uncommitted-impulsive work style (Pallant, 2020).

Similar to Schwarzingler & Schuler's (2019) findings, uncommitted-impulsive work style was the only significant predictor of CAB and a negative predictor of ACB. These findings align with previous research and theoretical expectations (Furnham et al., 2013; O'boyle et al., 2012; Smith & Lilienfeld, 2013). Therefore, the observed results indicate that individuals exhibiting an

increasingly uncommitted-impulsive work style are more likely to engage in CAB, in line with their selfish and self-promoting behavior, not following the rules, and being more concerned with their own interests rather than others (Wu & Lebreton, 2011). Additionally, the uncommitted-impulsive work style's ability to negatively predict ACB underlines the improbability of those individuals displaying an uncommitted-impulsive work style to perform beneficial behavior towards classmates and conscientious, altruistic, and prosocial behavior. It is reasonable that uncommitted-impulsive work style aligns with exhibiting *darker* behavior (O'boyle et al., 2012).

Surprisingly, the self-centered work approach demonstrated no predictive ability for CAB or ACB. These results were unexpected, given previous research and theoretical expectations, specifically by considering how narcissism is linked to egocentric behavior focused on own success and status, often entailing inconsiderate behavior toward others (Campbell et al., 2005; Gore et al., 2012). Judge et al. (2006) accounted for how narcissists in leadership positions are unlikely to perceive themselves to engage in CWB and are more conceivable to self-rate OCB behavior. Therefore, individuals with higher tendencies of self-centered work approach may lack the self-awareness to accurately respond to questionnaires that assess their actual behavior. However, Schwarzinger & Schuler (2019) did identify evidence for a positive association with CWB, although not for OCB. Thus, similar to the enforcement-focused work attitude and CAB, the absence of significant findings could be attributed to the CAB/ACB measure's failure to capture the *darker* behavior associated with the self-centered work approach.

6.3 Incremental validity: Does TOP add any value?

Our analysis revealed that when incorporating the TOP factors into the model with the NEO-FFI factors, the contribution to the explained variance in CAB did not reach statistical significance, thus rejecting our hypothesis of incremental validity. Although we expected a significant incremental validity, the results can be considered twofold.

On one hand, our finding does not align with the theoretical assumption that the Dark Triad can help explain some of the variances in CWB that the Five-Factor Model cannot (Wu & Lebreton, 2011). However, our results are

supported by DeShong et al. (2015) findings that the Five Factor Model predicts CWB to a greater extent than the Dark Triad. Additionally, our results are relatively similar to Schwarzingler and Schuler's (2019), who reported a small increased explained variance ($\Delta R^2 = .06, p = .10$) in CWB by incorporating the TOP factors in addition to the NEO-FFI factors. One possible explanation for the small increased explained variance is that the Five Factor model already captures a substantial portion of the variance in CAB, leaving little room for additional variance to be explained by the TOP factors. Additionally, it is possible that the Five Factor Model's broader coverage of personality traits allows it to capture a more comprehensive range of individual differences of CAB.

Nevertheless, it is essential to consider that while Wu and Lebreton's (2011) study focused on counterproductive work behavior, our investigation centered on counterproductive behavior within an academic context. Work and academic environments possess distinct characteristics and contextual factors that can influence the occurrence of counterproductive behavior. The expectations, norms, and consequences associated with counterproductive behavior may differ between work and academic environments. Therefore, the factors that predict counterproductive behavior in one domain may not necessarily translate directly to other domains.

