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A Comparison Using the HEXACO- 60 Model

Personality of Criminal Offenders and Prison Guards

Rakel Rós Friðriksdóttir og Embla Örk Hölludóttir

Sálfræðideild
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Útdráttur

HEXACO persónuleikalíkanið hefur reynst gagnlegt tæki til rannsókna í afbrotasálfræði þar sem það hefur getað spáð fyrir um afbrotahæðun og getur verið gagnlegt þegar verið er að skoða hugsanlega starfsmenn á sviði löggæslu. Líkanið felur í sér eiginleika eins og heiðarleika-auðmýkt, tilfinningasemi, úthverfu, samvinnuþýði, samvisekusemi og víðsýni. Sýnt hefur verið fram á að afbrotamenn, fangaverðir og almenningur séu ólíkir hvað varðar persónuleika þeirra. Hér sýnum við hvernig persónuleikasálfræði getur hjálpað okkur að skilja persónuleikaþætti og hvernig þeir hafa áhrif á hegðun. Rannsóknarspurningar okkar voru; Eru persónuleikar afbrotamanna og fangavarda ólíkir hver öðrum á HEXACO-60-IS? Hvernig er persónuleiki íslenskra afbrotamanna frábrugðinn almenningi? Hvernig er persónuleiki íslenskra fangavarda frábrugðinn almenningi?

Aðferðir: Alls svöruðu 26 afbrotamenn (N=26, 3 konur, 23 karlar) og 50 fangaverðir (N=50, 20 konur, 30 karlar) frá Íslandi HEXACO-60 spurningalistanum. Við bárum hópana tvo saman og við almennt þýðisúrtak.

Niðurstöðurnar leiddu í ljós að afbrotamenn voru heiðarlegri en fangaverðir ($p < .001$), á meðan fangaverðir voru minna heiðarlegir en almenningur ($p < .001$), og afbrotamenn voru aðeins minna heiðarlegir en almenningur ($p < .001$). $p = .075$). Afbrotamenn voru samvinnuþýðari en fangaverðir ($p = .001$) en almenningur var samvinnuþýðari en afbrotamenn ($p = > .648$) og fangaverðir voru minna samvinnuþýðari en almenningur ($p = < .001$).

Afbrotamenn voru samvisekusamari en fangaverðir ($p = < .001$) en afbrotamenn voru minna samvisekusamari en almenningur ($p = < .001$) og fangaverðir voru minna samvisekusamari en almenningur ($p = < .001$).

Þessi rannsókn er sú fyrsta sem rannsakar afbrotamenn og fangaverði á Íslandi með HEXACO-60 spurningalistanum. Rannsókn okkar leiðir í ljós ólíkar niðurstöður á íslenskum afbrotamönnum og fangavörðum samanborið við aðrar þjóðir, þar sem afbrotamenn eru heiðarlegri, samvinnuþýðari og samvisekusamari en fangaverðir. Þörf er á frekari rannsóknum með stærra úrtaki.

Lykilorð: *Afbrotamenn, Fangaverðir, HEXACO, Persónuleikapróf.*

Abstract

The HEXACO model of personality has been found to be a useful tool for research in criminal psychology as it has been able to predict criminal behavior and could be utilized when examining potential employees in the field of law enforcement. The model incorporates the traits honesty-humility, emotionality, extraversion, agreeableness, conscientiousness, and openness to experience. Criminal offenders, prison guards, and the general population have been shown to be different in terms of their personalities. However, while most research in this field is based on the five-factor model of personality, little research has been conducted using the HEXACO-60. Our research questions were; Do criminal offenders and prison guard personalities differ from each other on the HEXACO-60-IS? How do Icelandic criminal offenders' personalities differ from the general population? How do Icelandic prison guards' personalities differ from the general population?

Methods: A total of 26 criminal offenders (N=26, 3 women, 23 men) and 50 prison guards (N=50, 20 women, 30 men) from Iceland completed the HEXACO-60 questionnaire. We compared the two groups to each other and to a general population sample.

The results revealed that criminal offenders were more honest than prison guards ($p < .001$), prison guards were less honest than the general population ($p < .001$), and criminal offenders were only by tendency less honest than the general population ($p = .075$). Criminal offenders were more agreeable than prison guards ($p = .001$) and less agreeable than the general population ($p = > .648$). Prison guards were less agreeable than the general population ($p < .001$). Criminal offenders were more conscientious than prison guards ($p < .001$) whereas criminal offenders were less conscientious than the general population ($p < .001$), and prison guards were less conscientious than the general population ($p < .001$).

This study is the first to investigate criminal offenders and prison guards in Iceland with the HEXACO-60 questionnaire. Our research reveals contrasting results between Icelandic criminal offenders and prison guards compared to previous research, where criminal offenders are more honest, more agreeable, and more conscientious than prison guards. Additional research with a larger sample is required.

Key words: *criminal offenders, prison guards, HEXACO, personality testing.*

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Personalities of Criminal Offenders and Prison Guards: Comparison Using The HEXACO-60 Model

Personality

Most people realize that individuals are different in terms of how they think, feel, and behave. People carry different personality traits and characteristics; some are sociable and risk-takers, while others are shy, reserved, and avoid risks. Some are easily upset, while others cope easily with adversity. The origin of the word personality comes from the Latin word “persona,” which was used for masks worn by actors playing different roles (Schultz & Schultz, 2016). Researchers have looked into the term personality and used it as a tool to investigate the diversity of people. Although many attempts have been made to define the term personality, most have agreed that personality refers to characteristics of individuals that are fairly stable across situations and over time (Feist et al., 2006).

Sigmund Freud was the founder of psychoanalysis and one of the early personality theorists who emphasized the importance of sexuality and the unconscious (Freud & Chase, 1925). With the idea that a person’s environment and behavior interact to shape their personality, Albert Bandura developed the social-cognitive theory, which places observational learning at its core (Bandura, 1986). Behavioral theorists rooted in B. F. Skinner indicate that traits are not the causes of behavior but that learning is the determining process, such that personality is a result of conditioning in an environment of stimulus, reward, and punishment (Skinner, 1965). From a biological standpoint, Eysenck’s personality theory claimed that personality differences arise from genetic heritage (Eysenck, 1963; Roberts & Jackson, 2008).

Personality psychologists have tried to find a classification system for all of the different personality traits that characterize people. A good classification system makes it possible to carry out studies of personalities in a shared language in personality research (John et al., 2008). Classification systems are rooted in the lexical hypothesis, which is based on the assumption that the most important personality characteristics will become encoded into our natural language (Goldberg, 1990; 1993). The lexical hypothesis is a major foundation for the study of personality structure, such as the Five-Factor Model (FFM), also referred to as the “Big Five,” which is perhaps the most widely used and studied empirically supported model of personality (Goldberg, 1993). The FFM model describes personality in five dimensions:

extraversion, agreeableness, conscientiousness, neuroticism, and openness to experience (McCrae & Costa, 2003).

Extroversion has been used to describe an individual who seeks out social situations with enthusiasm, is energetic, assertive, adventurous, warm (Jones, 2017; McCrae & Costa, 2003), and connects easily with others (McCabe & Fleeson, 2012). Conscientiousness refers to a characteristic that is dependable, efficient, organized, goal-oriented, achievement striving, self-disciplined, and neither impulsive nor careless (Ashton & Lee, 2007; De Vries et al., 2016; Jones, 2017; McCrae & Costa, 2003). Individuals open to experience are thought to be independent-minded and imaginative (John & Srivastava, 1999), curious in nature, eager to explore different values and ideas, frequently seek out new experiences, try out new things, and explore unknown places (De Vries et al., 2016; Jones, 2017; McCrae & Costa, 2003). Emotionality (or neuroticism) refers to an ongoing tendency to experience negative emotions such as anxiety, angry hostility, depression, self-consciousness, impulsiveness, and a lack of self-confidence (McCrae & Costa, 2003). Neurotic individuals often perceive the world as dangerous and threatening, become easily upset, react poorly to stressors and minor frustrations, and may become hopeless and overwhelming (Barlow et al., 2014; Widiger, 2009). Agreeableness describes the characteristics of a person who is motivated to maintain positive relationships with others, interacts with others in a prosocial manner, is socially adaptable (Graziano & Tobin, 2009; John & Srivastava, 1999; Jones, 2017), undemanding, sympathetic, altruistic, trustworthy, compliant, and modest (McCrae & Costa, 2003).

Subsequent research has suggested that six dimensional models may describe personality more effectively than a five-factor model (Ashton & Lee, 2007; Ashton et al., 2014; Lee & Ashton, 2004). Lexical studies of personality have repeatedly yielded a structure containing six-dimensions, corresponding to those of the HEXACO model (Ashton & Lee, 2007). The six dimensions and facets of HEXACO are: extraversion (social self-esteem, social boldness, sociability, and liveliness); conscientiousness (organization, diligence, perfectionism, and prudence); openness to experiences (aesthetic appreciation, inquisitiveness, creativity, and unconventionality); emotionality (fearfulness, anxiety, dependence, and sentimentality); agreeableness (forgiveness, gentleness, flexibility, and patience); honesty-humility (sincerity, fairness, greed avoidance, and modesty) (Ashton & Lee, 2009a). The HEXACO and the FFM model share three similar factors, which are extraversion, conscientiousness, and openness to experiences (Gaughan et al., 2012; Jones, 2017). However, the remaining traits show only moderate resemblance, with both overlaps

and important differences. HEXACO emotionality is in many ways similar to FFM neuroticism except anger is excluded and sentimentality is included, which is more associated with FFM agreeableness (Ashton et al., 2014; Gaughan et al., 2012; Jones, 2017).

