**ONLINE APPENDIX B**

Measures and Citations for Constructs in Ethical Human Capital Work Systems

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|  | Measures & Citations |
| AFFECTIVE |  |
| Anger | Anger can be measured with or the Dunn and Schweitzer (2005) measure of felt anger, or by measuring it as the opposite of the patience scale that is part of the HEXACO personality model (Lee & Ashton, 2008). |
| Envy | Envy can be measured with Cohen-Charash’s (2009) episodic envy scale that has two subscales of feeling and comparison. It can also be measured with Gross and John’s (2003) cognitive reappraisal scale, Moran and Schweitzer’s (2008) envy scale, or the Smith and colleagues’ (1999) dispositional envy scale. Malicious envy can also be measured (Lange & Crusius, 2015). |
| Felt Obligation to Act Morally | Questions adapted from felt obligations toward the organization can measure employee feelings of obligations to act ethically (Eisenberger et al. 2001; Ogunfowora, 2014). |
| Guilt and Shame | Guilt and Shame Proneness (GASP) can be measured with four subscales each with multiple items: guilt-negative-behavior evaluation, guilt-repair, shame-negative-self-evaluation, and shame withdrawal (Cohen et al., 2011). Shame can be measured with four items from the expanded version of the Positive-Affect Negative-Affect Scale (Watson & Clark, 1994). GASP is related to lower levels of misrepresentation, unethical business decisions, and delinquent behaviors (Cohen et al., 2011). |
| COGNITIVE |  |
| Cognitive Moral Development | The Defining Issues Test measures an individual's CMD (Mudrack & Mason, 2022; Rest, 1986; Thoma et al., 1999) which presents ethical dilemmas to test takers, and has been shown to relate to unethical choices. |
| Formalist vs. Utilitarian Moral Judgment | Formalism and utilitarianism (consequentialism) can be measured with the ethical viewpoints scales (Brady & Wheeler, 1996), or the Ethical Standards Judgment Questionnaire measuring formalism and consequentialism (Love et al., 2020). |
| Idealistic vs. Relativistic Moral Philosophy | The ethical position questionnaire measures idealism versus relativism (Forsyth, 1980; O'Boyle & Forsyth, 2021). |
| COMPETENCY |  |
| Bounded Ethicality | Bounded ethicality is thought to operate at an implicit level inducing people to automatically deferring their self-interest, and can be difficult to measure directly, but its effects have been demonstrated (De Cremer & Moore, 2020; Mudrack & Mason, 2022; Zhang et al., 2015). |
| Ego Depletion vs. Self-Regulation Capacity | Self-control depletion has been assessed indirectly with a measure of subjective fatigue (Lee et al., 1991; Yam et al., 2014). Self-control depletion has also been experimentally assessed by varying the difficulty of task instructions and confirming the effect of this manipulation by asking participants about the difficulty of the task, the degree of required self-control and cognitive demands, and whether they felt tired or worn out (Gino et al., 2011; Yam et al., 2014). |
| Ethical Fading | Repeated and declining measures of moral recognition over time can identify ethical fading (Helzer et al., 2022). |
| Internal Locus of Control | A forced choice scale can measure locus of control (Rotter, 1966; Valecha & Ostrom, 1974). |
| Moral Attentiveness | Moral attentiveness can be measured with a scale that assesses both perceptual and reflective dimensions (Reynolds (2008). |
| Moral Disengagement | Moral disengagement can be measured with several different scales (Moore et al., 2012; Detert et al., 2008; McFerran et al., 2010). |
| STANDARD PERSONALITY |
| Agreeableness | Agreeableness can be measured using one of the several Big Five personality scales or as part of the six-factor HEXACO personality model (Ashton & Lee, 2009; Donnellan et al., 2006). |
| Conscientiousness | Conscientiousness can be measured using one of the several Big Five personality scales or as part of the six-factor HEXACO personality model (Ashton & Lee, 2009; Donnellan et al., 2006) |
| Honesty-Humility | Honesty-Humility is one of the six dimensions of personality in the HEXACO model (Ashton & Lee, 2009). |
| PERSONALITY DISORDERS |
| Machiavellianism | Machiavellianism can be measured with the MACH IV or V scales, the more recent Machiavellian Personality Scale (Christie & Geis, 1970; Dahling et al., 2009; Jones & Paulhus, 2009), or as part of a Dark Triad measure (Jonasen & Webster, 2010). |