6.4 A deeper discussion of TOP's psychometric properties

The overall associations and relationships observed between TOP and the Big Five factors align with earlier studies, providing initial evidence of construct validity for the Norwegian version of TOP. However, it is essential to recognize that some associations between TOP factors and the Big Five factors differ from past findings. This inconsistency raises concerns about the construct validity of the Norwegian version of TOP. Further, our findings partially align with previous research and Schwarzingler & Schuler's (2019) prior findings of TOP, as only uncommitted-impulsive work style is associated with CAB. Moreover, for ACB, the exception is a lack of an observed negative relationship with the self-centered work approach. Consequently, our study contributes to the criterion-related validity of TOP by demonstrating significant relationships between some of the TOP factors and ACB and CAB. Further, the

non-significant relationships must not be interpreted as evidence against criterion-related validity. Instead, they highlight the absence of a significant relationship between certain TOP factors and this study's criterion variables. Although our findings did not support the incremental validity of TOP in explaining CAB, the results replicate Schwarzingler & Schuler's (2019) findings.

There are several possible reasons for the conflicting results in our study. One potential explanation is the utilization of students to validate TOP, which introduces both strengths and weaknesses to our research. A weakness of utilizing students is that we actually go beyond TOP's intended domain of measuring the Dark Triad of personality at work within an occupational population. The Dark Triad's relevance and impact may vary between academic and work contexts due to their different characteristics and expectations. For example, TOP may not fully capture all of the counterproductive behaviors unique to academia. However, by incorporating students in our research, we enhance the generalizability of our findings beyond specific professional contexts. Considering the imminent transition of students into the workplace, it is reasonable to believe that TOP can provide valuable insights into the presence and manifestations of Dark Triad traits in this population.

An additional possible explanation for the conflicting results findings could be attributed to the observed small spread or variability in some variables. As previously mentioned, the factor self-centered work approach exhibits a notable spread constraint. This limited variability may have contributed to the absence of established significant associations with other variables. The significance of this argument and explanation is further bolstered by the fact that this particular factor demonstrated the highest number of conflicting associations and relations among all the factors examined.

Further, current research on the TOP factors and their associations and relations to the Big Five factors and CAB and ACB is limited, making it difficult to interpret the findings. This study's hypotheses were developed based on broader research on the connection between the Dark Triad and personality traits, as well as the Dark Triad and CAB and ACB. Some TOP factors had a divergent relationship with the Dark Triad, indicating unique

dynamics and interactions between the Dark Triad and the Big Five factors that require further investigation.

In conclusion, despite some divergent results, most of our findings support the construct and criterion-related validity of the Norwegian version of TOP. The meaningfulness of the observed associations and relationships and logical and intuitive explanations for the conflicting ones support the argument for validity.

6.5 Supplementary discussion of exploratory findings

We conducted an exploratory phase to examine TOP factors potential to predict specific subscales of CAB more effectively than other subscales. The multiple linear regression analyses revealed statistically significant results indicating that the collective influence of the TOP factors is associated with two subscales of CAB, namely low personal standard and misrepresentation. TOP factors collectively did not demonstrate any predictive power for the substance abuse, cheating and petty personal gain subscales, implying that other factors may be more relevant in explaining these behaviors. Even though petty personal gain was not associated with the collective TOP model, uncommitted-impulsive work style emerged as a unique predictor of the subscale. Additionally, uncommitted-impulsive work style emerged as the sole significant predictor for low personal standards and misrepresentation.

These results indicate that individuals displaying higher levels of uncommitted-impulsive work style are likely to exhibit lower personal standards, engage in misrepresentation, and seek petty personal gains within an academic setting. These subscales share a common characteristic of displaying a careless attitude toward academic effort and work and no obligation to follow moral or ethical rules. Thus, this aligns highly with uncommitted-impulsive work style characteristics of being unstructured, careless, and dishonest to achieve their goals (Schwarzinger & Schuler, 2019). Moreover, psychopaths' tendencies to use exploitative strategies (O'boyle et al., 2012), lack of empathy (Patrick, 2006), and respect (O'boyle et al., 2015) do also align with the mentioned subscales. These findings provide interesting insight into how darker personality traits predict CAB. Specifically, it underlines that uncommitted-impulsive work style is the most destructive and dangerous

factor. However, future research is necessary to generalize and expand our understanding of this field.