Furthermore, HEXACO agreeableness shares common elements with FFM agreeableness but lacks sentimentality and instead includes anger related factors, which are more related to FFM neuroticism (Ashton et al., 2014; Jones, 2017). The most noticeable difference between the FFM and HEXACO models is the inclusion of honesty-humility by HEXACO, which is largely unaccounted for in FFM dimensions (Ashton & Lee, 2007; Ashton & Lee, 2008a; Lee & Ashton, 2014). The honesty–humility dimension describes a person who avoids manipulating others, is law-abiding, has no feelings of superiority or entitlement, and is not tempted by wealth, luxury, or social status (Lee & Ashton, 2013).

There is also some correlation between the HEXACO honesty-humility factor and the FFM agreeableness factor (Ashton et al., 2014; Ashton & Lee, 2005; van Kampen, 2012), and the similarities have been shown to be largely due to the straightforwardness and modesty facets (Ashton & Lee, 2005). However, other scholars have argued to the contrary and pointed out that HEXACO honesty-humility has only a minor relation to FFM agreeableness (Ashton et al., 2014; Howard & Van Zandt, 2020).

Criminal Behaviour

Many attempts have been made to define crime, and often those definitions are tied to breaking the law (Muncie & McLaughlin, 2001; Wikström, 2006). Such definitions, however, depend on when and where the crime is committed. Agnew (2011) proposed a solution to this problem by defining criminal behaviors as actions that cause blameworthy harm, are unpopular with the general public, and/or are subject to state sanctions. This approach shifts the responsibility from the behavior, which may be considered deviant or antisocial, to the specific act that is deemed unlawful.

Criminological Theories

There are a considerable number of theoretical approaches to explaining criminal behavior. The underlying idea behind classical theories in criminology is that criminal action is a rational choice; people have free will and make choices that are perceived to be in their best interests; choices are made by weighing out benefits and costs; and the assumption is that crime can be prevented with punishments (Durrant, 2012; Siegel, 2015; Ward et al., 2006). In contrast with the classical perspective, positive theories reject the idea that criminal actions

come from conscious and rational choices, suggesting rather that factors beyond our control make people more prone to commit crime (Siegel, 2015). Trait theory views crime as a product of abnormal biological markers and mental traits that are inherited at birth and contribute to criminal acts being committed when individuals are pushed in certain directions or under duress (Siegel, 2015). Strain theory states that social structure and limited opportunities are the main factors influencing people's criminal behavior (Siegel, 2015). People who lack the means and opportunities to attain their and/or society's desired goals and success are more likely to experience strain and frustration, resulting in criminal activities (Agnew & Brezina, 2010). Social learning theory proposes that behavior is learned through human interaction, and therefore criminal behavior is learned (Akers, 2011). People learn from each other through observation, imitation, and modeling, interactions that are rewarded are copied, while those that are punished are avoided (Akers & Jensen, 2010; Siegel, 2015). Differential association theory indicates that criminal behavior is an expression of differentials in the reinforcement and punishment of criminal and noncriminal alternative behaviors (Andrews & Bonta, 2010). Criminal behavior that is learned includes both methods favorable to specific types of offenses, ways to justify crimes, and methods to eliminate guilt (Sutherland et al., 1992). Social Control Theory states that people commit crimes when an individual's bond to society is weak or broken (Parent, 2003). The General Theory of Crime implies that people choose to commit crimes when they lack self-control; according to the theory, people who have an impulsive personality are more likely to commit crimes than others (Gottfredson & Hirschi, 1990; Siegel, 2015).

Personality and Crime

Studies looking for the personality characteristics of criminals are not new, researchers have made many attempts to identify specific personality traits in individuals that commit crimes and personality tests have been widely used. Schuessler & Cressey (1950) conducted one of the earliest studies investigating the role of personality and crime, demonstrating that 42% of the personality tests that were reviewed showed significant differences between offenders and non-offenders. Waldo & Dinitz (1967) and Tennenbaum (1977) replicated a similar type of research and showed 80-81% differences between offenders and non-offenders. Although these previous studies demonstrated a strong relationship between personality and crime, these results were underestimated by criminologists as the predictive criteria and limitations of these scales were considered to limit conclusions (Miller & Lynam, 2001). Today, much

has changed in the field of personality research, and personality tests have become more reliable.

Most research investigating criminal behavior and personality has been based on the five-factor model. Based on the FFM model, low agreeableness and conscientiousness have been shown to be the most consistent predictors of criminal offending (Fuller, 2012; Hornsveld & de Kruyk, 2005; Jones et al., 2011; Miller & Lynam, 2001; Mõttus et al., 2012; O’Riordan & O’Connell, 2014; Shimotsukasa et al., 2019; Ter Laak et al., 2003; Voller & Long, 2010; Wiebe, 2004). High levels of neuroticism (Jones et al., 2011; Le Corff & Toupin, 2009; Mõttus et al., 2012; O’Riordan & O’Connell, 2014; Van Dam et al., 2005) and extraversion have also been linked to criminal offending (O’Riordan & O’Connell, 2014; Shimotsukasa et al., 2019), as well as low levels of openness to experience compared to a normal sample (Clower & Bothwell, 2001; Thiry, 2012; Van Dam et al., 2005).

Although studies have been conducted with HEXACO that investigate criminal behavior, fewer studies have directly examined individuals who have been incarcerated compared to FFM. Offenders profile based on the HEXACO model of personality indicates that low honesty-humility, emotionality, agreeableness, and conscientiousness (Dunlop et al., 2012; Međedović, 2017; Rolison et al., 2013; Vrućinić, 2017), and low openness to experience predicts criminal offending (Rolison et al., 2013). Offenders have been shown to have lower levels of honesty-humility than the general population (Montalto, 2021; Rolison et al., 2013; Ścigała et al., 2022). Furthermore, low honesty–humility have been found to be the main correlates of delinquency (De Vries & Van Gelder, 2013; Dunlop et al., 2012; Lee et al., 2005; Van Gelder & De Vries, 2012), criminal behavior, and criminal decision making (Rolison et al., 2013; Van Gelder & De Vries, 2012; Van Gelder & De Vries, 2014).

Offender personality profiles seem to differ, however, across offending groups; results from the FFM model indicate that violent offenders have lower levels of agreeableness and higher extraversion compared to other types of offenders (Shimotsukasa et al., 2019; Vize et al., 2018). Results conducted with the HEXACO model showed that violent offenders had lower scores of emotionality and agreeableness compared to other offenders (Montalto, 2021; Pajević et al., 2017; Westhead & Egan, 2015). The majority of the sample assessed by Međedović (2017) were violent offenders. Results of the study demonstrated that a low level of agreeableness was the best predictor of criminality, even though he was not investigating specific types of crimes directly. These results suggest that low agreeableness is related to violent offenses. High neuroticism, extraversion (Lyvers et al., 2019), and conscientiousness

have been found to be negatively associated with risky drinking (Kuntsche et al., 2008), and illegal drug use is associated with higher extraversion and openness (Shimotsukasa et al., 2019). Results from studies conducted with the HEXACO model showed that substance abuse or drug-related offenders have higher scores in extraversion than other offenders (Montalto, 2021). Results conducted with the FFM-based personality test indicate that sexual offenders report higher levels of neuroticism and agreeableness than other offenders (Hornsveld & de Kruyk, 2005). Becerra-García et al. (2013), findings suggested that sex offenders had lower scores of extraversion compared to non-sex offenders. Similar results were demonstrated by the HEXACO model, indicating that sexual offenders had lower scores of extraversion compared to other offenders (Montalto, 2021). Results obtained by studies following the FFM model have demonstrated that neuroticism correlates positively with causing property damage (Ter Laak et al., 2003), and theft criminals show lower conscientiousness compared to other offenders (Shimotsukasa et al., 2019). Results from studies based on the HEXACO model have indicated that financial or property offenders typically have lower scores in the honesty-humility dimension compared to other offenders (Montalto, 2021).

Self-Control

Self-control is a practice in which individuals deliberately alter their inner responses and undesired behavioral tendencies, such as impulses, inclinations, or temptations, by stopping themselves from acting upon them (Hay & Meldrum, 2015; Tangney et al., 2004).

Gottfredson & Hirschi (1990) identified six dimensions of individuals who lack self-control, which include being: (1) impulsive and having difficulty delaying gratification; (2) preferring easy and simple tasks, disliking activities that require diligence, tenacity, and persistence; (3) risk seeking, preferring risk and excitement rather than caution; (4) being quick-tempered and easily angered; (5) being action-oriented and attracted to actions that entail little skill or planning; and (6) being self-centered, unkind, and insensitive.