| Narcissism | Narcissism can be measured with the multifactor Narcissism Personality Inventory (Emmons, 1987, Raskin & Terry, 1988), or as part of a Dark Triad measure (Jonasen & Webster, 2010; Mutschmann et al., 2022). It has been suggested that it can also be measured with proxies such as the size of CEO signature or pictures in annual reports, frequency of using first-person pronouns, or third-party ratings of video clips (Mutschmann et al., 2022). |
| Psychopathy | There are many available measures of psychopathy which assess multiple factors based on self- or observer reports of others (Hare, 2003; Harpur et al., 1989; Lee & Ashton, 2005; Levenson et al., 1995; Williams & Paulhus, 2004). Smith and Lilienfeld (2013) reviewed these measures and discussed their potential applicability to organizational settings. |
| Erratic Cluster | The four constructs in the erratic cluster can be measured by the five-factor model of personality disorder assessment in either self-report or observer assessments (Costa & McCrae, 1992; Costa & Widiger, 1994, 2002; Miller, 2012; Von Scotter & Roglio). |
| Anxious Cluster | The three traits in the erratic cluster can be measured by the five-factor model of personality disorder assessment in either self-report or observer assessments (Costa & McCrae, 1992; Costa & Widiger, 1994, 2002; Miller, 2012; Von Scotter & Roglio, 2020. |
| MORAL MATURATION |
| Moral Complexity | The complexity of mental representations often necessitates representing them in scripts that are specific to the particular domain of ethical challenges (Hannah et al., 2011). Therefore, several methods have been suggested for measuring moral complexity. These include brain mapping (Hannah et al., 2011; Thatcher et al., 2008), responses to specific job-related scenarios (Hannah et al., 2011; Thoma et al., 1999), schema mapping of the structure moral complexity knowledge (Hannah et al., 2011; Markíczy & Goldberg, 1995), and thematic apperception measures (Hannah et al., 2011). |
| Moral Metacognitive Ability | Moral meta-cognition scale measures moral meta-cognition (McMahon & Good, 2016). |
| Moral Identity | Moral identity has been measured with a short form questionnaire (Johnson et al., 2022; Zhu et al., 2011), or one of several scales that have different subscales. The Self-Importance of Moral Identity Questionnaire that has two dimensions: Private-Internalization and Public-Symbolization (Aquino & Reed, 2002). The Moral Identity Questionnaire has subscales for the moral self and moral integrity (Black & Reynolds, 2016). More recently, moral identity has measured as four factors: Benevolence, Justice, Obligation, and Integrity with job-role specific assessments (Hannah et al., 2020). |
| MORAL CHARACTER1 |
| Moral Motivation | Moral motivation can be measured with the honesty-humility scale in the HEXACO personality measure (Lee & Ashton, 2008) or the moral foundations scale (Graham et al., 2011). Collective moral motivation can also be measured at the firm level (Arnaud, 2010). |
| Moral Self-Regulation Ability | People with higher self-regulation ability tend to score higher on scales that measure conscientiousness, self-control, and consideration of future consequences (Ashton & Lee, 2009; Baumeister et al., 2007; Strathman et al., 1994; & Cohen & Morse, 2014). |
| MORAL CONATION |
| Moral Courage | Moral courage can be assessed with a short measure (Hannah et al., 2011). Moral Courage can also be measured with scales that tap into five dimensions: moral agency, multiple values, threat endurance, beyond compliance, and moral goals (Sekerka et al., 2009). These scales can use peers or subordinates to rate targeted employees or supervisors (Sekerka et al., 2009). |
| Moral Efficacy | Individual moral efficacy can be measured with short scales (Hannah & Avolio, 2010; Owens et al., 2019; Treviño et al., 2014). Team moral efficacy can also be measured (Kim & Vandenberghe, 2020). |
| Moral Ownership | Moral Ownership can be measured with a short scale (Hannah, et al., 2011; Hanna & Avolio, 2010; Ogunfowora, et al., 2021a). |
| ETHICAL CLIMATE & CULTURE |
| Ethical Climate & Culture | Ethical work climate can be measured with the Ethical Climate Index that has collective measures of moral sensitivity, moral judgment, moral motivation, and moral character (Arnaud, 2010). Ethical workplace cultures can be measured with the Corporate Ethical Values scale. There are short and validated 32-item versions in English and Spanish containing 8 factors: clarity, congruency of supervisors, congruency of senior management, feasibility, supportability, transparency, discussability, and sanctionability (DeBode et al., 2013; Kaptein, 2008; Toro-Arias et al., 2022; Kuenzi, Mayer, & Greenbaum, 2020). |

Note: Moral Character also includes the construct of moral identity that was discussed under moral maturation.

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