7.0 Practical and theoretical implications

The current study yields some practical and theoretical implications. First, the contribution to the validation of TOP facilitates assessing the Dark Triad traits within the Norwegian workplace setting. This allows organizations to obtain accurate and reliable measurements of these traits among Norwegian employees, enhancing comprehension of their prevalence, impact, and ramifications in the workplace. For instance, TOP can be useful for organizations in settings such as leadership development or recruitment of special positions.

Furthermore, even though this study cannot generalize, by administering TOP to students rather than exclusively focusing on a working population, this study not only provides academic institutions with a valuable tool and insight, but also enhances the possibility of generalizability of TOP. While utilizing personality tests for student admissions may not be the most appropriate approach, combining the assessment of TOP with measures of academic behavior, such as CAB and ACB, offers valuable information for schools to comprehend counterproductive student behaviors and implement appropriate interventions. In the present study, TOP successfully predicted tendencies towards petty personal gain, misrepresentation, and low personal standards, highlighting the need for interventions such as programs and policies promoting integrity and ethical conduct while concurrently reducing misconduct and disengagement. Specifically, uncommitted-impulsive work style emerged as the most distinctive predictor of CAB and the strongest negative predictor of ACB, which underlines its critical role in academic behavior. Incorporating the CAB/ACB assessment alongside the TOP enables a comprehensive overview of the existing traits among students, their associated behaviors, and potential indicators of problematic conduct. Ultimately, this research contributes to the broader field by deepening our understanding of how the TOP relates to the well-established Big Five framework, particularly in the context of the student population.

8.0 Limitations and future research

Our study has several limitations relevant to discuss. First, using a cross-sectional design in our study has certain limitations. While the majority of data were collected at three different time points, it is crucial to acknowledge that certain portions of the data were obtained simultaneously. Consequently, we cannot fully claim causality in the identified relationship (Bell et al., 2019). Further, using self-report questionnaires in data collection introduces the potential influence of biases, specifically social desirability and self-report bias (Birkeland et al., 2006; Cooper, 2021). These biases are particularly pertinent in the context of our study, as it explores the darker side of personality and counterproductive academic behavior. However, ensuring anonymity should mitigate the impact of these biases (Joinson et al., 2010). In addressing these limitations, future research should consider implementing a longitudinal design with multiple data collection points (Bell et al., 2019), which may provide a better understanding of the associations among the variables of interest. Additionally, although it is challenging to avoid self-report questionnaires when assessing personality tests, administering the same test to participants at multiple time points may enhance the measure's reliability. Thus, conducting a test-retest is suggested for future research (Cicchetti, 1994).

Our study's absence of certain hypothesized relationships implies a limited statistical power, which can be attributed to the relatively small sample size ranging from 134 to 210. As a small sample size increases the sampling error (Bell et al., 2019), the likelihood of detecting statistically significant relationships decreases, and it becomes more challenging to detect small effect sizes (Hinkin, 1998). Further, having a relatively small sample size imposes limitations regarding the reduced generalizability of our findings. With a small sample, it becomes difficult to draw conclusions that can be applied to a larger population. Hence, future research should replicate the current study with a larger sample size to enhance statistical power and reduce error and the likelihood of detecting small effect sizes and statistically significant relationships (Hinkin, 1998). Based on Schwab's recommendation (cited in Hinkin, 1998), it is advised to maintain an item-to-response ratio of 1:10.

Accordingly, a sample size of 600 should be the objective for future research for TOP as the test consists of 60 items. Additionally, future research should conduct further validation studies in diverse samples, including demographic backgrounds, cultures, and work and academic settings, to enhance the findings' generalizability (Cook et al., 2002).