People with great self-control have been shown to have more academic success (Gottfredson & Hirschi, 1990; Mischel et al., 1988; Tangney et al., 2004; Tice & Baumeister, 1997) and a higher IQ (Moffitt et al., 2011). On the other hand, low self-control seems to correlate to poorer job performance, problematic work-related behaviors (Olson, 2005), financial problems (Moffitt et al., 2011), unemployment, and homelessness (Baron, 2003). People with high self-control showed fewer impulse control problems, such as binge eating and substance abuse problems (Gottfredson & Hirschi, 1990; Tangney et al., 2004). They showed better psychological adjustment, including somatization, obsessive-compulsive

patterns, depression, anxiety, hostile anger, phobic anxiety, paranoid ideation, and psychoticism (Tangney et al., 2004). Self-control is also negatively related to personality disorders and attention deficit-hyperactivity disorder (Olson, 2005). Furthermore, poor self-control has been shown to predict the likelihood of being involved in accidents (Gottfredson & Hirschi, 1990) and teenage pregnancy (Moffitt et al., 2011). People with high self-control have better interpersonal relationships, more secure attachments, and are better able to control their thoughts and regulate their emotions (Baumeister et al., 1998; Gottfredson & Hirschi, 1990; Tangney et al., 2004). Furthermore, they report more guilt and less shame (Tangney et al., 2004). People who possess high self-control lead an overall more balanced life and have more control over their lives (Baumeister & Alquist, 2009). In contrast, lack of self-control has been shown to be an important predictor of criminal behavior (Gottfredson & Hirschi, 1990; McClanahan et al., 2019; Pratt & Cullen, 2000).

Most scholars investigating self-control with the FFM model of personality have associated poor self-control mainly with low conscientiousness (Bogg & Roberts, 2004; DeLisi, 2013; Gottfredson & Hirschi, 1990; O’Gorman & Baxter, 2002; Olson, 2005; Tangney et al., 2004), but low agreeableness and emotional stability (or high neuroticism) have also been implicated (Gottfredson & Hirschi, 1990; Olson, 2005; Tangney et al., 2004). With the HEXACO model of personality, self-control is mainly associated with low honesty-humility, conscientiousness (De Vries & Van Gelder, 2013; Gottfredson & Hirschi, 1990; Mestvirishvili et al., 2023), and somewhat but less strongly with agreeableness (Gottfredson & Hirschi, 1990).

Sensation Seeking

Sensation seeking has been used to describe a personality trait that is defined by the tendency to seek out intense and novel experiences and sensations and the willingness to take risks for those experiences (Zuckerman, 1994). Similarly to self-control, sensation-seeking has been found to be associated with risk-taking behaviors (Greene et al., 2000; Mishra & Lalumière, 2011), such as alcohol consumption (Greene et al., 2000; Lyvers et al., 2019; Montalto, 2021; Shin et al., 2012), and criminal offending (Greene et al., 2000). Interestingly, boys with a sensation seeking personality trait have been shown to be more likely to be involved in risk taking behaviors compared to girls (Greene et al., 2000; Siraj et al., 2021). Results conducted with the FFM model show that both sensation seeking and risk-taking are significantly related to openness to experience, extraversion, and conscientiousness (De Vries et al., 2009). Results from the HEXACO model have implied that honesty-humility and emotionality are negatively

related to risk-taking behaviors (De Vries et al., 2009). The honesty-humility factor has been found to be important in addition to explaining risky driving behaviors (Burtăverde et al., 2017), as it is negatively related to health/safety and ethical risk-taking behaviors (Weller & Tikir, 2011).

Aggression

Aggressive behavior and risk-taking behavior have been reported to be correlated (Loper et al., 2001; Rogier et al., 2019). Individuals can differ in how easily they become angry, state anger refers to a temporary emotional and physiological condition that occurs in response to an immediate situation. Trait anger predicts state anger and aggression, referring to a stable personality dimension of anger proneness, characterized by the tendency to experience more frequent and more intense state anger (Spielberger, 2010; Spielberger & Reheiser, 2009). State anger has been shown to be correlated with aggression and risky behavior (Arnett et al., 1997; Deffenbacher et al., 2001). Similarly to sensation seeking, previous research on aggressive behaviors has suggested that boys are more aggressive than girls (Crick & Grotpeter, 1995). Despite those findings, the type of aggressive behavior does seem to matter. Overt aggression is a form of aggressive behavior intended to harm others through physical damage such as pushing, kicking, punching or mentally through physical threats such as beating someone up (Crick et al., 1997; Crick & Grotpeter, 1995). Relational aggression is aggressive behavior intended to harm others through social relationships, such as damaging the social standing through manipulation, using social exclusion, threats to withdraw friendship, ignoring, group exclusion, and spreading rumors (Fite et al., 2011; Crick et al., 1997; Crick & Grotpeter, 1995; Werner & Crick, 1999). Overt aggression has been indicated to be more typical for boys, while relational aggression has been shown to be more relevant for girls (Crick & Grotpeter, 1995; Crick, 1996; Spieker et al., 2011). However, less is known about gender differences among adults and their effects on overt and relational aggression (Little & Seay, 2014). The function that aggression serves can also be different; reactive aggression is thought to be predatory and occurs impulsively in defense of or in retaliation to a real or perceived threat or injury, while proactive aggression is provoked, goal-directed, and performed to achieve a desired outcome (Dodge & Coie, 1987; Hubbard et al., 2010).

Studies that used the FFM model indicate that low agreeableness is the most consistent predictor of all forms of aggression (Miller et al., 2012). Agreeableness is associated with people's perception and response to conflict situations, and highly agreeable individuals are usually better at controlling their anger (Graziano et al., 1996). Neuroticism

has also been shown to be an important predictor for both proactive (Bettencourt et al., 2006) and reactive aggression (Miller & Lynam, 2006; Miller et al., 2012; Seibert et al., 2010). Hornsveld & Kraaimaat (2022) examined aggression among violent prison inmates. Their result indicates that the main factor contributing to aggression was state anger; high scores on trait anger, neuroticism, and low scores on agreeableness were associated with the inmates state anger. Studies based on the HEXACO model demonstrated the same results that agreeableness was a strong predictor of aggression (Lee & Ashton, 2012; Sokolovska et al., 2018). Agreeableness has been suggested to be the most important predictor of reactive aggression (Dinić & Wertag, 2018) and honesty–humility for proactive aggression (Book et al., 2019; Dinić & Wertag, 2018; Sokolovska et al., 2018).

Antisocial Behavior

Antisocial behavior has been defined as "acting in a manner which causes or is likely to cause harassment, alarm, or distress to one or more persons not of the same household" (Campbell & Marquesinis, 2002). It has been indicated that criminal behavior and antisocial traits are intertwined (Blackburn & Fawcett, 1999; Caspi et al., 1994). According to the social learning theory, antisocial personality patterns are considered one of the central risk factors that influence criminal behaviors (Andrews & Bonta, 2010).

The Dark Triad of personality is psychopathy, machiavellianism, and narcissism (Paulhus & Williams, 2002). These traits have been associated with antisocial behavior and have been used to predict various immoral, unethical, and socially questionable behaviors (Moshagen et al., 2018). Psychopaths core component is antisociality, referring to a person that is heartless and lacks empathy with lower ability to feel fear, remorse, and has low impulse control, sometimes covered by superficial charm (Cleckley, 1951; Fowles & Dindo, 2006; Hare, 1991; Hare, 2003; Neumann et al., 2015; Paulhus, 2014). Machiavellians are described as people who are masters at manipulating social situations, are insincere and crude, have diminished morality, and focus on self-interest and personal gain (Christie & Geis, 2013; Jones & Paulhus, 2010; Paulhus, 2014). Narcissists are characterized by grandiose sense of self, are self-promoting braggers, are vain, and egocentric, and constantly crave attention, gratification, or admiration from others (Campbell & Miller, 2011; Muris et al., 2017; Paulhus, 2014).

Many psychological studies have been conducted trying to define antisocial personality traits. Results from the FFM model suggest low agreeableness and conscientiousness and specific traits related to neuroticism are correlated to antisocial

behaviors (Jones et al., 2011; Miller & Lynam, 2001; Vize et al., 2018). Similarly, results from studies based on the HEXACO model show that low emotionality is correlated with antisocial and immoral behaviors (Book et al., 2016; De Vries & Van Kampen, 2010). Low agreeableness has been shown to be the only common predictor across all the dark traits in the FFM model (Muris et al., 2017; Paulhus & Williams, 2002). This relationship seems, however, to be stronger for FFM agreeableness than HEXACO agreeableness (Howard & Van Zandt, 2020). Results conducted with the HEXACO model have indicated that the core component across all the dark traits is low honesty-humility (Book et al., 2015; Howard & Van Zandt, 2020; Lee & Ashton, 2005; Lee & Ashton, 2014; Templer, 2018). The honesty-humility factor has been shown to be crucial in predicting various antisocial and immoral behaviors (Allgaier et al., 2015; Ashton & Lee, 2008a; Ashton & Lee, 2008b; Hilbig et al., 2015) and criminal behaviors (Ashton & Lee, 2008b; Van Gelder & De Vries, 2014). Honesty-Humility refers to individual differences in the willingness to use others for personal gains, including self-enhancing and immoral behaviors (Lee & Ashton, 2004). Therefore, with the addition of the honesty-humility factor, research has shown that a six-factor model is better than a five-factor model in identifying antisocial behaviors (de Vries et al., 2020) and the dark traits (Howard & Van Zandt, 2020; Lee & Ashton, 2005; Lee & Ashton, 2014). Some authors have even indicated that high honesty-humility represents an absence of the dark traits (Hodson et al., 2018, Kaufman et al., 2019, Templer, 2018).

