

VALIDATING A FIVE-FACTOR MODEL OF ETHICAL DECISION MAKING

by

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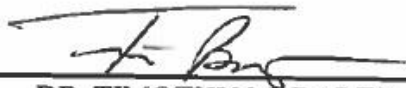
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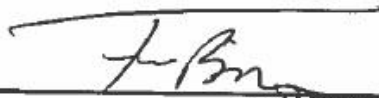
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CURRICULUM VITAE

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Validating a Five-Factor Model of Ethical Decision Making

The history of ethics contains various views meant to guide our thinking and moral reasoning. For example, early philosophers put forth numerous ethical perspectives (e.g., virtue ethics; utilitarian ethics) to provide a basis for problem-solving and decision-making. The extent to which these perspectives have become ingrained in society as decision-making tools is questionable, given the number of ethical mishaps that have become part of our weekly, if not daily, news cycle. These apparent shortcomings raise the question of whether these historical perspectives are naturally applied as part of decision-making, if their use is situation specific (i.e., situational ethics), or if they represent more of an overall “ethical disposition” where a dominant framework is used regardless of the nature of the ethical dilemma. This master’s thesis constituted the first steps in developing a scale to represent the five-perspective framework for ethical perspectives proposed by the Markkula Center for Applied Ethics (Velasquez et al., 1987).

Moral Development

Moral reasoning has long been a subject of interest in psychological research. Before moral psychology emerged as an independent field of study, developmental psychologists investigated moral reasoning as far back as Piaget (1932). Piaget’s theory of moral development was based on how children of varying ages would learn, integrate, and enforce the rules of a game. These experiments focused on the children's reasons when asked questions regarding the nature of a rule’s origins, why breaking a rule is considered bad, and how rule-breakers should be punished. Piaget’s theory asserts that from ages five to nine, children’s morality is imposed mainly upon them by external forces (e.g., parents; teachers). Piaget called this heteronomous stage morality or moral realism. Moral realism primarily engages in black-and-white thinking, believing that rules are absolute and that all punishments are justified. Piaget believed that after

age nine, people develop autonomous morality, or moral relativism, where they cultivate personal rules and beliefs to guide them. Rules are no longer absolute, black-and-white thinking has turned into shades of grey, and punishments often no longer fit the nature of the crime.

Inspired by Piaget, Kohlberg (1958) focused on responses that children, youth, and young adults provided to ethical dilemmas. Kohlberg (1963) proposed a six-stage theory, split evenly across three levels that created a hierarchical order to morality dependent on cognitive development. Kohlberg postulated that until around age nine, children primarily operated on the preconventional level. Moral decisions in the preconventional stage are shaped by consequences, either through obedience and punishment or self-interest (Kohlberg, 1981). At the second or conventional level, social influences drive moral choices. Conventional morals impose conformity with societal expectations and seek to maintain social order (Colby et al., 1983). The postconventional level is the final stage and includes more abstract concepts such as social contracts, individual rights, and universal principles (Kohlberg & Hersh, 1977). Kohlberg (1984) speculated that while the preconventional and conventional were universal, only ten to fifteen percent of the population engaged in the postconventional.

Kohlberg asserted that as one advanced through stages, the moral reasoning used in previous stages would be integrated into these higher thought processes (Colby & Kohlberg, 1987). Integration also meant that the methods used in previous stages could not work as distinct alternatives, as they now serve as contributing factors to the highest stage. For example, a person at the postconventional level was expected to use postconventional moral reasoning, regardless of circumstance. Such assertions drew criticism from Rest (1983; 1999), who argued that Kohlberg's stages were weak at predicting behavior. Additionally, Gilligan (1982) noted that the foundational work of the theory used exclusively male populations and, consequently, the theory itself was biased in not reflecting the development of females. Researchers (Carpendale & Krebs,

1992; 1995; Denton & Krebs, 1990) further demonstrated that the nature of the moral dilemma could impact the Kohlberg operational stage of reasoning, bringing into question a key component of Kohlberg's theory. As the Kohlberg model was cumulative, the highest rule level would have been applied to all situations and remained consistent. Carpendale (2000) argued that moral reasoning involves understanding, perspective-taking, and coordinating views that often conflict. Inconsistency is to be expected when the situations differ.

Philosophical Perspectives on Morality

Greene and colleagues (2001) developed a method to assess morality using the philosophical constructs of deontology and utilitarianism. Deontology and utilitarianism may be viewed as the two broadest philosophical categories and are opposed to one another. Deontology argues that actions carry an inherent morality and that we must follow the morally correct choice (Kant, 1785). Deontological choices are often a matter of deferring to established rules, such as laws or religious doctrines. Utilitarianism argues that the morality of an action can only be determined by its consequences, and we must strive to maximize the benefits and minimize the harms (Bentham, 1780; Mill, 1875).

Greene (2001) applied responses to sacrificial dilemmas, such as the trolley problem (Foot, 1967), to the philosophical dichotomy. The classic trolley problem involves a runaway trolley headed down a track where five people have been tied up and left to die. The reader has the power to change the trolley's route by pulling a lever that would, in turn, lead to the death of one person. Greene contrasted the classic trolley with a footbridge variant, where the reader must push someone onto the tracks to save others, arguing that while most are willing to act (i.e., sacrifice) in the trolley scenario, most refuse to do so in the footbridge scenario. The participants responded to dilemmas while undergoing brain scanning with fMRI. The findings shed new light on the neuroanatomy involved in ethical decision-making. Greene and colleagues (2009) later

modified these scenarios to see how participants responded to variations in distance and anonymity. Crucially, the design treated willingness to sacrifice as utilitarian and refusal as deontological. These efforts culminated with Greene proposing a dual-process model for moral judgments (Greene, 2014). The dual process model argues that moral decisions are either automatic or manual. Automated decisions are intuitive and require no time to deliberate because the right course of action is evident. In this sense, deontology is automatic. Conversely, utilitarianism is manual because it requires time and effort.

The dual-process model proposed by Greene assumes that only two philosophical perspectives are available to guide decision-making. Other researchers (Bonde & Firenze, 2013) have proposed a framework containing three ethical perspectives: consequentialism, duty, and virtue. While consequentialism and duty are functionally the same as Greene's (2014) utilitarianism and deontology, the addition of virtue sets this framework apart. Virtue is one of the oldest and most enduring philosophical views on morality that dates back to Aristotle (350 BCE / 2014). Virtue ethics argue that harmonious choices must be made toward upholding ideals. Virtue choices are based on what one perceives a virtuous person would do in that same circumstance. In this regard, Virtue differentiates itself from the other ethical approaches as it is not bound to act out of duty to external rules nor compelled to consider the consequences.

Another approach is to divide sweeping philosophical terms like utilitarianism based on application. Kahane and colleagues (2015; 2018) have proposed that utilitarianism measures be separated based on *act* and *rule*. Neither are new terms; instead, they harken back to the differences between Bentham (1780) and Mill (1875). To distinguish these views, assume that a company hires someone who lied on their resume. Act utilitarianism would judge the morality of this situation based on the consequences of this specific circumstance. In this case, how the person performed after being hired or why they lied initially. Rule utilitarianism would consider

the consequences should lying on a resume become part of the standard application process for everyone. These views are often seen elsewhere as a weighing of benefits in the short term versus long term or individual versus the group (Driver, 2022; Sinnott-Armstrong, 2022).

The Markkula Framework

One framework incorporating many previously mentioned elements comes from the Markkula Center for Applied Ethics (Velasquez et al., 1987). This model proposes five philosophical approaches to moral reasoning and ethical decision-making: virtue, the common good, utilitarianism, justice/fairness, and rights. Virtue is defined similarly to that in the Brown framework (Bonde & Firenze, 2013). Utilitarianism is defined as weighing the short and long-term costs and benefits. Common good refers to actions that consider the betterment of the community or society. Justice or fairness entails maintaining fair treatment, rectifying unfair treatment, or justifying unfairness when necessary (Rawls, 1971). Aristotle (350 BCE / 2014) provided a maxim that helped to define this topic “*equals should be treated equally and unequals unequally.*” An example of this perspective is childcare, where parents are expected to treat their children equally but are not obligated to treat the neighbors’ children the same as their own. The rights perspective argues that people, society, and governments have a duty to ensure that fundamental freedoms and individual rights are established and protected. The moral principle that guides rights reasoning is that the best choice is the one that protects the fundamental rights of others (Locke, 1690). Rights are both deontological in their duty to act on principle and utilitarian in their willingness to make sacrifices to pursue that goal.

The only prior research application of this framework was as part of the development of ACED IT (Kreitler et al., 2009; 2012), a decision-making tool that prompts individuals to consider the ethical implication of possible choices using the Markkula framework as a guide. ACED IT stands for: Assess, Create (choices), Evaluate, Decide, Implement, Test. Participants

were asked to describe a dilemma and create choices through “consultation” with an imaginary decision team (Morey & Dansereau, 2010). Each choice was then evaluated using ethical criteria based on the five perspectives within the Markkula framework (e.g., “It is fair to those involved”). Participants rated each option on a Likert-type scale (0 = not at all; 3 = very much so) using these ethical filters. These ratings allowed the participants to examine the relative merits of the choices based on the five ethical perspectives. Participants that used the ACED IT tool reported greater positive expectations for future decision-making and personal change when compared to those in a problem-based writing group and a no-treatment group (Kreitler et al., 2009; 2012). These results suggested that confidence in decision-making is enhanced when participants evaluate their options using the five Markkula ethical perspectives. To date, however, no scale has been developed to measure individual differences in using these five perspectives.

The Current Study

The current study took the first steps toward developing an ethical perspective scale derived from the Markkula framework. The Ethical Perspective Scale (EPS) attempts to measure whether we possess an ethical propensity that impacts our decision-making. For example, is there a disposition where an individual would be most inclined to weigh the rights of individuals when considering solutions to an ethical dilemma or policy decision? The Markkula framework provides a wide range of ethical perspectives that might be used to examine ethical perspective-taking as a dispositional construct.

The current study used factor analysis techniques to test the internal consistency of items written to represent each of the five Markkula perspectives. Factor analytic techniques tested for a five-factor solution relative to other possibilities, such as a two-factor solution that presented deontological vs. consequentialist perspectives or a three factor-solution that resembles the

Brown framework (Bonde & Firenze, 2013), with virtue isolated, a consequentialist factor combining common good and utilitarianism, or a third factor representing deontology, that composed of rights and justice/fairness.

The predictive capabilities of the EPS were also explored by asking study participants to rate the acceptability of decisions in 12 dilemmas across a variety of contexts. The 12 dilemmas were intended to represent common scenarios that entail moral choices in contemporary culture. The EPS was tested against the agreement with the dilemma's outcomes and how participants perceived their use of these moral perspectives in making that choice.

In summary, the current study hypothesized that a small set of questionnaire items (the EPS) might successfully capture the individual differences in using the five distinct ethical perspectives represented in the Markkula framework, that the five resulting sub-scales would reflect constructs different from broad personality differences such as those seen in the Big Five (McCrae & Costa, 1987), and that the resulting five sub-scales might demonstrate at least some predictive relationship with participants' rated acceptability of decisions within dilemmas often faced in modern culture.