Although the study contributes to the validation of TOP, it is important to acknowledge that the inability to conduct item-level analyses limits the robustness of our findings. By conducting item-level analyses, we could have gained a more nuanced understanding of the underlying structure of the TOP and a more comprehensive study of its validity, reliability, and overall measurement properties. Hence, future research contributing to the validating TOP must conduct proper item-level analyses, which will contribute to a more comprehensive understanding of how well TOP measures what it intends to measure and performs consistently across diverse populations (Embretson & Reise, 2013). Additionally, translating personality tests developed in one country for use in another introduces uncertainty regarding the test's validity in the new context (Martinsen et al., 2011). Thus, the validity aspects of TOP must continue to be assessed and established in the future to safely draw conclusions about it in a Norwegian context.

Overall, the present study represents a valuable contribution to the burgeoning field of research, offering new insights and opportunities for extended investigation. In order to strengthen TOP's validity further, future research should encompass a broader range of outcomes beyond the scope of counterproductive and citizenship behavior. Exploring the potential of the Norwegian version of TOP to predict various aspects, such as job performance, social skills, leadership emergence, and leadership style, would be particularly intriguing. Such investigations would not only enhance the robustness of the measure but also provide valuable insights into its applicability and predictive validity across multiple domains.

9.0 Conclusion

This thesis aimed to examine the psychometric properties of the Norwegian version of TOP by investigating the factors associations to the Big Five factors, and CAB and ACB, specifically to assess construct-, criterion-

related- and incremental validity. Overall, this study makes a valuable contribution to the Norwegian validation of TOP and enhances the theoretical understanding of the connections to the Big Five, CAB, and ACB.

While a substantial portion of our findings supports construct validity for TOP, some inconsistencies and unexpected findings that require further exploration emerged. Our findings generally replicate Schwarzinger & Schuler's (2019) results of TOP's construct validity, with a few exceptions. Whereas enforcement-focused work attitude and uncommitted-impulsive work style overall replicated Schwarzinger & Schuler (2019), self-centered work approach gained little statistical significance, and deviated the most from prior research. Furthermore, a considerable share of criterion-related hypotheses gained support and mainly replicated Schwarzinger & Schuler's (2019) findings except for the self-centered work approach. The criterion-related validity results indicated that uncommitted-impulsive work style was the most critical component of the Dark Triad in predicting counterproductive behaviors in an academic context. Moreover, similar to Schwarzinger & Schuler (2019), the incremental validity of TOP is not substantial or of significant meaning.

Future research is needed to further establish and contribute to the overall validity of TOP, particularly in order to measure darker personality traits in an occupational setting and make it applicable to various contexts, such as job performance, motivation, commitment, work satisfaction, team effectiveness, career success, leadership, and overall organizational success. Additionally, future research is needed to better understand the associations and predictive abilities of TOP in a Norwegian context. Both theoretical and practical implications and important limitations and strengths of this study pave the way for future research direction.

In answering the research question, "To what degree will the Norwegian version of TOP reveal adequate psychometric properties?", the evaluation of TOP presents strengths and weaknesses in terms of its construct, criterion-related, and incremental validity. This thesis has successfully contributed to the validation of the Norwegian version of TOP, with evidence supporting its moderate level of construct and criterion-related validity. However, conflicting findings suggest the need for further research to establish its psychometric properties fully. Therefore, while the Norwegian version of

TOP shows promise, more investigation is required to draw a definitive conclusion regarding its ability to reveal adequate psychometric properties.

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Appendix

Appendix 1. Information letter

Vil du delta i et forskningsprosjekt knyttet til personlighet?

Kjære student,

Vi var i klasserommet deres onsdag 23. november og presenterte masteroppgaven vi skal levere neste år. Du mottar her en formell invitasjon med mulighet til å delta i forskningsprosjektet.

Hensikten med prosjektet er å validere en personlighetstest som nylig er oversatt til norsk. Til forskjell fra mange andre tester, har denne som formål å måle våre mørkere personlighetstrekk. Testen er derfor funnet relevant innen organisasjon og ledelse i andre land den er tatt i bruk.