Even though there seems to be a core component across all the dark traits, these similar but distinct traits present themselves in different ways. It has been indicated that the dark traits are somewhat more prevalent among men than women, but statistically significant is only the finding that men score higher on the trait psychopathy than women (Muris et al., 2017). None of the traits have been rated as especially appealing, however, narcissists have been rated as more appealing to others than the other dark traits (Rauthmann & Kolar, 2012; Rauthmann & Kolar, 2013). Narcissism seems to be substantially different compared to other dark traits (Paulhus & Williams, 2002). Machiavellianism and psychopathy have been shown to have stronger correlations with FFM agreeableness and conscientiousness than narcissism does (Lee & Ashton, 2005; Lynam, 2002; Muris et al., 2017; Paulhus & Williams, 2002). Similarly, scholars have indicated that machiavellianism and psychopathy showed stronger associations with HEXACO honesty-humility than narcissism (Howard & Van Zandt, 2020; Muris et al., 2017). Narcissists and psychopaths tended to have higher extraversion and openness (Lee & Ashton, 2005; Muris et al., 2017; Paulhus & Williams, 2002). Narcissism

correlates more strongly with both FFM extraversion and HEXACO extraversion compared to the other traits (Lee & Ashton, 2005). Furthermore, psychopaths score generally lower on FFM neuroticism (Paulhus & Williams, 2002) and HEXACO emotionality compared to the other dark traits (De Vries et al., 2008; De Vries & Van Kampen, 2010; Lee et al., 2013; Lee & Ashton, 2014; Međedović, 2011), which is consistent with the characterization of lacking fear or anxiety (Hare, 1991).

Prison Guards

We look into the topic of prison guards' personalities by studying their case in Iceland. The role of the Prison and Probation Administration (PPA) in Iceland is to ensure that the execution of sentences is carried out in a safe and efficient manner, that the special and general deterrent effects of punishment are active, and, furthermore, to reduce the likelihood of repeated crimes and to promote the successful adjustment of the convicted person to society (Fangelsismálastofnun Ríkisins, 2023a). The main tasks of prison guards in Iceland are the guidance and assistance of prisoners, supervision and project management, as well as participation in the daily activities of the prison (Fangelsismálastofnun Ríkisins, 2023b). Qualification requirements are based on a good general education, a positive attitude and interpersonal skills, the ability to respond quickly to changing situations, ambition, independence, and punctuality, computer skills, and a good command of Icelandic and English (Fangelsismálastofnun Ríkisins, 2023b).

A correctional officer's job is complex and differs significantly from other law enforcement roles. In recent years, few studies have been conducted examining the personality characteristics of prison guards directly. However, public safety personnel have received considerable attention, which can include, but is not limited to correctional employees, firefighters, paramedics, police officers, and emergency dispatchers (Canada. Parliament. House of Commons, 2016; Canadian Institute for Public Safety Research and Treatment (CIPSRT), 2019; Ramadan et al., 2022). Public safety personnel have been defined as those who are at the forefront of keeping communities safe (Canadian Institute for Public Safety Research and Treatment (CIPSRT), 2019), a person who professionally or voluntarily engages in activities devoted to providing immediate support to people in emergency circumstances and freeing people from danger (Berger et al., 2012; Mao et al., 2018; Sifaki-Pistolla et al., 2017), or deployed to disaster sites providing immediate support, medical care, and transport (Berger et al., 2012; Mao et al., 2018).

Due to the demands of their job and the environment in which they work, prison guards frequently experience demanding and stressful situations (Carleton et al., 2019). Stressors in a correctional setting can be based on conditions and difficult duties, the conflicting roles in the workplace, such as ensuring safety versus care, long and irregular shifts, intimidation, threats, violence, and physical assaults by prisoners that the prison guards may witness, which can all lead to significant occupational stress (Akbari & Mahaki, 2014; Galatzer-Levy et al., 2011; Komarovskaya et al., 2011; Mitchell, 1983). These high levels of occupational stress (Lambert et al., 2007) can affect both mental and physical health and are associated with job satisfaction, turnover, higher absences, job performance, and commitment to the support of the rehabilitation of prisoners (Akbari & Mahaki, 2014; Benedek et al., 2007; Lambert et al., 2007). Chronic stressors in the workplace can lead to strain and ultimately to burnout among prison staff (Griffin et al., 2012). The complex accumulation of trauma that prison guards face on a daily basis can often be subtle and difficult to distinguish, and while the threat to physical safety is always present, it is often the sum of many small shocks that carries the most weight (Canada. Parliament. House of Commons, 2016). Individuals working in these conditions often deny and suppress their normal emotional responses (Wastell, 2002).

Mitchell (1983) suggests that it takes a particular kind of individual to choose safety related work that enables them to manage the high levels of stress associated with their jobs. Suggesting that there is a distinct “rescue personality” characterizing individuals who have high levels of empathy, performance, and dedication (Mitchell, 1983). Mitchell & Bray’s (1990) further description of the rescue personality characterizes someone who is inner-directed, action oriented, easily bored, traditional, socially conservative, and has a high need for control and to help others. Attempts to measure the rescue personality have only been made with the FFM model, indicating that the profile of a “rescue personality” includes low neuroticism and openness to experiences and high extraversion, conscientiousness, and agreeableness (Mitchell, 1983; Mitchell & Bray, 1990).

Studies conducted with the FFM model investigating the personality of public safety workers have indicated that they are higher in extraversion (Salters-Pedneault et al., 2010; Wagner et al., 2009), conscientiousness, and low in neuroticism, agreeableness, and openness to experiences compared to the general population (Klee & Renner, 2013). Similarly, a study conducted by Eriksson et al. (2017) investigating both inmates, prison guards, and university students, indicated that inmates and students levels of neuroticism were higher than prisons

guards and both inmates and prison guards scored lower than students on openness and higher on conscientiousness (Eriksson et al., 2017). Furthermore, results from the FFM model have suggested that the personality profiles of successful police officers include high levels of conscientiousness, emotional stability (low neuroticism), and average levels of agreeableness and openness to experiences (Detrick & Chibnall, 2013; Spielberg & Corey, 2019). Salters-Pedneault et al. (2010) investigated police officers and firefighters, reporting higher levels of extraversion and conscientiousness among police officers than firefighters (Salters-Pedneault et al., 2010).

To the best of our knowledge, only one study investigated the personalities of prison guards based on the HEXACO model. Ramadan et al. (2022) investigated personality traits differences between public safety workers using the HEXACO questionnaire, indicating that public safety personnel score higher than the general population in honesty-humility and extraversion, with female public safety workers scoring higher than male public safety workers on emotionality, honesty-humility, agreeableness, and extraversion (Ramadan et al., 2022). Correctional officers and emergency dispatchers both scored higher on emotionality compared to other public safety personnel (Ricciardelli, 2019). Both correctional officers and emergency dispatchers provide ongoing therapeutic interaction while the threat is still ongoing, which might explain these findings (Ricciardelli, 2019). Furthermore, female correctional officers scored higher on emotionality than female emergency dispatchers (Ramadan et al., 2022). Correctional officers also reported lower extraversion than police officers, and male correctional workers scored lower on extraversion than firefighters, paramedics, and police officers (Ramadan et al., 2022). Female correctional workers and paramedics also scored lower on extraversion than female police officers (Ramadan et al., 2022). Men correctional workers scored lower on agreeableness and higher on openness to experiences than police and firefighters (Ramadan et al., 2022).

Personality of Good Leader

There are personality traits and characteristics that have been implied to be more common among criminals. On the other hand, personality traits such as high honesty-humility and conscientiousness refer to a person who is less likely to exploit others and commit crime (Lee & Ashton, 2013). While those personality characteristics might be good and valid, some might wonder what would happen when there was no need to restrain these urges to take advantage of others. The Stanford Prison Experiment is perhaps an example of that. In the experiment, participants were randomly assigned the roles of prison guards or prisoners, the prison guards

almost immediately began to abuse their power, punishing the prisoners harshly and arbitrarily (Haney et al., 1973), concluding that good people are able to do bad things when placed in certain situations (Zimbardo et al., 1999). Although situational pressures do have a strong influence on behavior, results of a recent study suggest that predisposed personality characteristics might play a role in explaining what happened in the Stanford Prison Experiment (Carnahan & McFarland, 2007). These results suggested that participants were perhaps especially low in honesty-humility and agreeableness, and therefore if more participants had been higher on those traits, the result of the Stanford experiment might have been less extreme (Carnahan & McFarland, 2007). Even though these results do not reflect real life scenarios, it does imply that personality characteristics may be an important factor in the correctional outcome.

The attitude of prison guards towards the treatment of prisoners can affect the experience of prisoners within a correctional institution. Personality traits, racial bias, procedural justice, and training are related to correctional officers attitudes toward inmates (Peterman et al., 2021). For example, the nature of Social Dominance Orientation (SDO) refers to a person who prefers hierarchy over equality, both within and between societies (Lee & Ashton, 2013). Right-Wing Authoritarianism (RWA) is a personality type that obeys to conventional norms and authorities, supports aggression against people who do not conform or obey, and disapproves of what challenges accepted beliefs and the structure of society (Lee & Ashton, 2013). Both RWA and SDO are associated with dislike of minority ethnic groups (Lee & Ashton, 2013). RWA has been found to be related to low openness to experience with both the FFM and HEXACO (Hodson et al., 2009; Lee & Ashton, 2013; Lee et al., 2010; Sibley et al., 2010; Sibley & Duckitt, 2008) and to low conscientiousness, but only with the FFM model (Sibley & Duckitt, 2008). SDO has been found to be predicted by low emotionality and openness with the HEXACO model (Sibley et al., 2010) and low agreeableness with the FFM model (Sibley & Duckitt, 2008). Interestingly, high honesty-humility is related to increases in RWA but decreases in SDO, thus opposing the effects of prejudice (Hodson et al., 2009; Lee & Ashton, 2013; Lee et al., 2010; Sibley et al., 2010).