Method

Participants

Participants were recruited from an online human participant pool (SONA) of undergraduates enrolled in psychology courses during the Fall 2021 semester and compensated with course credit. Eligibility to participate was limited to those aged 18 or older who were citizens of the United States as concepts and terms used in the materials may have been unfamiliar to non-citizens (e.g., social security numbers and the legal status of various drugs in the US). Six hundred ninety-seven eligible participant responses were initially recorded, of which 76 were excluded. Participant responses were excluded if they did not provide consent (*n*

= 12), had a duplicate response recorded ($n = 35$), failed to complete the survey ($n = 28$), or reported an age under the minimum ($n = 1$). The final sample consisted of 621 participants, including 463 females ($M_{age} = 19.05$, $SD = 1.36$), 157 males ($M_{age} = 19.38$, $SD = 1.63$), and one who preferred not to say (Age = 18). The sample size satisfied the recommendation of a minimum of 300 participants when conducting a factor analysis (Yong & Pearce, 2013).

Procedure

Ethical Perspectives Scale

Participants first rated 15 scale items on how important each was to them in deciding whether a decision was morally acceptable, on scales from 0 = *not at all important* to 6 = *very important*. Each scale item was intended to represent one of the five ethical perspectives in the Markkula framework (Velasquez et al., 1987). An example Utilitarian item was “*Helps more people than it hurts.*” An example Rights item was “*Allows people the dignity to choose freely what they will do as individuals.*” An example Justice or Fairness item was “*Is just, fair to all, and avoids favoritism.*” An example Common Good item was “*Benefits the public and society as a whole rather than only specific groups or individuals.*” An example Virtue item was “*Is consistent with my own and other people’s ideals of human virtue.*” Appendix A: Ethical Perspectives Scale (the EPS Scale) shows all 15 items in the order presented, with notations indicating each item’s intended sub-scale.

Dilemmas: Acceptability & Reasoning

Next, participants rated the moral acceptability of 12 dilemma decisions on scales from -4 = *extremely unacceptable* to 4 = *extremely acceptable*, with no mid-point. The scale mid-point was deliberately omitted so that participants would have to take a stand one way or the other, whether the dilemma decision was acceptable or unacceptable. The participants then explained their rationale for that rating in a text box limited to 250 characters. This explanation question

was intended to assess possible references to additional perspectives not included in the Markkula framework. However, intensive content analysis of participant texts yielded no useful insights and will not be discussed further.

The content of the 12 dilemmas was intended to represent four distinct domains: education, drug reform, free speech, and pandemic response. An example education dilemma asked participants how morally acceptable it was to punish a student for drinking alcohol at their home during a remote class. An example drug reform dilemma asked participants to rate the moral acceptability of marijuana legalization. An example free speech dilemma pitted the rights of protestors against the rights of a divisive speaker and asked participants to rate the moral acceptability of letting the speaker proceed. An example pandemic dilemma asked the participants to rate the moral acceptability of a new rule that required proof of vaccination before being allowed to fly. Appendix B: Dilemmas - Acceptability & Reasoning shows all 12 dilemmas. The order of presentation was randomized for all participants.

Dilemmas: Self-Perceived Perspectives

After they had rated the acceptability of all 12 dilemma decisions, the computer program reminded participants of each dilemma's content and showed them their acceptability ratings. The participants reviewed their acceptability ratings of the 12 dilemma scenarios. For each dilemma and acceptance rating, they were asked how much each of the five ethical perspectives influenced their earlier acceptability rating, from 0 = *none at all* to 6 = *very much*. The Virtue scale asked, "*In making your rating, how much weight did you give to whether this action was virtuous or non-virtuous and would set an example of either virtuous or non-virtuous behavior?*" The Rights scale asked, "*In making your rating, how much weight did you give to the effects of this action on the rights, freedoms, or responsibilities of the individuals involved?*" The Justice or Fairness scale asked, "*In making your rating, how much weight did you give to whether this*

action would be fair, just, or equitable for the individuals involved?” The Common Good scale asked, *“In making your rating, how much weight did you give to how this action would affect the entire community, not just the specific individuals involved?”* The Utilitarian scale asked, *“How much weight did you give to whether, on balance, the consequences of this action would be more positive than negative or more negative than positive?”* A sixth scale asked, *“In making your rating, how much weight did you give to another dimension different from the five dimensions you just rated?”* Participants who rated the sixth scale with a score of 1 or higher would then describe this other dimension within a 250-character limit. These ratings of how much each of the five perspectives influenced their ratings were deliberately placed after all 12 acceptability ratings were completed so as not to suggest any of the five Markkula perspectives before participants had made all their acceptability ratings. As with the earlier decision descriptions, intensive content analysis of the possible sixth scale and accompanying texts yielded no valuable insights and will not be discussed further. Appendix C: Dilemmas - Self-Perceived Perspectives shows all 12 dilemmas with accompanying scales. The presentation order was randomized.

Individual Difference Scales and Demographics

Participants completed a Social Desirability Scale (SDS; Strahan & Gerbasi, 1972; Appendix D: Social Desirability Scale) used in research to check for experimental demand. Participants also completed the Ten Item Personality Inventory (TIPI; Gosling et al., 2003; Appendix E: Ten Item Personality Inventory) an assessment that reliably measures the Big Five/OCEAN personality traits (openness, conscientiousness, extroversion, agreeableness, neuroticism; McCrae & Costa, 1987). The TIPI was included to test whether any of the five EPS sub-scale scores might be redundant with a known and highly researched dispositional construct. Because an ongoing pandemic might have limited or exaggerated use of one or more ethical perspectives and because three of the 12 dilemmas involved pandemic-related decisions,

participants also rated the perceived degree of impact the COVID-19 Pandemic had on their lives. The COVID impact measure was designed for this study. Ratings for the COVID-19 scale ranged from 0 = *not at all* to 10 = *severe impact*. Similarly, because some of the 12 dilemmas might have had religious overtones, participants completed a religiosity measure that asked, “*Do der yourself a spiritual or religious person?*” scale ranged from 0 = *not at all* to 6 = *very much so*. The religiosity measure was designed for this study. Finally, participants completed a brief demographics questionnaire where they reported their age, racial and ethnic background, and sex at birth.

Analytical Plan

Exploratory factor analyses (EFA) for the EPS adhered to the best practice recommendations for extraction and retention from Yong and Pearce (2007), as well as Costello and Osborne (2005). Factor extraction used principle axis factoring with Promax rotation. A review of the eigenvalues, scree plots, and parallel analysis determined the number of factors. The significance threshold for an item to load was set at .32. Items were removed if they significantly failed to load or exhibited cross-loading to multiple factors at the same .32 threshold. The model to emerge from the EFA process would then assess its fitness in confirmatory factor analysis (CFA). Fitness would be indicated by bootstrapped performance in response to eight fit measurements and their respective thresholds.

The mean scores of each significant factor were computed and then used throughout the remaining analyses. For example, had a factor contained only EPS labeled U1 and F3 (see Appendix A), the value would have been the average of said items. The mean scores were centered when they were used as predictors. There was no missing data, as participants who failed to complete the survey had previously been excluded. The relationships of these factors

with dilemma responses were analyzed through regression techniques, with further detail on the moderating influence of the individual difference measures on these relationships.

Results

Factor analyses were carried out in R with the psych and lavaan packages. All other analyses were conducted using IBM SPSS Statistics (Version 28).

Internal Consistency

Did the EPS and the Ethical Dilemmas demonstrate satisfactory internal consistency? Did the three EPS questions intended to assess each of the five ethical perspectives form an empirically derived sub-scale? Similarly, did the three dilemmas intended to assess each of the four dilemma types load together on one factor?

EPS Exploratory Factor Analysis

A test of the Kaiser-Meyer-Olkin statistic (KMO; Kaiser & Rice, 1974) was first carried out to determine the factorability of the EPS data (see Table 1). The KMO value of .87 exceeded the recommended value of .80 (Dziuban & Shirkey, 1974), indicating that the data was adequate for factor analysis. The data were then tested with Bartlett's (1951) test of sphericity; the *p-value* of $< .001$ suggested that the variables were related and ideal for factor analysis.

The initial EFA revealed the presence of four factors with an eigenvalue of one or more. These four factors accounted for 63% of the variance in the model. The factor structure in the rotated model revealed the loading pattern (see Table 2). The first factor consisted of all items from both the virtue and rights questions. A second factor comprised all utilitarian items, a third all justice or fairness, and a fourth contained all common good.

Table 1

EPS Item Means and Standard Deviations

ID	Text	Mean	SD
U1	<i>Helps more people than it hurts</i>	4.81	1.19
R1	<i>Supports people's rights to decide for themselves how they live their lives</i>	4.90	1.23
F1	<i>Is fair and impartial</i>	4.61	1.41
C1	<i>Advances the interests of the community as a whole (the common good)</i>	4.59	1.29
V1	<i>Is one that I and others regard as virtuous, moral, and ethical</i>	4.51	1.44
U2	<i>Makes more people happy than it makes unhappy</i>	4.05	1.78
R2	<i>Allows people the dignity to choose freely what they will do as individuals</i>	4.62	1.39
F2	<i>Treats everyone in a fair and unbiased way</i>	4.76	1.38
C2	<i>Benefits not just a certain group of individuals but the entire society or community</i>	4.39	1.42
V2	<i>Is consistent with my own and other people's ideals of human virtue</i>	4.19	1.52
U3	<i>Benefits more people than it harms</i>	4.89	1.28
R3	<i>Respects individuals' rights to be told the truth, make their own decisions, and manage their own lives</i>	4.81	1.31
F3	<i>Is just, fair to all, and avoids favoritism</i>	4.47	1.39
C3	<i>Benefits the public and society as a whole rather than only specific groups or individuals</i>	4.38	1.37
V3	<i>Promotes the development of virtuous and moral character within myself and others</i>	4.30	1.57

Note 1: R = Rights, V = Virtue, U = Utilitarian, F = Justice/Fairness, C = Common Good

Table 2

Exploratory Factor Analysis Loadings in Promax Rotated Matrix with Eigenvalue Criterion