Ønsker du å være med kan du starte allerede nå ved å trykke på lenken nederst. Her vil du bli bedt om å vurdere flere aspekter ved deg selv knyttet til studenttilværelsen din. Dette skjemaet tar ca. 6 minutter å svare på. Her legger du også inn e-postadressen din hvor du vil motta en ny lenke noen uker etterpå. Her vil du bli bedt om å gjennomføre personlighetstesten TOP. Denne tar ca. 11 minutter å svare på.

Om du deltar på begge tidspunktene, spanderer vi en **gratis lunsj på Handelshøyskolen BI**. Du vil da motta en kupong du kan bruke i kantinen når du selv vil.

Hvem er ansvarlig for prosjektet?

Førsteamanuensis Christian Winther Farstad ved Kristiania (tidligere Høyskolen Kristiania) er ansvarlig for datainnsamlingen, som gjennomføres i samarbeid med oss, Hege Øverkil og Selma Petterson ved Handelshøyskolen BI.

Hva innebærer det å delta?

Din deltakelse innebærer at vi samler inn data på totalt tre ulike tidspunkter. Først svarer du om deg selv som student med lenken nederst. Deretter vil du motta en lenke til personlighetstesten TOP. I februar/mars vil du bli tilbudt å svare på personlighetstesten NEO FFI i forbindelse med undervisning. Alle tre besvarelsene vil bli koblet sammen ved hjelp av e-postadressen din.

Det er frivillig å delta

Det er frivillig å delta i prosjektet. Hvis du velger å delta, kan du når som helst trekke samtykke tilbake uten å oppgi noen grunn. Alle opplysninger om deg vil da bli anonymisert. Det vil ikke ha noen negative konsekvenser for deg hvis du ikke vil delta eller senere velger å trekke deg.

Ditt personvern – hvordan vi oppbevarer og bruker dine opplysninger

Vi vil bare bruke opplysningene om deg til formålene vi har fortalt om i dette skrevet. Vi behandler opplysningene konfidensielt og i samsvar med personvernregelverket. Det er kun Christian Winther Farstad, Hege Øverkil og Selma Petterson som vil ha tilgang til de sammenkoblede datafilene.

Hva skjer med opplysningene dine når vi avslutter forskningsprosjektet?

Datainnsamlingen avsluttes 1. april. Alle personopplysninger vil da være slettet og du vil ikke lengre kunne identifiseres i datamaterialet. Masteroppgaven skal etter planen leveres 3. juli 2023.

Dine rettigheter

Så lenge du kan identifiseres i datamaterialet, har du rett til:

- innsyn i hvilke personopplysninger som er registrert om deg,
- å få rettet personopplysninger om deg,
- få slettet personopplysninger om deg,
- få utlevert en kopi av dine personopplysninger (dataportabilitet), og
- å sende klage til personvernombudet eller Datatilsynet om behandlingen av dine personopplysninger.

Hva gir oss rett til å behandle personopplysninger om deg?

Vi behandler opplysninger om deg basert på ditt samtykke. Alle opplysninger behandles konfidensielt.

På oppdrag fra Handelshøyskolen BI har NSD (Norsk senter for forskningsdata AS) vurdert at behandlingen av personopplysninger i dette prosjektet er i samsvar med personvernregelverket.

Hvor kan jeg finne ut mer?

Hvis du har spørsmål til studien, eller ønsker å benytte deg av dine rettigheter, ta kontakt med:

- Christian Winther Farstad: christianwinther.farstad@kristiania.no
- Selma Petterson:
- Hege Øverkil:
- NSD – Norsk senter for forskningsdata AS: personverntjenester@nsd.no eller +47 55 58 21 17.