In the context of criminal justice, personality can predict aspects of officer jobs, for example, correctional and police officer performance, attitudes, complaints, job limitation, and termination (Cortina et al., 1992; Simmers et al., 2003). Results obtained with the FFM model indicate that the most consistent predictors of job behavior in general are conscientiousness, agreeableness, and emotional stability (Barrick et al., 2001; Berry et al.,

2007; Cortina et al., 1992; Cullen & Sackett, 2003). Agreeableness has been shown to be the best predictor of job performance when working in larger teams (Barrick et al., 2001). Interestingly, agreeableness is also related to co-offending (Fuller, 2012), referring to offenders committing criminal acts with more than one offender (Van Mastrigt & Farrington, 2009). With the HEXACO model, the honesty-humility factor has been found to be the strongest predictor for workplace deviances (Chirumbolo, 2015; De Vries & Van Gelder, 2015; Pletzer et al., 2020; Schwager et al., 2016), followed by conscientiousness (Pletzer et al., 2019; Schwager et al., 2016), agreeableness, and emotionality, consistent with the findings from the FFM model (Pletzer et al., 2019). From the perspective of public safety workers, conscientiousness has been shown to be the strongest predictor of police officer job performance (Aamodt, 2004; Barrick & Mount, 1991; Salgado, 1997), openness to experiences for both firefighters and paramedics (Fannin & Dabbs, 2003; Dudek, 2001), and agreeableness correlates with correctional officer job performance (Motowidlo & Peterson, 2008; Peterman et al., 2021).

An authoritarian personality is generally thought to be someone with “rigid adherence to conventional middle-class values, a preoccupation with power and status, and a general hostility toward people unlike themselves” (Jones, 1984). Authoritarians usually tend to hold on to more negative attitudes toward rehabilitation and more positive beliefs about punishment (Andersen et al., 2018; Laguna et al., 2010). Abusive supervisors display sustained nonphysical, verbal and non-verbal hostility toward their subordinates (Tepper, 2000), which can have a detrimental effect on organizations and workplaces (Breevaart & de Vries, 2017). Results conducted with the FFM model have indicated that low agreeableness is associated with punishment-oriented attitudes and racial bias amongst correctional officers (Peterman et al., 2021). On the other hand, extraversion has been associated with effective leadership (Judge et al., 2002), however, extraverts also tend to be bold and may also be perceived as aggressive (Judge & Long, 2012). Within the HEXACO, low agreeableness and honesty-humility have been found to be related to abusive supervision (De Vries, 2012; Hilbig et al., 2013; Lee & Ashton, 2012). Similarly, agreeableness and honesty-humility have also been negatively related to subordinate perceptions of abusive supervisors (Breevaart & de Vries, 2017).

There is a negative correlation between honesty-humility and dishonest behavior (Hilbig & Zettler, 2015), people low in honesty-humility have been found to be more likely to engage in immoral behavior as they are typically less likely to admit it (Hilbig et al., 2015).

Both the dark traits and the HEXACO model have been shown to be a good tool to elucidate the characteristics of good liars (Semrad et al., 2019). People high in machiavellianism and psychopathic traits have been shown to be convincing liars (Semrad et al., 2019). Honesty-Humility has been shown to be negatively related to workplace delinquency and counterproductive work behaviors (Chirumbolo, 2015). The HEXACO model has been shown to outperform the FFM in predicting results on an integrity tests (Lee et al., 2005), unethical business decisions (Ashton & Lee, 2008b) and counterproductive work behaviors (Pletzer et al., 2019; Pletzer et al., 2020) due to the inclusion of the honesty-humility dimension.

Motivation of the Study

As previously stated, the five-factor model has served as the foundation for the majority of research into criminal behavior and personality. Low agreeableness, low honesty-humility, low openness to experience, and high extraversion have been shown to be linked to criminal offending. The HEXACO model has also been shown that low levels of agreeableness predict criminal offending, however, the relationship seems to be stronger for FFM agreeableness than HEXACO agreeableness. Low conscientiousness and low openness to experience in the HEXACO test have also shown to predict criminal offending. Emotionality is the sixth factor in the HEXACO model, which is not in the FFM whereas low scores have been shown to predict criminal offending.

Prior research was conducted on prison guards and people in positions related to prison guards, such as public safety workers which can include, but are not limited to, correctional employees, firefighters, paramedics, police officers, and emergency dispatchers. Studies conducted with the FFM model for public safety workers, indicate that they score higher in extraversion and conscientiousness, and lower on agreeableness and openness to experience as compared to the general population.

The aim of this study is to examine the differences in HEXACO scores among Icelandic criminal offenders compared to prison guards and the general population. Findings from a broad array of studies have indicated that there is a link between individual personality traits and criminality. The HEXACO has been shown to be a valuable tool in predicting criminal behavior. Due to the inclusion of the honesty-humility dimension, the HEXACO model has been shown to outperform the FFM in identifying various antisocial and immoral behaviors (Ashton & Lee, 2008b; de Vries et al., 2020; Howard & Van Zandt, 2020; Lee & Ashton, 2005; Lee & Ashton, 2014; Pletzer et al., 2019; Pletzer et al., 2020). The current study seeks to improve our understanding of individual personality traits in relation to

criminal behavior. Furthermore, the profession of prison guards is often overlooked, in recent years, few studies have been conducted that examine the personality characteristics of prison guards. No studies have been conducted with the HEXACO model that investigate personality traits of prison guards directly, comparing criminal offenders to prison guards, and no studies have been conducted investigating personality traits of prison guards or prisoners with an Icelandic sample.

Our research questions were:

1. Do criminal offenders and prison guards personalities differ from each other on the HEXACO-60-IS?
2. How do Icelandic criminal offenders' personalities differ from the general population?
3. How do Icelandic prison guards' personalities differ from the general population?

We predicted that

1. There will be a difference in personalities between criminal offenders and prison guards.
2. Criminal offenders are lower in agreeableness, lower in honesty-humility, lower in openness to experience, lower in conscientiousness, lower in emotionality, and higher in extraversion compared to the general population.
3. Prison guards are higher in extraversion and conscientiousness and lower in agreeableness and openness to experience compared to the general population.

Methods

Ethics

The national bioethical committee (vsn.is) was contacted in the beginning of this research and asked if approval was needed for participants in the criminal offenders group. The response was that no application and approval were needed if participants were well informed about the research and their consent was valid, which was implemented accordingly. All participants participated voluntarily. Participants did not get paid for their participation.

Recruitment

Participants were selected by convenience sampling. Prison guards and criminal offenders were the two groups selected for this study. We contacted the Prison and Probation

Administration (Fangelsismálastofnun) to get access to the criminal offenders, but due to a lack of time, they could not provide any help. Because of the sensitivity of these groups, we used convenience sampling because it was difficult to access people in these situations and in this profession. A link with the questionnaires was shared in closed social media platforms dedicated to prison guards in Iceland. Snowball sampling was also used, where the participants in both groups taking part in the research forwarded the link to others they knew. That way, prison guards also forwarded the link to others that were not in the groups and former employees. To get access to criminal offenders, one of the prisons was entered with permission from the Prison and Probation Administration (PPA). The warden of that prison and the prisoners were asked to participate, and those who were interested were sent the link via email. The link was also shared in the social media platform Facebook in two Icelandic groups containing only women to collect more female criminal offenders due to lack of their participation. Personal messages were also sent to individuals who were known by the study team or about whom the study team had been informed about being criminal offenders and had been in prison at some point in their lives or worked as prison guards and asked them for participation and encouraged them to share the invitation with others.

Participants

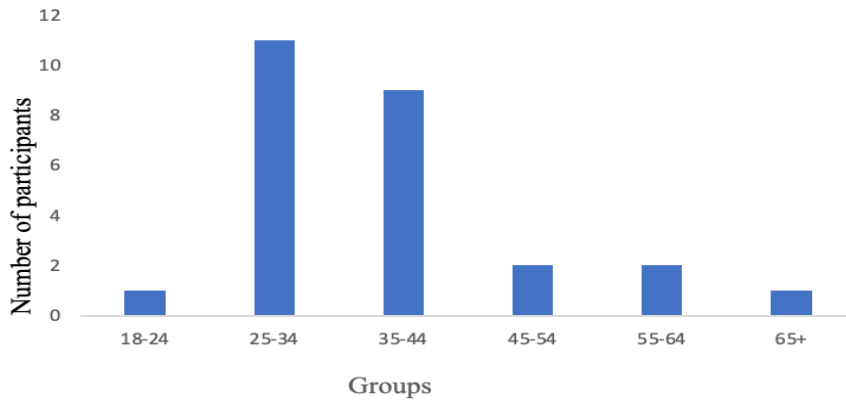
The final sample consisted of 76 individuals living in Iceland.