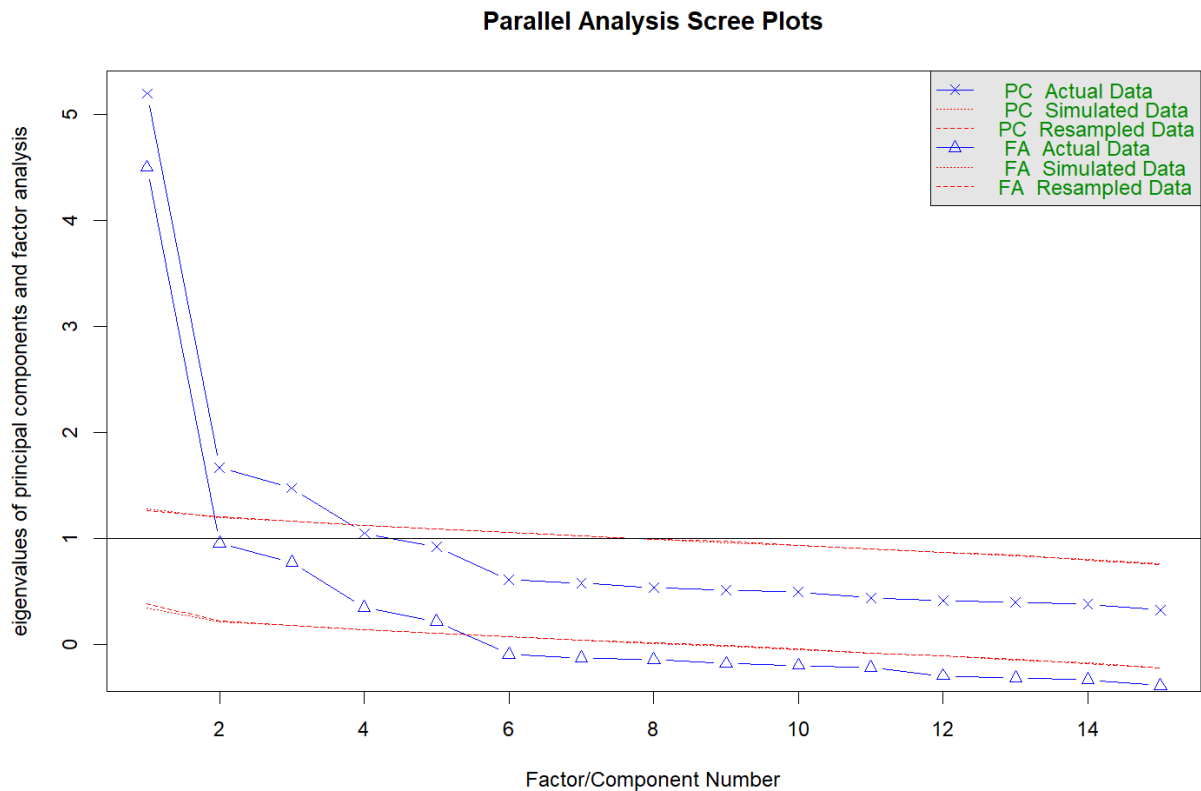
Item	Factor loadings			
	Factor 1	Factor 2	Factor 3	Factor 4
R1	.538	—	—	—
R2	.705	—	—	—
R3	.807	—	—	—
V1	.499	—	—	—
V2	.583	—	—	—
V3	.600	—	—	—
U1	—	.688	—	—
U2	—	.570	—	—
U3	—	.855	—	—
F1	—	—	.690	—
F2	—	—	.837	—
F3	—	—	.550	—
C1	—	—	—	.757
C2	—	—	—	.845
C3	—	—	—	.755
Alphas	.798	.760	.781	.771

Note 1: R = Rights, V = Virtue, U = Utilitarian, F = Justice / Fairness, C = Common Good

Note 2: — represents a factor loading below the .32 significance threshold

A scree plot of the first EFA further revealed the presence of a fifth factor with an eigenvalue approaching significance (.921). Scree plots are a visual aid in determining if the extraction process may have underestimated the number of factors. Scree plot interpretation is subjective, thus a parallel analysis (Dinno, 2009; Horn, 1965) was performed on the data to provide further clarity by comparing data scree plots using both factor analytic and principle component techniques. The parallel analysis indicated that that the data contained five components, each containing three items (see Figure 1). Based on the observations, another EFA with five fixed factors was carried out. The follow-up EFA accounted for 69% of the variance in the model. The factor structure (see Table 3) showed that three items in each factor were from the same ethical perspectives.

Figure 1



Note. PC = Principle Component Analysis. FA = Factor Analysis

Table 3

Exploratory Factor Analysis Loadings in Promax Rotated Matrix with Fixed Factor Criterion

Item	Factor loadings				
	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
R1	.537	—	—	—	—
R2	.815	—	—	—	—
R3	.742	—	—	—	—
V1	—	.728	—	—	—
V2	—	.756	—	—	—
V3	—	.669	—	—	—
U1	—	—	.698	—	—
U2	—	—	.479	—	—
U3	—	—	.928	—	—
F1	—	—	—	.722	—
F2	—	—	—	.880	—
F3	—	—	—	.615	—
C1	—	—	—	—	.571
C2	—	—	—	—	.844
C3	—	—	—	—	.754
Alphas	.781	.771	.755	.745	.739

Note 1: R = Rights, V = Virtue, U = Utilitarian, F = Justice / Fairness, C = Common Good

Note 2: — represents a factor loading below the .30 significance threshold

EPS Confirmatory Factor Analysis

A confirmatory factor analysis (CFA) was performed on the five-factor model using the maximum likelihood estimator with robust standard errors and 5000 bootstrap iterations. The chi-squared test revealed that $\chi^2(80) = 168.149, p < .001$, thus rejecting the null of an exact fit (Kline, 2016). Both the comparative fit index (CFI) and Tucker-Lewis index (TLI) range from 0 to 1, with values $\geq .95$ considered good indicators of fitness (Hu & Bentler, 1999). Analysis of the five-factor model found that CFI = .972 and TLI = .963. The standardized root-mean-square residual (SRMR) ranges from 0 to 1, with smaller values indicating a greater fit. Hu and Bentler recommend that an SRMR with a good fit must be $\leq .08$. The five-factor model SRMR is .04. Lastly, the root mean square error of approximation (RMSEA), along with its upper 90% (U90) and lower 90% (L90) confidence intervals and closeness (PCLOSE) are commonly reported

indices of fit. The RMSEA, U90, and L90 range from 0 to 1, with good fit values recommended at $\leq .07$ (Hu & Bentler, 1999). The PCLOSE tests the null hypothesis of close fit that $RMSEA = .05$; therefore, if $PCLOSE \geq .05$, it concludes that the model is a close fit. Analysis of the five-factor model found that $RMSEA = .042$, $L90 = .033$, $U90 = .051$, and $PCLOSE = .926$. The five-factor model appears ideal across all fitness metrics.

Five-Factor Means

Factors were named per their structure. For example, the factor with three virtue items became the Virtue factor. The mean scores were derived from participants average performance across the three items within the respective factors. An initial analysis of the factor means revealed that they were significantly correlated with one another ($r_s \geq .281$, $p_s < .001$). This finding prompted a test for multicollinearity. Multicollinearity testing was carried out over five regression models where an individual mean of interest was the dependent variable, and the other four means were predictors. The analysis did not indicate that the data suffered from multicollinearity issues but did warrant controlling for the other variables' influence whenever possible. These factor means were used to represent the EPS throughout the remaining analyses.

In summation, the factor analysis process supported the function of the EPS as an instrument to assess participants' ethical perspectives. All the EPS components were retained, and the factor structure supported the uniqueness of the hypothesized five ethical perspectives.

Dilemma Exploratory Factor Analysis

The dilemmas contained four domains (education, drugs, speech, pandemic), where the situations presented within the domains carried topical or thematic similarities. The participants rated the moral acceptability of the outcome of the dilemmas. I conducted factor analyses on the dilemma acceptability rating data (see Table 4) to determine the suitability of domain-wide analyses. The KMO (Kaiser & Rice, 1974) of the dilemma ratings was .59. Dziuban and Shirkey

(1974) would classify the .59 KMO as “miserable”, but such a classification does but does not rule out factoring entirely. Bartlett’s (1951) test of sphericity revealed a *p-value* of < .05, suggesting the variables may be related.

Table 4

Dilemma Acceptability Rating Means and Standard Deviations

Dilemma and Outcome	Mean	SD
Education 1: Punished for beer in remote class.	-.209	2.19
Education 2: University uses the software.	-2.85	1.81
Education 3: Reported for a naked roommate.	-.871	2.33
Drugs 1: Congress legalizes marijuana.	1.14	2.27
Drugs 2: All controlled substances legalized.	-2.13	2.17
Drugs 3: Possession is only a fine, no prison.	.477	2.20
Speech 1: Divisive figure speaks on campus.	.778	2.28
Speech 2: Punished for social media posts.	.047	2.25
Speech 3: Foreign word no longer taught.	-1.26	2.32
Pandemic 1: Vaccine required to fly.	-.111	2.76
Pandemic 2: Vaccine limited to citizens.	-.800	2.51
Pandemic 3: Public protests during a pandemic.	-.182	2.15

The EFA found four factors with an eigenvalue ≥ 1 . Inspection of the factor loadings (see Table 5) revealed that dilemma responses eschewed the proposed domain constraint. Although the scree plot (see Figure 2) did indicate that additional factors may be present, their presence would only further dispel the domain concept. Thus, further analyses would treat the dilemmas as separate cases rather than part of a broader domain.

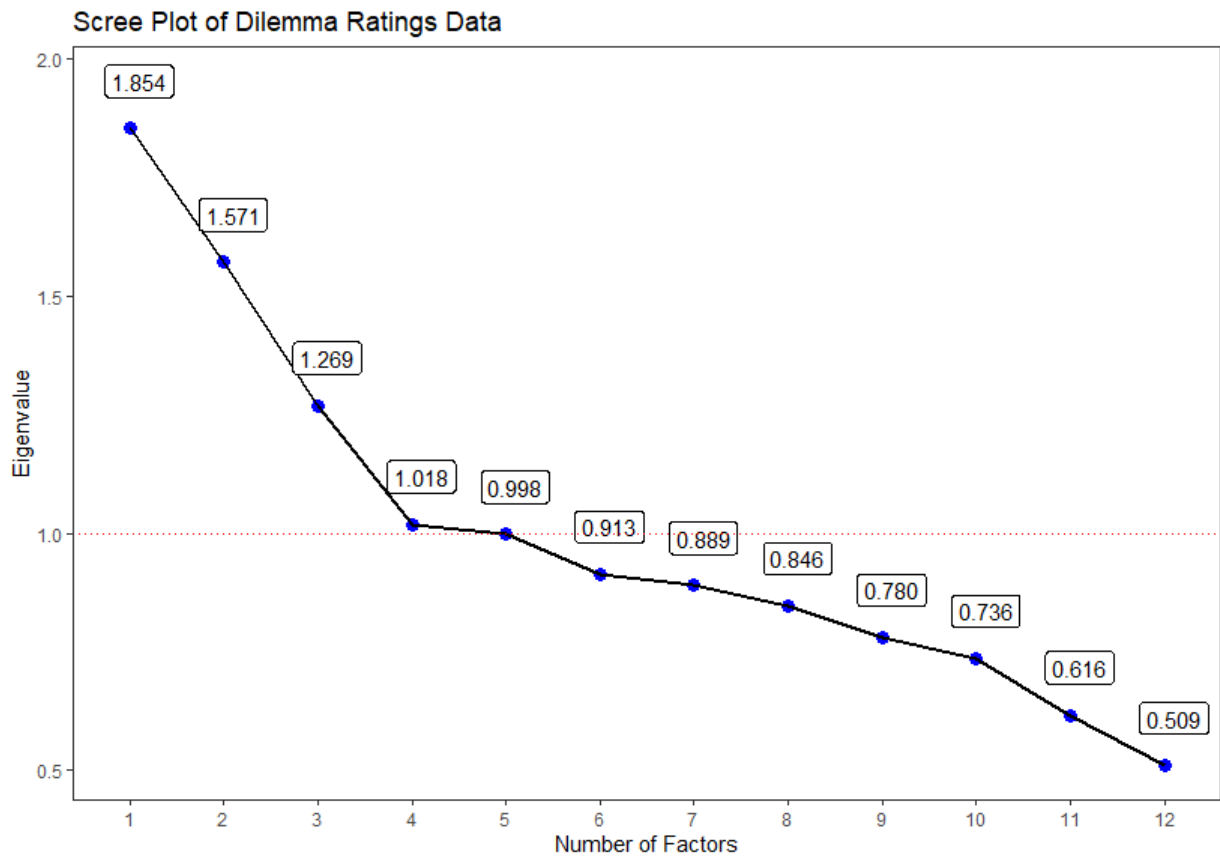
Table 5

Exploratory Factor Analysis Loadings in Promax Rotated Matrix with Eigenvalue Criterion

Item	Factor loadings			
	Factor 1	Factor 2	Factor 3	Factor 4
Education1	—	—	—	—
Education2	—	—	—	.428
Education3	—	—	—	—
Drugs1	.641	—	—	—
Drugs2	.649	—	—	—
Drugs3	—	—	—	—
Speech1	—	—	.739	—
Speech2	—	—	—	—
Speech3	—	—	—	—
Pandemic1	—	.758	—	—
Pandemic2	—	—	—	—
Pandemic3	—	—	—	—

Note. — represents a factor loading below the .32 significance threshold

Figure 2



Discriminant Validity

Did the EPS sub-scale scores represent unique individual difference constructs not assessed by existing individual difference measures? Although only a few existing individual difference measures were included in the present study, participants reported their sex, age, covid concerns, religiosity, need for social desirability, and the extent to which they identified with the Big Five personality traits. Table 6 shows correlations between the five EPS sub-scale scores and these individual difference measures. In general, the correlations were low, with none more than $-.14$, suggesting that the five EPS sub-scale scores, intended to measure the use of distinct theoretical perspectives in evaluating decisions in ethical dilemmas, measure constructs different from this limited set of individual differences.