For å delta i prosjektet, trykk på lenken [her](#)

På forhånd takk,
Selma Petterson og Hege Øverkil

Appendix 2. Full questionnaire with ACB/CAB items

ACB items

Subscales

Consideration

1. Jeg hjelper gjerne andre studenter som har mye å gjøre
2. Jeg bruker gjerne av tiden min for å hjelpe andre studenter med sine problemer
3. Jeg strekker meg for å unngå problemer med andre studenter
4. Jeg prøver å unngå å skape problemer for mine medstudenter
5. Jeg tar hensyn til hvordan min oppførsel påvirker studiene til andre
6. Jeg hjelper andre som har vært fraværende fra studiene

Civic Virtue

7. Jeg følger med på utviklingen i klassen
8. Jeg holder meg oppdatert på endringer i klassen
9. Jeg leser og følger med på informasjon som publiseres til klassen
10. Jeg følger klassens regler, selv når ingen ser på

Conscientiousness

11. Jeg tar ikke ekstra pauser når jeg studerer
12. Jeg tar ikke unødvendig fri fra mine studier
13. Mitt oppmøte på studiestedet er over det som er vanlig

Sportmanship

14. Jeg bruker mye tid på å klage over småting
15. Jeg har en tendens til å gjøre "en fjær til fem høns"
16. *Jeg finner alltid feil med det de andre i klassen gjør*

CAB items

Substance abuse

1. Du har kommet til forelesning i bakrus
2. Du har deltatt på forelesning etter å ha drukket alkohol eller brukt andre rusmidler

Petty personal gain

3. Du har hatt tilgang til og sett en kopi av en kommende eksamen, som ble tatt uten tillatelse fra emneansvarlig
24. Du har blitt irettesatt for forstyrrende oppførsel i klasserommet av foreleseren

Cheating

4. Under eksamen, har du kikket på og fått informasjon fra en medstudents eksamensbesvarelse
5. Under eksamen, har du kikket kort på en annens besvarelse
6. Under eksamen, har du hatt med jukselapper eller andre hjelpemidler som ikke var tillatt
7. Under eksamen, har du bevisst hjulpet en medstudent ved å gi vedkommende anledning til å se din besvarelse
8. Under eksamen, har du hatt egne notater tilgjengelig slik at du har kunnet bruke dem på en diskret måte

Low personal standards

9. Du har levert inn slurvete besvarelser - dårligere enn det du egentlig kan prestere
10. Som et resultat av lav egeninnsats, har du møtt opp dårlig forberedt til eksamen
11. Du har sovnet i forelesninger tidlig på morgenen
12. Du har kommet for seint til en eller flere forelesninger
13. Du har latt deg overtale til å dele forberedelsesnotatene dine med andre
14. Du har glemt å levere tilbake bøker til biblioteket innen fristen
15. Du har gått glipp av forelesninger etter klokken 12, på grunn av for lange lunsjpauser
16. Du har vært overstadig beruset på alkohol

Duplicity

17. Du har holdt deg hjemme fra eksamen på grunn av at du ikke har følt deg godt nok forberedt
18. Du har feilaktig hevdet at du har vært syk (f.eks. influensa) for å unngå konsekvensene av å ikke møte opp til eksamen
19. *Du har spurt andre studenter om tips til innholdet før konte-eksamen*

Misrepresentation

20. Du har levert inn besvarelser (f.eks. arbeidskrav, semesteroppgaver, hjemmeeksamen) som er helt/delvis kopiert fra andre
21. Du har levert inn arbeidskrav eller semesteroppgaver hvor deler av teksten (f.eks. setninger eller avsnitt) har vært kopiert rett fra en bok eller artikkel uten å vise til kilden
22. Du har fått hjelp fra andre med individuelle hjemmeoppgaver (f.eks. arbeidskrav, semesteroppgave, hjemmeeksamen)
23. *Du har levert inn oppgaver som ikke er ditt eget arbeid*

Indolence

25. *Du har lurt deg unna oppgaver når du har jobbet med sammen med andre i grupper*
26. *Du har levert inn arbeid av dårlig kvalitet - dårligere enn ditt egentlig potensiale*

Note. Deleted items in cursive