The group of criminal offenders contained 26 participants, who all had it in common that they had been in prison in Iceland, of which 3 were women (11,5%) and 23 men (88,5%). For the criminal offenders group, age was divided into six groups, most of the participants were in two of the groups or between the ages 25-44 (76,9%). The age distribution can be seen in Figure 1.

The group of prison guards contained 50 participants that worked in Icelandic prisons as prison guards, of which 20 were women (40%) and 40 were men (60%). The age of the participants was divided into the same six groups as for prisoners. Almost half of the prison guards were between the ages of 25-34 (48%) and the age distribution can be seen in Figure 2.

Figure 1.

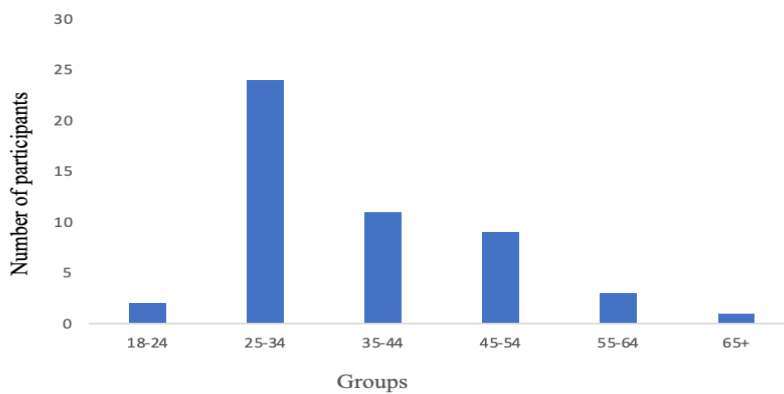
Age distribution for the Criminal Offender Group.



Note. Distribution of participants in age groups

Figure 2.

Age distribution for the Prison Guard Group



Note. Distribution of participants in age groups

Material

The HEXACO personality inventory was used to assess human personality characteristics (Ashton & Lee, 2009b). The HEXACO-60-IS self report measure was used which contains 60 items in Icelandic (Evudóttir & Heimisson, 2022). This personality test has six factors; Honesty-Humility, Emotionality, Extraversion, Agreeableness, Conscientiousness, and

Openness to Experience. They are measured with a 5-point likert scale from 1 (*strongly disagree*) to 5 (*strongly agree*).

Reference data

We obtained descriptive statistics data from a study by two of the HEXACO authors (Ashton & Lee, 2009b) to compare our scores with. We used their reference sample to test if there is a potential personality difference between Icelandic criminal offenders and prison guards and the general population. The reference data we used is a sample of college students who gave self- and observer-report personality data. As a reference, only self-reported data were used. The college student sample included 1126 students (691 women, 429 men, and 6 unspecified).

Procedure

There were two separate surveys for the two groups, criminal offenders, and prison guards. Surveys were implemented in Microsoft Forms. Both surveys started with an introduction letter (see Appendix 1 & 2) with detailed information about the study, how to proceed the questionnaire, their anonymity, their right to stop participation at any time and leave out questions if they preferred not to answer. Then, both surveys asked about demographic measures such as age, gender, and education. Next, the prison guards were posed questions about how long they had been working as guards and in what position they were. Instead of these questions, criminal offenders were asked if they were in prison when answering the questionnaire, how long they have sat in prison overall, how many times they have been convicted to prison, and how often they have been charged with a crime. Finally, both of the surveys included the HEXACO-60-IS. Initially, a few test participants took the survey to estimate the completion time and receive feedback on potential issues with the implementation.

Statistical analysis

The statistics software IBM SPSS statistics, version 29 was used for analyzing the data (IBM Corp., 2022). After reviewing answer data from the HEXACO questionnaire there was only one missing value, therefore, no data from participants was excluded. Microsoft forms delivered the data to Excel where all preprocessing of data was done. In Excel the answers were changed to computing scale scores where HEXACO-60-IS variables were defined as 1 = „*strongly disagree*” and 5 = „*strongly agree*”. When the scoring key items were indicated to be reversely coded (they were marked with “R”), the scores were reversed i.e., 5 -> 1, 4 -> 2, 3 -> 3, 2 -> 4, 1 -> 5, as instructed by the authors of the HEXACO (Ashton & Lee, 2009b).

Then, we computed the sum scores for all traits and the median, standard deviation, and the mean were found. Although for ordinal data, a median (and quartiles) rather than a mean (and standard deviation) should be calculated, we still presented the mean and the standard deviation, because it translates easier to data reported in the literature where means across the 10 items per HEXACO dimension as well as means across samples are most commonly presented. The Excel data was then imported into SPSS. To examine if the two groups differed a non-parametric test was conducted on the sum of the scores for each HEXACO trait, because of the ordinal scale and the small sample sizes. Specifically, an Independent-Sample Mann-Whitney U test was conducted to compare the groups. The Mann-Whitney U test looks for differences between two independent samples. We reported the test statistic (denoted by U) and p-value Sig.(2-tailed) (Mann & Whitney, 1947). Results of a Mann-Whitney U test show if there is no difference between the two groups according to the Null hypothesis or if there is a difference between the two groups according to the alternative hypothesis (Field, 2013, p, 639). For the comparison of our groups of participants, we wanted a population data to compare it with, but no normative general population data was found on the HEXACO website; Instead, we compared our results with the only available data from hexaco.org, a trusted research organization, which was a sample of English college students (Ashton & Lee, 2009b). We ran a One Sample t-Test, comparing the means in each trait to the college student sample for both criminal offenders and prison guards separately. For the purpose of the one-sample t-test, we calculated means across the 10-items per HEXACO trait for each participant. These scores were then compared for each trait to the sample trait means of the college student sample as a test value. Because in total we conducted 18 tests, we corrected the critical alpha level for multiple comparisons with Bonferroni correction, which resulted in a critical alpha level of $p < .003$.

Results

Group-Specific Characteristics and Demographic Measures

Among the participants in the prison guard group, one participant had worked less than three months as a prison guard, 23 participants had been working for 1-3 years, eight participants had been working for 4-6 years, and 18 participants had been working longer than six years. Regarding the participants position, four were replacement workers, eight participants worked

only part time jobs, 22 participants were permanent employees, 11 participants were deputy wardens, one participant was a warden, and four participants answered “other”. The prison guards’ education was distributed as follows: three participants finished elementary school, 34 finished high school, eight finished university (BA/BS), and five finished further education at university level.

Among the participants in the criminal offender group, 15 participants finished elementary school, eight finished high school, two finished undergraduate university education (BA/BS), and no one finished further education at university level. Half of the participants were in prison when they answered the questionnaire and 50% of the participants had been released. Six participants had been charged with only one felony, five participants with two felonies, seven with three, no one with four, eight participants with five or more felonies. There were 14 participants who had been sentenced to prison only once, three participants had been sentenced twice, five participants had been sentenced three times, and four participants had been sentenced more than three times. One participant had spent less than three months in prison, three had spent between 3-6 months, three had spent between 6-12 months, five had spent between 1-2 years, nine had spent between 2-5 years, two had spent between 5-8 years, and three had spent between 9-17 years in prison.

The HEXACO-60 Model

General descriptive statistics were calculated for criminal offenders and prison guards (see Table 1 which shows mean, median, standard deviation, range, minimum, and maximum). The six traits of the HEXACO model represent 10 questions each, ranging from 1-5. Therefore, if a participant scores 50 on a trait, he scored the highest possible score in that trait and 0 is the lowest, so the mean should be 25. Emotionality had the highest mean ($M=32.43$) and the lowest was extraversion ($M=23.26$). The maximum, or the highest score from a participant was in emotionality and the minimum was 10 which was on the extraversion scale. Standard deviation was lowest in conscientiousness ($SD=5.71$) followed by agreeableness ($SD=5.86$), indicating that the scores had a rather narrow distribution. Extraversion ($SD=6.16$) and emotionality ($SD=6.32$) had a slightly higher standard deviation. The highest standard deviation was on the honesty-humility scale ($SD=6.75$) and the second-highest standard deviation was openness to experience ($SD=6.71$), showing a broader distribution and, thus, a larger interindividual difference.

Table 1

General Descriptive Statistics for Each Trait of the HEXACO-60 Model

	Honesty- Humility	Emotionality	Extraversion	Agreeableness	Conscientiousness	Openness to Experience
N	76	76	76	76	76	76
Mean	24.46	32.43	23.26	28.33	23.63	26.75
Median	23.00	32.00	22.00	27.00	24.00	27.00
SD	6.75	6.32	6.16	5.86	5.71	6.71
Range	28	28	28	22	26	27
Minimum	12	16	10	19	11	14
Maximum	40	44	38	41	37	41

Descriptive Statistics of the HEXACO-60 model, separately for criminal offenders and prison guards can be seen in Table 2. Criminal offenders' mean score was higher than prison guards in all six traits. The minimum was 10 on the extraversion scale for a prison guard participant whereas the lowest score for criminal offenders was 12 on the honesty-humility scale. The maximum was 44 which was on the emotionality trait and from a prison guards participant whereas the criminal offenders got the maximum of 43 also on the emotionality trait.