Table 6

Correlations of EPS Sub-Scales with Individual Difference Items

	V	R	F	C	U
	<i>Min 0</i>	<i>Min 0</i>	<i>Min 0</i>	<i>Min 0</i>	<i>Min 0</i>
	<i>Max 6</i>	<i>Max 6</i>	<i>Max 6</i>	<i>Max 6</i>	<i>Max 6</i>
	<i>M = 4.33</i>	<i>M = 4.61</i>	<i>M = 4.78</i>	<i>M = 4.45</i>	<i>M = 4.58</i>
	<i>SD = 1.24</i>	<i>SD = 1.16</i>	<i>SD = 1.07</i>	<i>SD = .13</i>	<i>SD = 1.17</i>
Sex (F = 0, M = 1)	0.02	-0.06	-0.02	-0.08	-0.09
Age (<i>M = 19.1, SD = 1.43</i>)	-0.14***	-0.04	-0.11**	-0.02	-0.10*
Covid Concern (<i>M = 6.46, SD = 2.47</i>)	-0.20	0.03	0.06	0.02	-0.06
Religiosity (<i>M = 4.82, SD = 1.84</i>)	0.12**	0.02	0.08*	-0.05	0.02
Social Desirability (<i>M = 4.54, SD = 1.93</i>)	0.08	0.11**	0.11**	0.06	0.08*
Openness (<i>M = 5.66, SD = 0.73</i>)	0.06	-0.07	0.09*	0.01	-0.02
Conscientiousness (<i>M = 5.90, SD = 0.74</i>)	0.03	-0.01	0.06	-0.05	-0.03
Extraversion (<i>M = 4.97, SD = 0.84</i>)	-0.01	0.12**	0.05	-0.02	-0.03
Agreeableness (<i>M = 5.70, SD = 0.66</i>)	0.03	0.01	0.03	0.04	0.02
Emotional Stability (<i>M = 5.50, SD = 0.69</i>)	0.07	-0.01	0.04	-0.02	0.04

Note. * $p < .05$, ** $p < .01$, *** $p \leq .001$

Even these low correlations in Table 6 suggested that it might be advisable to check whether some individual difference factors might moderate predictive relationships between EPS sub-scale scores and rated acceptability of dilemma decisions.

Predictive Validity

Did the *EPS sub-scales* (a broad dispositional individual difference measure) predict the rated acceptability of the 12 specific dilemma decisions? Could acceptability ratings have been predicted as well or better from participants' perceptions of how much they used each perspective when rating each specific dilemma (*self-perceived perspectives*)? These research questions were addressed through linear regression.

Predicting Acceptability from EPS Sub-Scales

Did EPS sub-scale scores predict how acceptable participants found decisions in each of the 12 ethical dilemmas? For each dilemma, acceptability ratings were regressed on the five EPS sub-scale scores. Each significant relationship in Table 7 thus reflected a predictive relationship between an ethical perspective and rated acceptability, *controlling for impact of the other four ethical perspectives*.

Table 7

Unstandardized Betas (β) from Regressing Acceptability Ratings on five EPS sub-scale scores.

Dilemma and Outcome	V	F	R	C	U
Education 1: Punished for beer in remote class.	.106	-.090	.007	.057	.104
Education 2: University uses the software.	-.084	.066	.023	-.037	.134
Education 3: Reported for a naked roommate.	.089	-.098	.008	.156	-.044
Drugs 1: Congress legalizes marijuana.	-.406***	-.074	.163	.193*	.159
Drugs 2: All controlled substances legalized.	-.316***	-.071	.261**	.030	.127
Drugs 3: Possession is only a fine, no prison,	-.168	.099	-.050	.057	.029
Speech 1: Divisive figure speaks on campus.	.025	-.245**	.157	-.021	-.104
Speech 2: Punished for social media posts.	-.078	.159	-.198	.064	-.001
Speech 3: Foreign word no longer taught.	-.046	.139	-.251*	.071	.195*
Pandemic 1: Vaccine required to fly.	-.277*	.330**	-.339**	.394***	-.024
Pandemic 2: Vaccine limited to citizens.	.031	-.154	.390***	-.189	-.080
Pandemic 3: Public protests during a pandemic.	-.105	-.116	.140	-.009	-.031

Note * $p < .05$, ** $p < .01$, *** $p \leq .001$

Reading from the top down, Table 7 shows that none of the five EPS sub-scale scores significantly predicted acceptability ratings (controlling for impact of the other four perspectives) in dilemmas that involved punishing students who drink during online classes, universities using software to capture student computers, reporting online students for a naked roommate, no prison terms for drug possession, punishing faculty for their social media posts, or mass protests during a pandemic. EPS sub-scale scores did, however, predict acceptability ratings in the other six moral dilemmas.

Legalizing marijuana. Overall, 72% of participants found it *acceptable* for Congress to legalize marijuana. The higher they scored on the Common Good sub-scale, the more acceptable they found it. The higher they scored on the Virtue sub-scale, the less acceptable they found it.

Legalizing all controlled substances. Overall, 83% of participants found it *unacceptable* for Congress to legalize all controlled substances. The higher they scored on the Virtue sub-scale, the more unacceptable they found it. The higher they scored on the Individual Rights sub-scale, the less unacceptable they found it.

Allowing divisive speaker on campus. Overall, 64% of participants found it *acceptable* for a university to allow a divisive speaker on campus. The higher they scored on the Fairness sub-scale, the less acceptable they found it.

Prohibiting teaching a foreign word. Overall, participants were equally divided on whether it was acceptable for a university to prohibit a foreign language professor from teaching a foreign word that sounds like a racial slur. The higher they scored on the Individual Rights sub-scale, the less acceptable they found it.

Requiring vaccination to fly. Overall, participants were equally divided on whether it was acceptable for airlines to require passengers be vaccinated. The higher they scored on the

Fairness and Common Good sub-scales, the more acceptable they found it. The higher they scored on the Virtue and Individual Rights sub-scales, the less acceptable they found it.

Limiting vaccination to citizens. Overall, 63% of participants found it *unacceptable* to limit vaccination only to U.S. citizens. The higher they scored on the Individual Rights sub-scale, the more acceptable they found it.

To summarize these regression analyses, ethical perspectives derived from the EPS predicted acceptability ratings in ways that made sense (given the theory behind each perspective) in some dilemmas, though not in others. Individual difference interactions with results shown in Table 7 are listed in Appendix G.

Predicting Acceptability from Self-Perceived Perspectives

Participants also rated the extent to which they used each of the five perspectives to rate decision acceptability in each of the dilemmas (i.e., self-perceived use of the five perspectives in each specific dilemma). If the EPS successfully derived a general dispositional individual difference from answers to the 15 abstract scale items, these ratings of using the five perspectives would reflect similar relationships between self-perceived perspective use and acceptability ratings (shown in Table 8) as were found between EPS sub-scales and acceptability ratings (shown in Table 7). For each dilemma, acceptability ratings were regressed on the five self-perceived use scores. Each significant relationship in Table 8 thus reflected a predictive relationship between self-perceived use of an ethical perspective and rated acceptability, *controlling for impact of self-perceived use of the other four ethical perspectives.*

Table 8

Unstandardized Betas (β) from Regressing Acceptability Ratings on Self-Perceived Perspectives.

Dilemma and Outcome	V	F	R	C	U
Education 1: Punished for beer in remote class.	.239**	-.028	-.464**	.293	.058
Education 2: University uses the software.	.136	.091	-.350**	.057	-.113
Education 3: Reported for a naked roommate.	.225*	-.361	-.345*	.374*	-.214
Drugs 1: Congress legalizes marijuana.	-.322***	.304	-.105	.001	.184
Drugs 2: All controlled substances legalized.	-.063	.021	.321*	-.390*	-.117
Drugs 3: Possession is only a fine, no prison,	-.058	-.140	-.171	-.291	.377*
Speech 1: Divisive figure speaks on campus.	-.056	.131	.449**	-.337*	-.217
Speech 2: Punished for social media posts.	-.088	-.269	-.570***	.623***	.245
Speech 3: Foreign word no longer taught.	.124	-.182	-.516**	.357*	.082
Pandemic 1: Vaccine required to fly.	-.396***	.081	-1.090***	.943***	.385*
Pandemic 2: Vaccine limited to citizens.	.239*	-.033	.718***	-.370*	-.484**
Pandemic 3: Public protests during a pandemic.	-.039	.075	.425**	-.260	-.222

Note * $p < .05$, ** $p < .01$, *** $p \leq .001$

As expected, specific self-perceived perspective use scores yielded one or more significant predictions in every one of the 12 dilemmas. Reading from the top of Table 8 down:

Student drinking beer. Overall, a slight majority (51%) of participants found it *unacceptable* to punish a student for drinking beer during a remote class. The more they said they used an Individual Rights perspective, the more unacceptable they found it. The more they said they used a Virtue perspective, the less unacceptable they found it.

Capturing software. Overall, 91% of participants found it *unacceptable* for a university to use software to capture student computers. The more they said they used an Individual Rights perspective, the more unacceptable they found it.

Naked roommate. Overall, 64% of participants found it *unacceptable* to punish a student when a naked roommate crossed the screen behind him during a remote class. The more they said they used an Individual Rights perspective, the more unacceptable they found it. The more

they said they used either a Virtue or a Common Good perspective, the less unacceptable they found it.

Legalizing marijuana. Overall, 72% of participants found it *acceptable* for Congress to legalize marijuana. The more they said they used a Virtue perspective, the more unacceptable they found it.

Legalizing all controlled substances. Overall, 83% of participants found it *unacceptable* for Congress to legalize all controlled substances. The more they said they used a Common Good perspective, the more unacceptable they found it. The more they said they used an Individual Rights perspective, the less unacceptable they found it.

Fines not prison. Overall, 60% of participants found it *acceptable* to punish drug possession with fines but not prison. The more they said they used a Utilitarian perspective, the more acceptable they found it.

Allowing divisive speaker on campus. Overall, 64% of participants found it *acceptable* to allow divisive speakers on campus. The more they said they used an Individual Rights perspective, the more acceptable they found it. The more they said they used a Common Good perspective, the less acceptable they found it.

Punishing social media posts. Overall, 68% of participants found it *unacceptable* for universities to punish a professor for personal social media posts. The more they said they used an Individual Rights perspective, the more unacceptable they found it. The more they said they used a Common Good perspective, the less unacceptable they found it.

Prohibiting teaching a foreign word. Overall, participants were equally divided on whether it was acceptable to prohibit teaching a foreign word that sounded like a racial slur. The more they said they used an Individual Rights perspective, the more unacceptable they found it. The more they said they used a Common Good perspective, the less unacceptable they found it.

Requiring vaccination to fly. Overall, participants were equally divided on whether it was acceptable for airlines to require a vaccination to fly. The more they said they used either a Virtue or an Individual Rights perspective, the more unacceptable they found it. The more they said they used either a Common Good or a Utilitarian perspective, the more acceptable they found it.

Limiting vaccination to citizens. Overall, 63% of participants found it *unacceptable* to limit vaccination to U.S. citizens. The more they said they used either a Common Good or a Utilitarian perspective, the more unacceptable they found it. The more they said they used either a Virtue or an Individual Rights perspective, the less unacceptable they found it.

Public protests during a pandemic. Overall, 53% of participants found it *unacceptable* to join public protests during a pandemic. The more they said they used an Individual Rights perspective, the less unacceptable they found it.

To summarize these regression analyses, the perceived use of the five ethical perspectives predicted acceptability ratings in ways that made sense (given the theory behind each perspective) in every one of the dilemmas. In addition, the pattern of predictive relationships between perceived perspective use and rated acceptability precisely matched the pattern of predictive relationships between EPS sub-scale scores and rated acceptability. The only difference was that perceived perspective use specific to each dilemma yielded a greater number of significant predictions and a greater number of dilemmas than the more general individual difference sub-scale scores obtained from the EPS. Individual difference interactions with results shown in Table 8 are listed in Appendix H.

Discussion

The EPS, intended as an individual difference measure of using the five Markkula perspectives (Velasquez et al., 1987) across different types of ethical dilemmas, demonstrated

satisfactory internal consistency, with the three scale items written to represent each Markkula perspective forming a distinct sub-scale. Previous frameworks have not inspired an individual difference scale such as the EPS as they either had little philosophical basis at inception (e.g., Moral Foundations Theory; Graham et al., 2013) or were mutually exclusive in practice (e.g., Dual-Process Theory; Greene, 2014). To date, the only other study that used a similarly wide range of philosophical ethics to identify dispositions was Feng (2011). However, this study was tailored to eastern cultures with its inclusion of Confucian ethics (e.g., critique), and scale item retention was determined through expert review rather than impartial factor analysis techniques. Likewise, Kreitler and colleagues (2012) had previously used the five Markkula perspectives but did not address dispositional tendencies. The EPS, as an individual difference measure, allows for research that integrates the experimental (e.g., design manipulations) with the correlational (five perspectives) and facilitates future research inspired by the Markkula framework.

Although the intention was to apply the five EPS sub-scales to 12 decisions written to represent four distinct types of ethical dilemmas (free speech, pandemic response, drugs, education), ratings of moral acceptability for the 12 decisions did not fall neatly into the four intended categories. The dilemma design had purposely eschewed the often-implausible sacrificial scenarios in favor of common and contemporary moral choices. The results suggest that everyday dilemmas cannot be categorized by issue. In hindsight, a topic such as the legalization of marijuana cannot be neatly classified as a drug issue alone, not when its legalization would affect other topics like healthcare (see Khoury et al., 2022). The results hint that scenarios where ethical perspectives compete in a context directly relevant to the participant may be an alternative method to classify dilemma types. For example, one dilemma that received sharply contrasting responses was the vaccine-to-fly, with those opposed taking a rights-based approach and those in favor supporting the common good. The pandemic protest dilemma should

have seen a similarly strong role reversal but did not because only the rights-endorsing protestor would have been directly affected. The lessons learned can inform scenario design and tailored classification systems where perspective influences can be weighed in depth after eliciting fully engaged responses.

The five EPS sub-scales demonstrated preliminary discriminant validity through low correlations with a small number of demographic and personality traits measures. The results suggest that the EPS is not just a set of personality traits, as evidenced by its low correlations with the Big 5 (Gosling et al., 2003; McCrae & Costa, 1987). Similarly, EPS responses were not influenced by any desire of the participants to please others, as seen in the low correlation between EPS and Social Desirability (Strahan & Gerbasi, 1972). Neuroanatomical development may explain why younger participants were more concerned with virtue and justice/fairness than other perspectives. The prefrontal cortex (PFC) is the region of the brain where most reasoning, particularly utilitarianism, takes place (Donoso et al., 2014; Greene et al., 2001; 2004), but this region does not fully mature until an average of 25 years of age (Arian et al., 2013), together these findings indicate that the younger participant's preference towards virtue and justice/fairness may be partially due to biological impediments, as well as experience with age. Participants who were more spiritual/religious also favored virtue and justice/fairness, this could be comorbid with the PFC development idea, or it could be due to their religious teachings or lifestyle. That question can be addressed in a follow-up study with a more diverse range of ages and the inclusion of an option to identify a religious denomination if applicable. The lack of significant sex differences suggests that any ethical dispositions present within the participants were not exclusively attributable to sex. This is a departure from Feng (2011), who found that females had a greater tendency to follow ethics of care and critique, as neither of those ethical

philosophies is represented in the present framework; it leaves sex unresolved pending further studies.

In a test predicting decision acceptability separately for each of the 12 target dilemmas, the five EPS sub-scale scores predicted some dilemmas better than others. However, acceptability ratings were in the expected direction in each significant relationship. This study used new dilemmas rather than existing ones, such as Greene's (2009) sacrificial scenarios, as those were not designed for a continuous scale of acceptability. Another reason for the new dilemmas was that they could be designed with expectations regarding how each perspective may respond. For example, a common good response to the vaccine-to-fly dilemma was expected to be approving, while a rights-based response would be disapproving. Although counterarguments using those perspectives are possible, they would not be reached with the same speed and ease as the expected approval directions. The findings here offer further guidance on constructing and categorizing everyday dilemmas.

When participants were asked, after the fact, how much they used each of the five perspectives when rating each decision's acceptability, significant acceptability ratings were also in the direction expected from the perspectives definition. This suggests that people know which perspectives they consider most important and, as indicated by the perspective means placement into the upper half of the scale, found all five perspectives credible. A similar pattern emerged when collapsing the self-ratings across all 12 dilemmas to EPS sub-scale scores, further adding confidence that the EPS taps into a relatively stable set of dispositions. These findings build upon Reynolds' (2006) work on the relationship between moral awareness (recognition that a situation contains moral content or may be addressed morally) and dispositional relationships by raising the number of applicable perspectives from two to five. More encouraging for the EPS was that participants when asked about the potential influence of perspectives other than the Markkula

five, failed to name a sixth option consistently. Although, the Markkula website has recently included care (Gilligan, 1982) as a sixth perspective.

Limitations

This study had some limitations. The participants were western, educated, industrialized, rich, democratic (WEIRD; Henrich et al., 2010), majority female, majority Caucasian, and college-aged. However, the sample size ($n = 621$) was much larger than in many previous studies of ethical decision-making and exceeded the minimum recommendations for a study of this type (Yong & Pearce, 2013). Also, had the participants been overly homogenous in their cultural norms, it would have been difficult for the factor analytic techniques to separate responses into distinct categories with reasonable eigenvalues, which did not occur. Another limitation was the reliance on reading. As the participants were college students, there was the assumption that reading comprehension was on par with their educational attainment. Participants with differing levels of education may struggle with the material. A remedy would be to insert a measure of reading comprehension into future studies. There were a limited number of individual difference scale measures, meaning the possibility that the EPS is capturing another construct or concept has not been fully exhausted. The dilemmas were limited in number, but that number remained higher than in some research (e.g., trolley variants). EPS sub-scale scores predicted acceptability ratings for only half the dilemmas. The regression coefficients were also relatively small (see Table 7), but the significant relationships were all in the theoretically expected direction. It is important to note that, regardless of statistical significance, the modern topics used in the dilemmas may have long-term implications for informing future pandemic responses, as this study took place during the height of a global pandemic and took steps to assess its influence on ethical decision-making both directly (pandemic dilemmas) and indirectly (covid-19 scale).

Future Directions

A follow-up study using a more diverse population is necessary for replicability and generalizability, but the reasons extend further beyond those two vital components. As previous research (Twenge, 2010) has found that moral values differ from generation to generation, it is essential to identify if the relationships between age and sub-scales persist over time, particularly past age 25, or if these relationships are the subject of a generational cohort effect (Campbell et al., 2015; Keyes et al., 2010). Additionally, it should include more individual difference measures that were neglected in this study, such as socioeconomic status (Griskevicius et al., 2011), attitudes (Robinson et al., 2013), needs (Sheldon & Hilpert, 2012), values (Wilson et al., 2010), motives (Guay et al., 2000), well-being (Hills & Argyle, 2002), mindsets (Dweck, 2000), time perspective (Zimbardo & Boyd, 1999), along with group affiliation, educational history, and occupation. Further, the predictive validity of the EPS should be compared against the predictions of other frameworks in accurately identifying varying levels of moral acceptability. Some overlap is expected, such as utilitarianism in the Markkula and Dual-Process (Greene, 2014) models. However, too much overlap would negate the need for a five-perspective approach when a more straightforward dichotomy accomplishes the same functions.

Replication studies with this framework may need to explore utilitarian predictions in depth. The participant's utilitarian scores, as shown in Table 7, only significantly predicted acceptability once. Moderation analyses eliminated the possibility that social desirability had significantly influenced that relationship. This leaves a possibility that runs afoul of the litany of writings over the past few decades that have placed utilitarianism on equal footing with deontology: utilitarianism is uncommon. If utilitarianism is only equal to deontology conceptually but not in practice, it calls into question the pragmatic applicability of many

findings centered on utilitarianism. These findings must be replicated before any such claims can be leveled.

Another consideration for future studies is to develop rules for timely and contemporary dilemma construction with the five perspectives that consider some of the insights gained from this study. First, forego overarching themes like free speech or drugs; instead, focus on scenarios that would put two or more perspectives at odds and refrain from trying to design for every potential combination as it would be unreasonable. Second, identify the likely responses within the framework structure and their expected frequency; if the responses most likely to occur come from two or more perspectives and each choice directly affects the decider, then retain it; otherwise, consider reworking the prompt in a way that achieves those objectives. Pilot testing is crucial as academic opinions may not sync with public sentiment regarding timely issues. What was once important is now a relic that risks reducing engagement.

One direction that should be explored is training or priming. As noted earlier, the predictive performance of some perspectives (e.g., utilitarian) was underwhelming. Different possibilities could have contributed to that result. However, the question is: how can we ensure that all perspectives remain salient, even if they will later be ignored in favor of another? One option is to insert a training module such as a small quiz where participants match descriptive elements of each perspective to its name early in the study and repeat it after a certain amount of progress has been made through the study as a pseudo-alternative to the typical attention checks seen in online studies using MTurk (Buhrmester et al., 2011). Alternatively, suppose a researcher chose to focus on a single perspective. In that case, they could construct a similar module that contains only one perspective and test for it routinely throughout the test in a blatant form of priming.

As mentioned earlier, the Markkula Center for Applied Ethics proposed care (Gilligan, 1982) as a sixth perspective. That change occurred after data had been gathered in the current study. The feasibility of adding care to the EPS needs to be explored through additional item generation and factor analytic techniques. Should a fit six-factor model prove to have greater predictability than the five-factor model, it should be adopted.

Concluding Remarks

The present study provided the first steps in developing a scale measure (the EPS) for individual differences represented within a five-perspective ethical framework for decision-making from the Markkula Center for Applied Ethics (Velasquez et al., 1987). The five-factor model met, or exceeded, all measures of fitness, and its perspectives were unique and unrelated to other constructs like personality or social desirability. While the EPS did not significantly predict how morally acceptable participants found the 12 dilemma outcomes consistently, it was highly predictable regarding approval and disapproval of the outcomes. The findings raised several significant questions; some can be quickly resolved through a follow-up study attempt to replicate and generalize, and some carry implications to the field of moral psychology that will take time.