Table 2

General Descriptive Statistics for Each Trait of the HEXACO-60 Model for Criminal Offenders and Prison Guards

HEXACO-60 Traits	Mean (SD)		Minimum		Maximum		Median	
	Criminal Offenders (N=26)	Prison Guards (N=50)	Criminal Offenders (N=26)	Prison Guards (N=50)	Criminal Offenders (N=26)	Prison Guards (N=50)	Criminal Offenders (N=26)	Prison Guards (N=50)
Honesty-Humility	29.85 (.68)	21.66(.48)	12	14	40	38	29.50	22.00
Emotionality	33.08 (.52)	32.10 (.69)	20	16	43	44	33.00	31.50
Extraversion	25.73 (.55)	21.98 (.61)	19	10	36	38	25.50	21.50
Agreeableness	31.58 (.64)	26.64 (.49)	21	19	41	36	31.00	26.00
Conscientiousness	27.12 (.49)	21.82 (.53)	17	11	37	34	26.00	22.00
Openness to Experience	28.65 (.58)	25.76 (.70)	15	14	40	41	29.50	26.00

Table 3 shows comparison for gender in the prison guard group where women scored lower on all facets except openness to experience where they scored higher. Gender comparisons were not performed in the criminal offenders group due to the small number of women included in the study.

Table 3

Comparing Gender of Prison Guards

Gender		H	E	X	A	C	O
Men	N	30	30	30	30	30	30
	Mean	23.03	35.30	22.47	26.83	22.40	24.47
	Std. Deviation	5.15	5.70	6.46	4.91	5.23	6.67
	Median	22.00	34.00	22.00	27.00	23.00	27.00
Women	N	20	20	20	20	20	20
	Mean	19.60	27.30	21.25	26.35	20.95	27.70
	Std. Deviation	3.32	5.57	5.69	4.87	5.40	7.12
	Median	20.50	27.50	21.00	24.50	21.00	26.00

Comparing Criminal offenders and Prison Guards

According to the Mann-Whitney U tests (see Table 3), there was no significant difference between criminal offenders and prison guards regarding emotionality although criminal offenders had a higher score. For honesty-humility, agreeableness, and conscientiousness the difference was highly statistically significant with higher scores for criminal offenders. On the traits extraversion and openness to experience criminal offenders had a higher score and differed significantly from prison guards only before, but not after correction for multiple comparisons.

Table 4

Mann-Whitney U Test Comparing Criminal Offenders to Prison Guards

Traits	N	U	Sig. (2-tailed)
Honesty-Humility	76	190.0	<.001*
Emotionality	76	561.5	.332
Extraversion	76	417.0	.011
Agreeableness	76	352.5	.001*
Conscientiousness	76	295.5	<.001*
Openness to Experience	76	463.5	.041

Note. SPSS shows p-values only up to 3 decimals, so if it is smaller than 0.001 it will write p<0.001

*significant at the Bonferroni-corrected alpha level p<.003

Criminal offenders and Prison Guards Compared to the General Population

For the comparison we used the average per trait where we divided the value by 10, as can be seen in Table 5 for the comparison in both groups to the student sample mean. See Table 6 which shows the results for criminal offenders and Table 7 for prison guards.

Table 5

Descriptive Statistics of the HEXACO-60 for Criminal offenders, Prison Guards, and College Student Sample

Traits	Criminal Offenders		Prison Guards		College students	
	Mean	SD	Mean	SD	Mean	SD
Honesty-humility	2.98	.69	2.19	.47	3.23	.66
Emotionality	3.31	.52	3.21	.69	3.36	.70
Extraversion	2.57	.66	2.18	.61	3.51	.62
Agreeableness	3.16	.64	2.66	.49	3.10	.63
Conscientiousness	2.71	.49	2.18	.53	3.47	.63
Openness to experience	2.87	.58	2.58	.70	3.49	.67

The *t*-values and Two-Sided *p*-values are given in Table 6 for the reference data compared to criminal offenders, and in Table 7 for the comparison to prison guards. Honesty-humility was by tendency significantly different between criminal offenders and the student sample whereas the college student sample score was higher. The score distributions of emotionality and agreeableness overlap completely, and there was no significant difference despite the college student sample score being higher. Extraversion, conscientiousness, and openness to experience differ significantly between the groups where the college student sample score was higher than the criminal offender score.

Table 6

One Sample T-Test Comparing Criminal Offenders to College Student Sample

	<i>t</i> -value	<i>p</i> -value
Honesty-Humility	-1.86	.075
Emotionality	-.51	.612
Extraversion	-8.65	<.001*
Agreeableness	.46	.648
Conscientiousness	-7.97	<.001*
Openness to Experience	-5.47	<.001*

Note. In this table we used the average per trait (the value divided by 10)

*significant at the Bonferroni-corrected level $p < .003$

For the comparison of the prison guards and the college student sample, emotionality was the only one that was not statistically significantly different despite the college student sample score being higher. Honesty-humility, extraversion, agreeableness, conscientiousness, and openness to experience all differed significantly where the college student sample score was higher than the criminal offender score.

Table 7

One Sample T-Test Comparing Prison Guards to College Student Sample

	<i>t</i> -value	<i>p</i> -value
Honesty-Humility	-15.8	<.001*
Emotionality	-1.52	.135
Extraversion	-15.5	<.001
Agreeableness	-6.36	<.001*
Conscientiousness	-17.2	<.001*
Openness to Experience	-9.26	<.001*

Note. In this table we used the average per trait (the value divided by 10)

*significant at the Bonferroni-corrected level $p < .003$

Discussion

In this study, we compared the personality results of criminal offenders and prison guards using the HEXACO-60 model and a sample of the general population. Our goal was to identify differences between the groups, compare them to the general population, and find evidence for prior theories from existing studies. We based our predictions on evidence from previous studies.

Our data partially supported the first hypothesis that there is a difference between criminal offenders and prison guards in Iceland. The results of criminal offenders showed that they were more honest, agreeable, and conscientious than prison guards, but there was no difference in emotionality, extraversion, or openness to experience.

With our second hypothesis we predicted that criminal offenders would score lower on all traits except extraversion, where they would score higher as compared to the college student sample, which we used as a general population to compare to our groups of participants. Consistent with our hypothesis, criminal offenders scored lower in conscientiousness and honesty-humility than the general population. Therefore, criminal offenders were, as we predicted, less conscientious and less honest than the general population. In contrast to our prediction, criminal offenders scored lower on extraversion, but the difference was only significant before, but not after, multiple comparison correction, so we found no support of them being more or less extroverted than the general population.

In our third and last hypothesis, we predicted that prison guards would be higher in extraversion, higher in conscientiousness, lower in agreeableness, and lower in openness to experience compared to the general population. In line with this expectation, prison guards scored lower in openness to experience and lower in agreeableness indicating that prison guards were less open to experience and less agreeable than the general population. In contrast, prison guards scored lower on extraversion and conscientiousness than the general population, indicating that they were less extraverted and less conscientious.

Comparison to prior research

Not much research has been conducted where personalities of criminals and prison guards have been compared. One was conducted with the FFM model, and found that prison guards

are less open to experience than criminal offenders (Eriksson et al., 2017), whereas we could only find differences before Bonferroni correction but not after.

Consistent with previous findings criminal offenders scored lower than the general population on honesty-humility, emotionality, conscientiousness and openness to experiences in presented study (Ashton & Lee, 2008a, Dunlop et al., 2012; Međedović, 2017; Rolison et al., 2013; Vrućinić, 2017). Therefore, in line with prior theories, criminal offenders were confirmed to be less honest, less emotional, less conscientious, and less open to experience than the general population. Despite that in our study criminal offenders scored lower in agreeableness compared to the general population the difference was not found to be significant, which is in contrast to previous theories where criminal offenders are less agreeable than the general population (Ashton & Lee, 2008a, Dunlop et al., 2012; Međedović, 2017; Rolison et al., 2013; Vrućinić, 2017). Honesty-humility did by tendency significantly differ between criminal offenders and the general population which is consistent with previous findings (Međedović, 2017; Montalto, 2021; Rolison et al., 2013; Ścigała et al., 2022). Thus, criminal offenders were by tendency less honest than the general population according to our data, while we had expected a clearer result as previous scholars have indicated that low honesty-humility is the strongest predictor of criminal behavior (De Vries & Van Gelder, 2013; Dunlop et al., 2012; Lee et al., 2005; Van Gelder & De Vries, 2012).

According to FFM research studies, public safety workers and rescue workers score higher on extraversion, higher on conscientiousness, lower on agreeableness, and lower on openness to experience than the general population. (Klee & Renner, 2013; Salters-Pedneault et al., 2010; Wagner et al., 2009). This indicates that they are more extroverted, more conscientious, less agreeable, and less open to experiences than the general population. In contrast, our research revealed that prison guards were less extroverted and less conscientious. But in line with prior work our sample of prison guards was less agreeable and less open to experience than the general population (Klee & Renner, 2013; Salters-Pedneault et al., 2010; Wagner et al., 2009).

In a study by Ramadan et al. (2022) people who work in public safety scored lower in emotionality than the general population. However, in our sample the difference in emotionality was rather small. Furthermore, Ramadan et al. (2022) found no difference in conscientiousness whereas we found evidence that prison guards are less conscientious. Interestingly, we found prison guards to be less honest than the general population, while Ramadan et al. (2022) showed that public safety workers were more honest.