We cannot know the fate of this framework without further research. Maybe it will alter to include another perspective, or it may be shown that this endeavor was unnecessary as existing measures perform as well, or better, at capturing morality. Perhaps this framework is ideal and has successfully tapped into a source for new and exciting avenues of research. What is certain is that much work remains to be done, and what has been done has been very promising.

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Appendices

Appendix A: Ethical Perspectives Scale

The EPS tasks the participant to rate the importance of fifteen items corresponding to five ethical perspectives. Instructions are included within the prompt. For review purposes, each item has been labeled to indicate the ethical perspective it is intended to represent (V = Virtue, R = Rights, F = Justice or Fairness, C = Common Good, U = Utilitarian). These labels are not shown to the participants, and the order in which the statements were presented was randomized. Study collaborator Dr. Charles Lord designed the EPS.

The formatting (bolding, capitalization, font sizes) of the EPS on the next page is intentional. The purpose is to convey the necessary information about the EPS and emulate how it was presented to participants.

*****PLEASE READ CAREFULLY*****

People often make similar decisions about right and wrong but differ in which factors they place the most weight on when making tough decisions. People can also consider more than one factor when making a tough decision. No one criterion is "better" than any other. It is just a matter of individual differences in the weight that different people give to different factors. They are all excellent reasons for deciding what is right and what is wrong, and individuals can take more than one factor into account, but different people rely more on different ones.

We are interested in how much weight YOU give to fifteen different factors that you might consider when making tough decisions IN GENERAL--not any one specific decision in any one specific context, but tough decisions in general, about what is right and what is wrong.

How much weight do you typically give to each of the following factors when you have to make a tough decision about what is right and what is wrong, what is morally acceptable or unacceptable?

NOTE: You will rate each of the 15 questions on a scale from 0 = not at all important to 6 = very important. We realize that they are all important, but PLEASE TRY TO USE THE ENTIRE SCALE. Try to give 6 = most important ratings only to the few most important ones, a 5 only to the few next most important, and so on, using the whole scale as much as possible. Giving lower ratings to some of them does not mean you think these factors are unimportant, only that some of the others are even more important.

So that you can use the whole scale in your ratings, we recommend reading all 15 questions first before you start rating them.

In determining whether a decision is morally acceptable, how important is it to you that the decision...

Helps more people than it hurts (U1)

Supports people's rights to decide for themselves how they live their lives (R1)

Is fair and impartial (F1)

Advances the interests of the community as a whole (the common good) (C1)

Is one that I and others regard as virtuous, moral and ethical (V1)

Makes more people happy than it makes unhappy (U2)

Allows people the dignity to choose freely what they will do as individuals (R2)

Treats everyone in a fair and unbiased way (F2)

Benefits not just a certain group of individuals but the entire society or community (C2)

Is consistent with my own and other people's ideals of human virtue (V2)

Benefits more people than it harms (U3)

Respects individuals' rights to be told the truth, make their own decisions and manage their own lives (R3)

Is just, fair to all, and avoids favoritism (F3)

Benefits the public and society as a whole rather than only specific groups or individuals (C3)

Promotes the development of virtuous and moral character within myself and others. (V3)

Appendix B: Dilemmas - Acceptability & Reasoning

This appendix contains the dilemmas used in this study, a scale of moral acceptability, and a section where participants are asked to explain their reasoning [labeled as (text box)]. Dilemmas have titles (e.g., Distance Learning), and each dilemma is part of one of four domains of general questioning (e.g., Education); neither the domain nor title was visible to participants during the study. Dilemma order presentation was randomized during the study. After rating the moral acceptability of the action in question, the participants were asked to provide a rationale for that rating in a text box. The text box had a maximum character length of 250 and a minimum of 1. Many items, such as the dilemma about marching for a cause or a nondescript pandemic, are purposely vague by design. Dilemma prompts were designed through the joint efforts of both the author and Dr. Timothy Barth, and scale prompts were designed by Dr. Charles Lord.

The forthcoming dilemmas are presented similarly to how participants viewed them.

Education #3: Camera On

Suppose an online college classroom has a policy where cameras must remain on at all times. During one class, a student is briefly excused to go use the restroom. While the student is away from their laptop, someone they live with unknowingly walks past the camera fully nude. When the student returns, they find they were removed from the meeting and reported to the administration for punishment. The instructor's report to the administration noted that this incident, although only indirectly caused by the student, resulted in a distraction to the class and a violation of acceptable technology use policies.

Please **think carefully** about **the action below** before answering the next question:

The instructor reporting the incident to the college administration.

Given your own sense of moral behavior, how **morally acceptable** would **that action** be?

-4 -3 -2 -1 1 2 3 4

Extremely Unacceptable Extremely Acceptable

Why did you conclude **that action** would be morally acceptable or unacceptable? In the box below, please describe **your reasoning** that led you to make the rating that you did.

(text box)

Drugs #1: Marijuana

Suppose that congress is considering a change in the law to allow marijuana to be sold legally for recreational use, with the only regulation being that one must be at least 21 to purchase marijuana products. This law, if passed, would allow convenience stores to sell marijuana nationwide, similar to the sale of cigarettes.

Please **think carefully** about **the action below** before answering the next question:

Congress passing a law that allows convenience stores to sell marijuana nationwide, similar to the sale of cigarettes.

Given your own sense of moral behavior, how **morally acceptable** would **that action** be?

-4 -3 -2 -1 1 2 3 4

Extremely Unacceptable Extremely Acceptable

Why did you conclude **that action** would be morally acceptable or unacceptable? In the box below, please describe **your reasoning** that led you to make the rating that you did.

(text box)

Drugs #2: Everything

Suppose that congress is considering a change in the law to allow all previously controlled substances to be sold legally for recreational use, with the only regulation being that one must be at least 21 to purchase it. In addition to marijuana, this would include currently illegal substances (e.g., LSD, Cocaine, Heroin, Ecstasy) as well as medically limited drugs (e.g., Opioids, Steroids, Hormones). The law would allow all of these substances to be sold in drug and convenience stores nationwide, similar to the sale of cigarettes and alcohol.

Please **think carefully** about **the action below** before answering the next question:

Congress passing a law that allows for the sale of all previously controlled substances nationwide, similar to the sale of cigarettes and alcohol.

Given your own sense of moral behavior, how **morally acceptable** would **that action** be?

-4 -3 -2 -1 1 2 3 4

Extremely Unacceptable Extremely Acceptable

Why did you conclude **that action** would be morally acceptable or unacceptable? In the box below, please describe **your reasoning** that led you to make the rating that you did.

(text box)

Drugs #3: Fines

Suppose that congress is considering a law aimed to reduce the likelihood of imprisonment for possession of *all* controlled substances nationwide. If the bill is passed into law, then law enforcement would not imprison those found in possession of controlled substances. Rather, violators would instead be fined up to \$500 per item and only risk imprisonment if they cannot pay, similar to traffic citations.

Please **think carefully** about **the action below** before answering the next question:

Congress passing a law that reduces the likelihood of imprisonment for all controlled substances.

Given your own sense of moral behavior, how **morally acceptable** would **that action** be?

-4 -3 -2 -1 1 2 3 4

Extremely Unacceptable Extremely Acceptable

Why did you conclude **that action** would be morally acceptable or unacceptable? In the box below, please describe **your reasoning** that led you to make the rating that you did.

(text box)

Speech #3: Word Association

Assume that a class on foreign languages is being held. The instructor provides many foreign words and phrases for the students to learn during each class session. One of the words, when quickly spoken aloud, sounds very similar to a racial slur in English. A few offended students reported the instructor as they considered this to be racially insensitive and unknowingly encouraging the use of the slur. They asked the university to prevent the use of this word in future courses. The instructor argued that the word in question had no relation to the slur and that the offended students were making non-existent connections.

Please **think carefully** about **the action below** before answering the next question:

The university preventing the use of this foreign word in future classes.

Given your own sense of moral behavior, how **morally acceptable** would **that action** be?

-4 -3 -2 -1 1 2 3 4

Extremely Unacceptable Extremely Acceptable

Why did you conclude **that action** would be morally acceptable or unacceptable? In the box below, please describe **your reasoning** that led you to make the rating that you did.

(text box)

Pandemic #1: Airlines

Suppose that a new FAA regulation is proposed which requires that anyone who intends to fly on a US airline must provide proof of having been vaccinated to the TSA before being allowed to fly.

Please **think carefully** about **the action below** before answering the next question:

The FAA requiring proof of vaccination for flying.

Given your own sense of moral behavior, how **morally acceptable** would **that action** be?

-4 -3 -2 -1 1 2 3 4

Extremely Unacceptable Extremely Acceptable

Why did you conclude **that action** would be morally acceptable or unacceptable? In the box below, please describe **your reasoning** that led you to make the rating that you did.

(text box)

Pandemic #2: Citizenship

Imagine that a vaccine has been developed in response to a pandemic. Due to limited resources, some health officials propose the idea of presenting a social security number as an eligibility requirement for vaccination. This would mean only legal US citizens would be eligible to receive a vaccine.

Please **think carefully** about **the action below** before answering the next question:

A citizenship requirement for vaccine eligibility.

Given your own sense of moral behavior, how **morally acceptable** would **that action** be?

-4 -3 -2 -1 1 2 3 4

Extremely Unacceptable Extremely Acceptable

Why did you conclude **that action** would be morally acceptable or unacceptable? In the box below, please describe **your reasoning** that led you to make the rating that you did.

(text box)

Pandemic #3: Protesting

Assume there is currently a global pandemic happening that has resulted in every citizen being forced to wear a mask in public and maintain social distancing whenever possible. Now, imagine that you are an active and passionate supporter of a movement, as evidenced by your participation in daily meetings. Organizers have informed you that the next action is a protest march through the streets. Thousands are expected to join, and social distancing will likely be impossible, so those who participate in the protest might spread the disease.

Please **think carefully** about **the action below** before answering the next question:

Participating in a protest march that you passionately support, even though it might spread disease.

Given your own sense of moral behavior, how **morally acceptable** would **that action** be?

-4 -3 -2 -1 1 2 3 4

Extremely Unacceptable Extremely Acceptable

Why did you conclude **that action** would be morally acceptable or unacceptable? In the box below, please describe **your reasoning** that led you to make the rating that you did.

(text box)

Appendix C: Dilemmas - Self-Perceived Perspectives

This items in this appendix reminded the participant of their prior rating response (via piped back text) to the dilemmas shown in Appendix B and asked them to weigh the degree to which their choice was influenced based on five items, with 0 = *None at all* and 6 = *Very much*. Each of the five items represents a different ethical perspective. Dilemmas prompts were designed by the author and Dr. Tim Barth, scale prompts were designed by Dr. Charles Lord

Additionally, if the participant believed their response was influenced by a view other than the ones presented, they were provided an option to weigh that unnamed view and then elaborate on it in a text box. The text box would not appear if the participant had selected zero and when it was made available allowed for a maximum of 250 characters and minimum of 1.

The following is meant to emulate the participant viewing experience. Certain keywords have been bolded to assist the reader in identifying them (consequences = Utilitarian, rights = Rights, fair or just = Justice or Fairness, entire community = Common Good, virtuous = Virtue). The titles and domains of each dilemma were not visible to the participants and the presentation order was randomized

Education #1: Distance Learning

A college has a strict policy forbidding alcohol consumption in the classroom. During a remote meeting for an online class, a professor notices a student drinking a beer at their home. The student is of legal drinking age. As the policy does not define what constitutes “in the classroom,” the professor could apply it to this remote situation and recommend the student be punished.

You were asked to **think carefully** about **the action below** before answering the next question:

The professor recommending the student be punished.

Given your own sense of moral behavior, how **morally acceptable** would **that action** be?

Your answer was: **[PIPED BACK TEXT]**

Why did you conclude **that action** would be morally acceptable or unacceptable? Below are five dimensions you might or might not have considered before giving your answer. Please rate each of the five dimensions on how much it influenced your answer.

How much weight did you give to whether, on balance, the **consequences** of this action would be more positive than negative, or more negative than positive?

0 1 2 3 4 5 6
None at all Very much

In making your rating, how much weight did you give to the effects of this action on the **rights, freedoms, or responsibilities** of the individuals involved?

0 1 2 3 4 5 6
None at all Very much

In making your rating, how much weight did you give to whether this action would be **fair, just, or equitable** for the individuals involved?

0 1 2 3 4 5 6
None at all Very much

In making your rating, how much weight did you give to how this action would affect the **entire community**, not just the specific individuals involved?

0 1 2 3 4 5 6
None at all Very much

In making your rating, how much weight did you give to whether this action was **virtuous or non-virtuous** and would set an example of either virtuous or non-virtuous behavior?

0 1 2 3 4 5 6
None at all Very much

In making your rating, how much weight did you give to **another dimension**, different from the five dimensions you just rated?

0 1 2 3 4 5 6
None at all Very much

Briefly, what was that dimension?

[text box with 250-character limit appearing only if a rating ≥ 1 in **another dimension** chosen]

Education #3: Camera On

Suppose an online college classroom has a policy where cameras must remain on at all times. During one class, a student is briefly excused to go use the restroom. While the student is away from their laptop, someone they live with unknowingly walks past the camera fully nude. When the student returns, they find they were removed from the meeting and reported to the administration for punishment. The instructor’s report to the administration noted that this incident, although only indirectly caused by the student, resulted in a distraction to the class and a violation of acceptable technology use policies.

You were asked to **think carefully** about **the action below** before answering the next question:

The instructor reporting the incident to the college administration.

Given your own sense of moral behavior, how **morally acceptable** would **that action** be?

Your answer was: **[PIPED BACK TEXT]**

Why did you conclude **that action** would be morally acceptable or unacceptable? Below are five dimensions you might or might not have considered before giving your answer. Please rate each of the five dimensions on how much it influenced your answer.

How much weight did you give to whether, on balance, the **consequences** of this action would be more positive than negative, or more negative than positive?

0 1 2 3 4 5 6
None at all Very much

In making your rating, how much weight did you give to the effects of this action on the **rights, freedoms, or responsibilities** of the individuals involved?

0 1 2 3 4 5 6
None at all Very much

In making your rating, how much weight did you give to whether this action would be **fair, just, or equitable** for the individuals involved?

0 1 2 3 4 5 6
None at all Very much

In making your rating, how much weight did you give to how this action would affect the **entire community**, not just the specific individuals involved?

0 1 2 3 4 5 6
None at all Very much

In making your rating, how much weight did you give to whether this action was **virtuous or non-virtuous** and would set an example of either virtuous or non-virtuous behavior?

0 1 2 3 4 5 6
None at all Very much

In making your rating, how much weight did you give to **another dimension**, different from the five dimensions you just rated?

0 1 2 3 4 5 6
None at all Very much

Briefly, what was that dimension?

[text box with 250-character limit appearing only if a rating ≥ 1 in **another dimension** chosen]

Drugs #1: Marijuana

Suppose that congress is considering a change in the law to allow marijuana to be sold legally for recreational use, with the only regulation being that one must be at least 21 to purchase marijuana products. This law, if passed, would allow convenience stores to sell marijuana nationwide, similar to the sale of cigarettes.

You were asked to **think carefully** about **the action below** before answering the next question:

Congress passing a law that allows convenience stores to sell marijuana nationwide, similar to the sale of cigarettes.

Given your own sense of moral behavior, how **morally acceptable** would **that action** be?

Your answer was: **[PIPED BACK TEXT]**

Why did you conclude **that action** would be morally acceptable or unacceptable? Below are five dimensions you might or might not have considered before giving your answer. Please rate each of the five dimensions on how much it influenced your answer.

How much weight did you give to whether, on balance, the **consequences** of this action would be more positive than negative, or more negative than positive?

0 1 2 3 4 5 6
None at all Very much

In making your rating, how much weight did you give to the effects of this action on the **rights, freedoms, or responsibilities** of the individuals involved?

0 1 2 3 4 5 6
None at all Very much

In making your rating, how much weight did you give to whether this action would be **fair, just, or equitable** for the individuals involved?

0 1 2 3 4 5 6
None at all Very much

In making your rating, how much weight did you give to how this action would affect the **entire community**, not just the specific individuals involved?

0 1 2 3 4 5 6
None at all Very much

In making your rating, how much weight did you give to whether this action was **virtuous or non-virtuous** and would set an example of either virtuous or non-virtuous behavior?

0 1 2 3 4 5 6
None at all Very much

In making your rating, how much weight did you give to **another dimension**, different from the five dimensions you just rated?

0 1 2 3 4 5 6
None at all Very much

Briefly, what was that dimension?

[text box with 250-character limit appearing only if a rating ≥ 1 in **another dimension** chosen]

Drugs #2: Everything

Suppose that congress is considering a change in the law to allow all previously controlled substances to be sold legally for recreational use, with the only regulation being that one must be at least 21 to purchase it. In addition to marijuana, this would include currently illegal substances (e.g., LSD, Cocaine, Heroin, Ecstasy) as well as medically limited drugs (e.g., Opioids, Steroids, Hormones). The law would allow all of these substances to be sold in drug and convenience stores nationwide, similar to the sale of cigarettes and alcohol.

You were asked to **think carefully** about **the action below** before answering the next question:

Congress passing a law that allows for the sale of all previously controlled substances nationwide, similar to the sale of cigarettes and alcohol.

Given your own sense of moral behavior, how **morally acceptable** would **that action** be?

Your answer was: **[PIPED BACK TEXT]**

Why did you conclude **that action** would be morally acceptable or unacceptable? Below are five dimensions you might or might not have considered before giving your answer. Please rate each of the five dimensions on how much it influenced your answer.

How much weight did you give to whether, on balance, the **consequences** of this action would be more positive than negative, or more negative than positive?

0 1 2 3 4 5 6
None at all Very much

In making your rating, how much weight did you give to the effects of this action on the **rights, freedoms, or responsibilities** of the individuals involved?

0 1 2 3 4 5 6
None at all Very much

In making your rating, how much weight did you give to whether this action would be **fair, just, or equitable** for the individuals involved?

0 1 2 3 4 5 6
None at all Very much

In making your rating, how much weight did you give to how this action would affect the **entire community**, not just the specific individuals involved?

0 1 2 3 4 5 6
None at all Very much

In making your rating, how much weight did you give to whether this action was **virtuous or non-virtuous** and would set an example of either virtuous or non-virtuous behavior?

0 1 2 3 4 5 6
None at all Very much

In making your rating, how much weight did you give to **another dimension**, different from the five dimensions you just rated?

0 1 2 3 4 5 6
None at all Very much

Briefly, what was that dimension?

[text box with 250-character limit appearing only if a rating ≥ 1 in **another dimension** chosen]

Drugs #3: Fines

Suppose that congress is considering a law aimed to reduce the likelihood of imprisonment for possession of *all* controlled substances nationwide. If the bill is passed into law, then law enforcement would not imprison those found in possession of controlled substances. Rather, violators would instead be fined up to \$500 per item and only risk imprisonment if they cannot pay, similar to traffic citations.

You were asked to **think carefully** about **the action below** before answering the next question:

Congress passing a law that reduces the likelihood of impression for all controlled substances.

Given your own sense of moral behavior, how **morally acceptable** would **that action** be?

Your answer was: **[PIPED BACK TEXT]**

Why did you conclude **that action** would be morally acceptable or unacceptable? Below are five dimensions you might or might not have considered before giving your answer. Please rate each of the five dimensions on how much it influenced your answer.

How much weight did you give to whether, on balance, the **consequences** of this action would be more positive than negative, or more negative than positive?

0 1 2 3 4 5 6
None at all Very much

In making your rating, how much weight did you give to the effects of this action on the **rights, freedoms, or responsibilities** of the individuals involved?

0 1 2 3 4 5 6
None at all Very much

In making your rating, how much weight did you give to whether this action would be **fair, just, or equitable** for the individuals involved?

0 1 2 3 4 5 6
None at all Very much

In making your rating, how much weight did you give to how this action would affect the **entire community**, not just the specific individuals involved?

0 1 2 3 4 5 6
None at all Very much

In making your rating, how much weight did you give to whether this action was **virtuous or non-virtuous** and would set an example of either virtuous or non-virtuous behavior?

0 1 2 3 4 5 6
None at all Very much

In making your rating, how much weight did you give to **another dimension**, different from the five dimensions you just rated?

0 1 2 3 4 5 6
None at all Very much

Briefly, what was that dimension?

[text box with 250-character limit appearing only if a rating ≥ 1 in **another dimension** chosen]

Speech #1: Guest Speaker

A political activist group on a public college campus has invited a guest speaker to appear. The speaker is considered highly controversial and will be making a presentation on a very divisive issue. In response to this, other groups have threatened to hold protests and disrupt campus operations leading up to and during the presentation if the administration allows the speaker to appear.

You were asked to **think carefully** about **the action below** before answering the next question:

The college administration allowing the speaker to appear.

Given your own sense of moral behavior, how **morally acceptable** would **that action** be?

Your answer was: **[PIPED BACK TEXT]**

Why did you conclude **that action** would be morally acceptable or unacceptable? Below are five dimensions you might or might not have considered before giving your answer. Please rate each of the five dimensions on how much it influenced your answer.

How much weight did you give to whether, on balance, the **consequences** of this action would be more positive than negative, or more negative than positive?

0 1 2 3 4 5 6
None at all Very much

In making your rating, how much weight did you give to the effects of this action on the **rights, freedoms, or responsibilities** of the individuals involved?

0 1 2 3 4 5 6
None at all Very much

In making your rating, how much weight did you give to whether this action would be **fair, just, or equitable** for the individuals involved?

0 1 2 3 4 5 6
None at all Very much

In making your rating, how much weight did you give to how this action would affect the **entire community**, not just the specific individuals involved?

0 1 2 3 4 5 6
None at all Very much

In making your rating, how much weight did you give to whether this action was **virtuous or non-virtuous** and would set an example of either virtuous or non-virtuous behavior?

0 1 2 3 4 5 6
None at all Very much

In making your rating, how much weight did you give to **another dimension**, different from the five dimensions you just rated?

0 1 2 3 4 5 6
None at all Very much

Briefly, what was that dimension?

[text box with 250-character limit appearing only if a rating ≥ 1 in **another dimension** chosen]

Speech #2: Social Media

Recently, a college professor has been using their personal social media platform accounts to issue some unpopular and controversial political opinions to the public at large. Many members of the campus community (faculty, staff, students) have reported this activity to the administration, believing these views are extreme and not aligned with the mission and goals of the university. They would like to see punitive measures taken to curtail the professor’s activity (e.g., suspension with no pay).

You were asked to **think carefully** about **the action below** before answering the next question:

The university punishing the professor.