Criminal offenders

Our results indicated that criminal offenders were lower in agreeableness compared to the general population, however our findings were not as clear as we would have expected compared to other studies (Ashton & Lee, 2008a, Dunlop et al., 2012; Međedović, 2017; Rolison et al., 2013; Vrućinić, 2017). Studies comparing different types of offenders have typically linked low agreeableness to violent offending (Montalto, 2021; Pajevic et al., 2017; Shimotsukasa et al., 2019; Westhead & Egan, 2015). Also, lower scores of agreeableness have been shown to indicate higher levels of aggression (Ashton et al., 2014; Dinić & Wertag, 2018; Hornsveld & Kraaimaat, 2022; Lee & Ashton, 2012; Miller et al., 2012; Sokolovska et al., 2018). Furthermore, studies that had the majority of the sample consisting of violent offenders such as Međedović (2017), and Pajevic et al. (2017) found low agreeableness to be the best predictor of criminality. However, we did not include in our studies what types of offenses the criminal offenders were incarcerated for. Iceland has a history of low crime rates and a tradition of lenient sentencing (Pakes & Gunnlaugsson, 2018), which might in part explain why our findings were not as significant compared to other countries that might have a higher crime rate and more violent crimes.

Prison guards

To put our results regarding prison guards into perspective, it is important to consider a person's motivation for choosing the job of a prison guard. There are two types of motivation that can influence a person's job selection. Intrinsic motivation operates from within, referring to behaviors performed out of enjoyment, because they are inherently interesting or satisfying (Deci & Ryan, 2013; Reiss, 2012; Woodworth, 1926). Extrinsic motivations operate from outside in the pursuit of an instrumental goal such as security, money, prestige, praise, or recognition (Deci & Ryan, 2013; Mitchell & Albright, 1972; Reiss, 2012; Rheinberg & Engeser, 2018). Ricciardelli & Martin (2017) addresses that some prison guards entered the field due to a lack of employment opportunities, others as a stepping stone for a different occupation, but most of them were motivated by income and benefits. For small towns in Iceland, the issue of entering the field due to a lack of employment opportunities may be particularly pertinent. Schlosser et al. (2010) identified that prison guards placed greater importance on financial motivators compared to police officers, where service was more of a

motivating factor. These findings suggested that prison guards' motivations for employment might be diverted from more extrinsic motivations. Intrinsic motivations have been shown to correlate with high extraversion, conscientiousness, emotional stability (or low neuroticism), agreeableness, and openness to experience, whereas extrinsic motivations have been shown to be related to low scores on all these factors within the FFM framework (Nikolaou et al., 2007; Romero et al., 2012; Visser & Pozzebon, 2013). Our results revealed that prison guards were less honest than both criminal offenders and the general population. Visser & Pozzebon (2013) indicated that honesty-humility were positively correlated with intrinsic aspirations and negatively with extrinsic aspirations. These results indicate that motivations and aspirations for job selection might be linked to personality traits, which seems to be more consistent with our findings for the personality characteristics of prison guards. A low crime rate in Iceland might also explain prison guards extrinsic motivations, whereas a higher crime rate might suggest a more obvious responsibility more related to intrinsic motivations.

Some evidence might suggest that the job of a prison guard in Iceland might be different compared to other countries. Iceland is a small country with a small population, which might offer closer and less formal communication between prisoners and prison guards (Pakes & Gunnlaugsson, 2018). Furthermore, the job of a prison guard has also been rated among the most stressful jobs of all occupations (Cooper et al., 1987; Regan, 2009), with a particularly high turnover rate (Udechukwu, 2009). In contrast, results from an Icelandic study demonstrated that prison guards reported that they were rather satisfied with their job (Jónsdóttir, 2018). Which might imply that job satisfaction amongst prison guards in Iceland is not as negative compared to other countries. Although these findings do not directly explain our diverging results, they do suggest that there is some difference between prison guards in Iceland, therefore, it might be difficult to compare our data to results obtained in other countries with a larger population and higher crime rates.

Limitations

A first limitation of the present study is how few participants the samples had, which is particularly true for the criminal offender group. This group also had a gender imbalance, as it turned out to be difficult to recruit female participants. With the criminal offender sample being so small, generalizations of the results to the criminal offender population are limited. Montalto (2021) reviewed 49 articles to develop an offender personality profile, and studies conducted by Rolison et al. (2013) and Međedović (2017) established reference values

concerning HEXACO traits among criminal offenders. Rolison et al. (2013) included 45 male offenders, which is a rather small sample. Only 65 inmates made up the sample size for Vrućinić (2017), which was again relatively small. The larger sample used by Međedović (2017) included 256 male inmates. However, a comparison with Međedović (2017) and Vrućinić (2017) results may also be limited because our sample included all criminal offenders, both those who were incarcerated and those who were ex-offenders. Ścigała et al. (2022) had 117 male imprisoned criminal offenders in their sample. Offenders were located in a forensic clinic and had various psychological disorders, which limits the possibility of a comparison to the present sample of offenders. Only one study, by Eriksson et al. (2017), compared criminal offenders and prison guards, and that study used the FFM model, which limits the comparison to our findings. Eriksson et al. (2017) had a relatively small sample consisting of 46 male inmates and 45 prison guards. However, considering that all of the inmates were high-security offenders, comparisons to the sample of criminal offenders in our study may be further constrained.

We were not able to provide the questionnaire in both Icelandic and English, so we could not include non-Icelandic speaking individuals. Many criminal offenders in Icelandic prisons come from other countries. Another limitation of the study is that it used a convenience sample, such that the selection of participants is in the hands of the researcher and may suffer a high degree of bias. Furthermore, the reference sample only consisted of English college students, which is not ideal in two respects. First, college students do not represent the general public as intended, and second, it is not an Icelandic sample. The sample of Evudóttir and Heimisson (2022) could have been used, instead. Also, prior research in this field mainly used the FFM, whereas differences between the FFM and HEXACO limit the validity of conclusions based on comparisons of the present results with prior research based on the FFM. In addition, comparing the results obtained by the present prison guards group with those from prior work that were obtained by a sample of public safety workers or rescue workers (Ramadan et al., 2022; Klee & Renner, 2013; Salters-Pedneault et al., 2010; Wagner et al., 2009), of which prison guards are considered to be a part, is also not straightforward and might explain some differences between the present study and prior results. It might also be argued that the HEXACO-60 is the shorter version of the HEXACO-100 and, therefore, less reliable. Finally, our measurement tool was a self-reported questionnaire, which introduces various potential sources of bias.

Future research

Researching prisoners and prison guards and providing insights can be beneficial for society. Having a deeper understanding of criminal behavior can help prevent crimes from occurring in the future, and prison guards can play an important role in the rehabilitation of criminal offenders. The contributions of the present study to the personality testing of criminal offenders and prison guards in Iceland can serve as a foundation for future research in this field and have an impact on the use of personality testing. For future studies that examine the personality traits of criminal offenders, we suggest that the specific types of crimes for which they are convicted should be taken into account. To this end, researchers in Iceland who are interested in determining the personality traits of criminals should also aim to obtain a larger sample size.

Conclusions

We have provided the first account of HEXACO-based personality differences between criminal offenders and prison guards in Iceland. When comparing criminal offenders to prison guards, some of our results were surprising compared to existing evidence from prior research. In our sample, criminal offenders were more honest, more agreeable, and more conscientious than prison guards. Most interestingly, when we compared both of these groups to the general population, we found that criminal offenders were only by tendency less honest than the general population, while prison guards were less honest than the general population.

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Appendix

Appendix 1

Kynningarbréf

Kæri þátttakandi,

Spurningalistinn hér að neðan er rannsóknarverkefni á vegum Rakel Rós Friðriksdóttir og Emblu Örkhölludóttir og er hluti af lokaverkefni til BA gráðu í sálfræði við Háskólann á Akureyri. Leiðbeinandi er Susanne Lieske og aðstoðarleiðbeinandi er Emma Elísa Evudóttir. Tilgangur verkefnisins er að athuga tengsl persónuleikabátta á persónuleikaprófinu HEXACO og föngum borið saman við fangaverði.

Það tekur um 10 mínútur að svara öllum spurningum.

Þér er frjálst að hætta þátttöku hvenær sem er. Þér er einnig frjálst að sleppa spurningum. Hinsvegar er mikilvægt fyrir rannsóknina að hver þátttakandi svari eins heiðarlega og unnt er og að hverri spurningu sé svarað eftir bestu getu.

Þú nýtur nafnleyndar og verður því ekki hægt að rekja svör til einstaklinga.

Vegna nafnleyndar geta þátttakendur ekki fengið aðgang að eigin svörum, en velkomið að spyrja frekari spurninga í gegnum tölvupóst: rakelemlaba@gmail.com

Rakel Rós Friðriksdóttir og Embla Örkhölludóttir

Appendix 2

Kynningarbréf

Kæri þátttakandi,

Spurningalistinn hér að neðan er rannsóknarverkefni á vegum Rakel Rós Friðriksdóttir og Emblu Örku Hölludóttir og er hluti af lokaverkefni til BA gráðu í sálfræði við Háskólann á Akureyri. Leiðbeinandi er Susanne Lieske og aðstoðarleiðbeinandi er Emma Elísa Evudóttir. Tilgangur verkefnisins er að athuga tengsl persónuleikabátta á persónuleikaprófinu HEXACO og föngum borið saman við fangaverði.

Það tekur um 10 mínútur að svara öllum spurningum.

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Vegna nafnleyndar geta þátttakendur ekki fengið aðgang að eigin svörum, en velkomið að spyrja frekari spurninga í gegnum tölvupóst:

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