Given your own sense of moral behavior, how **morally acceptable** would **that action** be?

Your answer was: **[PIPED BACK TEXT]**

Why did you conclude **that action** would be morally acceptable or unacceptable? Below are five dimensions you might or might not have considered before giving your answer. Please rate each of the five dimensions on how much it influenced your answer.

How much weight did you give to whether, on balance, the **consequences** of this action would be more positive than negative, or more negative than positive?

0 1 2 3 4 5 6
None at all Very much

In making your rating, how much weight did you give to the effects of this action on the **rights, freedoms, or responsibilities** of the individuals involved?

0 1 2 3 4 5 6
None at all Very much

In making your rating, how much weight did you give to whether this action would be **fair, just, or equitable** for the individuals involved?

0 1 2 3 4 5 6
None at all Very much

In making your rating, how much weight did you give to how this action would affect the **entire community**, not just the specific individuals involved?

0 1 2 3 4 5 6
None at all Very much

In making your rating, how much weight did you give to whether this action was **virtuous or non-virtuous** and would set an example of either virtuous or non-virtuous behavior?

0 1 2 3 4 5 6
None at all Very much

In making your rating, how much weight did you give to **another dimension**, different from the five dimensions you just rated?

0 1 2 3 4 5 6
None at all Very much

Briefly, what was that dimension?

[text box with 250-character limit appearing only if a rating ≥ 1 in **another dimension** chosen]

Speech #3: Word Association

Assume that a class on foreign languages is being held. The instructor provides many foreign words and phrases for the students to learn during each class session. One of the words, when quickly spoken aloud, sounds very similar to a racial slur in English. A few offended students reported the instructor as they considered this to be racially insensitive and unknowingly encouraging the use of the slur. They asked the university to prevent the use of this word in future courses. The instructor argued that the word in question had no relation to the slur and that the offended students were making non-existent connections.

You were asked to **think carefully** about **the action below** before answering the next question:

The university preventing the use of this foreign word in future classes.

Given your own sense of moral behavior, how **morally acceptable** would **that action** be?

Your answer was: **[PIPED BACK TEXT]**

Why did you conclude **that action** would be morally acceptable or unacceptable? Below are five dimensions you might or might not have considered before giving your answer. Please rate each of the five dimensions on how much it influenced your answer.

How much weight did you give to whether, on balance, the **consequences** of this action would be more positive than negative, or more negative than positive?

0 1 2 3 4 5 6
None at all Very much

In making your rating, how much weight did you give to the effects of this action on the **rights, freedoms, or responsibilities** of the individuals involved?

0 1 2 3 4 5 6
None at all Very much

In making your rating, how much weight did you give to whether this action would be **fair, just, or equitable** for the individuals involved?

0 1 2 3 4 5 6
None at all Very much

In making your rating, how much weight did you give to how this action would affect the **entire community**, not just the specific individuals involved?

0 1 2 3 4 5 6
None at all Very much

In making your rating, how much weight did you give to whether this action was **virtuous or non-virtuous** and would set an example of either virtuous or non-virtuous behavior?

0 1 2 3 4 5 6
None at all Very much

In making your rating, how much weight did you give to **another dimension**, different from the five dimensions you just rated?

0 1 2 3 4 5 6
None at all Very much

Briefly, what was that dimension?

[text box with 250-character limit appearing only if a rating ≥ 1 in **another dimension** chosen]

Pandemic #3: Protesting

Assume there is currently a global pandemic happening that has resulted in every citizen being forced to wear a mask in public and maintain social distancing whenever possible. Now, imagine that you are an active and passionate supporter of a movement, as evidenced by your participation in daily meetings. Organizers have informed you that the next action is a protest march through the streets. Thousands are expected to join, and social distancing will likely be impossible, so those who participate in the protest might spread the disease.

You were asked to **think carefully** about **the action below** before answering the next question:

Participating in a protest march that you passionately support, even though it might spread disease.

Given your own sense of moral behavior, how **morally acceptable** would **that action** be?

Your answer was: **[PIPED BACK TEXT]**

Why did you conclude **that action** would be morally acceptable or unacceptable? Below are five dimensions you might or might not have considered before giving your answer. Please rate each of the five dimensions on how much it influenced your answer.

How much weight did you give to whether, on balance, the **consequences** of this action would be more positive than negative, or more negative than positive?

0 1 2 3 4 5 6
None at all Very much

In making your rating, how much weight did you give to the effects of this action on the **rights, freedoms, or responsibilities** of the individuals involved?

0 1 2 3 4 5 6
None at all Very much

In making your rating, how much weight did you give to whether this action would be **fair, just, or equitable** for the individuals involved?

0 1 2 3 4 5 6
None at all Very much

In making your rating, how much weight did you give to how this action would affect the **entire community**, not just the specific individuals involved?

0 1 2 3 4 5 6
None at all Very much

In making your rating, how much weight did you give to whether this action was **virtuous or non-virtuous** and would set an example of either virtuous or non-virtuous behavior?

0 1 2 3 4 5 6
None at all Very much

In making your rating, how much weight did you give to **another dimension**, different from the five dimensions you just rated?

0 1 2 3 4 5 6
None at all Very much

Briefly, what was that dimension?

[text box with 250-character limit appearing only if a rating ≥ 1 in **another dimension** chosen]

Appendix D: Social Desirability Scale

This appendix contains the ten true or false items used in the M-C 1 version of the Social Desirability Scale (SDS: Strahan & Gerbasi, 1972). This scale was used to check participants' susceptibility to experimental demand. Each statement has a corresponding score based on the answer. The scores are summed, and the higher the score, the more likely someone is to be driven by social desirability. The scores that will earn a point are labeled below (T / F). The opposite choice awards zero points. The labels are provided for clarity and review purposes, they were not visible to the participants, and the order presentation is randomized during the study.

True or False

I like to gossip at times. (F)

I sometimes try to get even rather than forgive and forget. (F)

At times I have really insisted on having things my own way. (F)

There have been occasions when I felt like smashing things. (F)

There have been occasions when I took advantage of someone. (F)

I am always willing to admit it when I make a mistake. (T)

I always try to practice what I preach. (T)

I never resent being asked to return a favor. (T)

I have never been irked when people expressed ideas very different from my own. (T)

I have never deliberately said something that hurt someone's feelings. (T)

Appendix E: Ten Item Personality Inventory

This study briefly used the Ten Item Personality Inventory (TIPI; Gosling et al., 2003) for correlational purposes with the EPS. The TIPI is an abbreviated version of the Big-5 / OCEAN model of personality. The items are paired (e.g., #3 and #8 are Conscientiousness), with one in each pair reverse coded, and the pair mean is used to assess personality. Question numbers were not visible to participants.

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

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

I see myself as:

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

Appendix G: Acceptability Moderation

Moderator	Dilemma	Perspective	Main Effect (β)	Interaction (β)
Sex	D2: Legalize all	Virtue	-.42**	M1: -.49*** F1: -.07
Sex	P1: Vaccine to Fly	Virtue	.46*	M1: .16 F1: -.30**
Desirability	P1: Vaccine to Fly	Common Good	-.10*	+1 <i>SD</i> : .13 -1 <i>SD</i> : .52***
COVID	D2: Legalize All	Rights	.08*	+1 <i>SD</i> : .32** -1 <i>SD</i> : -.08
COVID	P1: Vaccine to Fly	Rights	-.12**	+1 <i>SD</i> : -.59*** -1 <i>SD</i> : .01
Religiosity	P1: Vaccine to Fly	Justice/Fairness	.16**	+1 <i>SD</i> : -.02 -1 <i>SD</i> : .56***
Religiosity	P2: Citizenship	Rights	-.11*	+1 <i>SD</i> : .04 -1 <i>SD</i> : .43***

Appendix H: Self-Perceived Perspective Moderation

Moderator	Dilemma	Perspective	Main Effect (β)	Interaction (β)
Desirability	S2: Social Media	Common Good	-.12*	+1 <i>SD</i> : .14 -1 <i>SD</i> : .58***
COVID	E1: Remote Beer	Virtue	.08**	+1 <i>SD</i> : .27** -1 <i>SD</i> : -.13
COVID	D2: Legalize All	Rights	.09*	+1 <i>SD</i> : .30* -1 <i>SD</i> : -.17
COVID	P2: Citizenship	Rights	-.12**	+1 <i>SD</i> : .16 -1 <i>SD</i> : .80***
COVID	P2: Citizenship	Utilitarian	-.10*	+1 <i>SD</i> : -.50*** -1 <i>SD</i> : .01
Religiosity	D2: Legalize All	Common Good	-.13	+1 <i>SD</i> : -.57*** -1 <i>SD</i> : -.10

CURRICULUM VITAE

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Texas Christian University, Department of Psychology
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2020 – Present

RESEARCH INTERESTS

Moral Psychology, Decision Making, Cognition, Attitudes, Personality, Perception

EDUCATION

M.S. in Psychology 2022

Texas Christian University, Fort Worth, TX

B.S. in Psychology 2020

The University of New Mexico, Albuquerque, NM

Summa cum laude

CONFERENCE PRESENTATIONS

Southwestern Psychological Association

Upcoming

RESEARCH EXPERIENCE

Lab Manager, EMR Lab. Texas Christian University.

2020 – Present

P.I. and graduate advisor: Timothy Barth, PhD

Research Assistant, CANOPY Lab. University of New Mexico.

2018 - 2020

P.I. and undergraduate advisor: Jeremy Hogeveen, PhD

Research Assistant, Attention Lab. University of New Mexico.

2019 - 2020

P.I. Eric Ruthruff, PhD

TEACHING

Teaching Assistant, Child Psychology (TCU)

2022

Teaching Assistant, Intro to Psychology (TCU)

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Teaching Assistant, Techniques of College Learning (TCU)

2021 – 2022

Teaching Assistant, Parapsychology: Science or Pseudoscience? (TCU)

2022

Principles of Behavior II Laboratory (TCU)

2021

Teaching Assistant, Introduction to Neuroscience (TCU)

2021

GED Mathematics (UNM-VC: Next Steps)

2016 – 2020

GED Science (UNM-VC: Next Steps)

2016 – 2020

GED English (UNM-VC: Next Steps)

2016 – 2020

GED Social Studies (UNM-VC: Next Steps)

2016 – 2020

MEMBERSHIPS

Society for Judgment and Decision Making (SJDM)
Southwestern Psychological Association (SWPA)
Society for Open Inquiry in Behavioral Science (SOIBS)
Psi Chi National Honors Society

LANGUAGES AND SKILLS

LANGUAGES

English (Native), ASL (Intermediate), Spanish (Basic)

PROGRAMMING

R, Java, HTML

SOFTWARE

SPSS, RStudio, AMOS, JASP, Mplus, HLM, MS Office

PLATFORMS

Qualtrics, MTurk

ABSTRACT

Validating a Five-Factor Model of Ethical Decision-Making

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Experience often drives decisions by favoring previously successful methods. The present study asked if differing ethical methods for decision-making developed similar dispositions over time or if their utility was based on the situation. To address this, the present study drew upon a framework from the Markkula Center for Applied Ethics containing five ethical perspectives (virtue, rights, justice/fairness, common good, utilitarianism). Within that framework, a scale measurement called the Ethical Perspectives Scale (EPS) was designed to capture individual differences among the five perspectives. This study tested the validity of the EPS. The consistency, discriminant validity, and predictive validity of the five-factor EPS model were confirmed in the present study. The current findings offer the first steps into developing a scale to represent the five-perspective framework.

Keywords: Ethics, Perspective, Disposition, Markkula