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What a_____ Thing to Do! Formally Characterizing Actions by Their Expected Effects

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A number of personality frameworks assume traits describe central tendencies of action—for instance, calling someone *assertive* indicates they have a tendency to perform *assertive* actions. But what makes it appropriate to characterize an action by terms like *assertive, kind,* or *honest*? We propose that actions are characterized by such terms in large part by having expected effects on the environment which match particular *conceptual templates*. In the present studies, we attempt to better identify the expected effect dimensions perceivers seem to utilize to make action characterizations related to the Big Five and HEXACO personality dimensions. To do so, a set of 150 situation-action scenarios were generated from actions suggestive of conscientiousness-related characteristics (Study 1), and of characteristics in other HEXACO domains (Study 2). Participants then characterized each action on a range of bipolar dimensions (e.g., *assertive* vs. *submissive*). A separate group of raters coded the expected effects of performing these actions on 21 different outcomes (e.g., effort expenditure; achievement of career goals). Action characterizations were highly predicted by expected effect dimensions in ways that matched provisional hypotheses and were consistent across studies. Furthermore, actions characterizations tended to be highly diagnostic of self-reported individual differences in the same characteristics. We discuss implications for a range of phenomena, such as understanding the relations between behaviors and traits, integrating trait models and decision-making models, and understanding the effect of situational features on personality traits.

Keywords: action characterization, concepts, formative models, expectancy-value models, personality traits

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In the first minutes of the 2009 movie *Star Trek*, a powerful enemy starship emerges from a mysterious "lightning storm" in space and begins firing on the nearby *Starship Kelvin*. The *Kelvin*'s Captain Robau decides to board the enemy starship to negotiate, and appoints George Kirk as interim captain, telling him to evacuate the passengers of the ship and set it on auto-pilot to collide with the enemy starship if he is not back within 15 min. However, when the enemy captain kills Robau and resumes firing on the *Kelvin*, George finds that the ship's auto-pilot controls have been destroyed. What should he do? George quickly orders all nonessential personnel off the ship and pilots the *Kelvin* into the enemy starship himself. In doing so, he completes Robau's final order and buys time for the *Kelvin's* passengers to escape, but dies as a consequence. From this brief scene, we are supposed to infer—without being told directly—that James T. Kirk's father was *courageous, bold, selfless, decisive, reliable,* and *honorable*.

Understanding whether people and actions should be ascribed characteristics such as this is a central concern of person perception and personality assessment. Many of the terms above are conceptually linked to the Big Five domains of extraversion, agreeableness, and conscientiousness, which are among the most important action tendencies people want to learn about one another (Goldberg, 1981; Srivastava, 2010; Wood, in press). This article concerns how we can formally represent whether particular actions, and the people who enact them, should be characterized by such terms. We describe these as the highly related issues of *action characterization* and *trait identification*, respectively. We begin by describing some prominent approaches to these issues within personality psychology, and some of their limitations. We then present a framework for understanding how perceivers determine that a given action should be described by particular characteristics.

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In brief, we argue that perceivers describe actions by particular terms when their expected effects on the situation match certain conceptual templates. We then describe how these conceptual templates can be identified.

Formative Conceptions of Actions and Behavioral Traits

One of the more prominent frameworks for understanding how behavioral traits relate to specific actions is the Act Frequency Approach (AFA; Buss & Craik, 1983). This approach operationalizes an individual's level of a trait (e.g., *assertiveness*) by a three-step process. First, one group nominates a large number of acts that are indicative of a certain trait. Next, a second group rates the extent to which each act is a "prototypical" indicator of the trait. For example, participants might determine that "using a day planner" is not a prototypically assertive action, whereas "arguing for a pay raise" is more prototypically assertive. Finally, a third group reports how frequently they perform the behaviors over a window of time.

The AFA model can be considered a *formative* model in the sense that an individual's level of performance of certain types of actions is understood as *forming* (or *establishing*) their level of the trait (Edwards & Bagozzi, 2000). In such models, if the individual does not perform the types of actions which are prototypical of the trait, the individual is considered not to have the trait by definition (Buss & Craik, 1983; Wiggins, 1997). We can represent this view of traits using a simple conceptual equation:

$$\text{Trait Level} = E(\text{Trait-Identifying Actions}) \quad (1)$$

This operationalizes an individual's trait level as the expected level or observed rate of *trait-identifying actions*—the set of actions which if performed *identify* the individual as having the trait (Buss & Craik, 1983). Research has indicated that individual differences in rates of prototypical actions can correlate very highly with self-reported levels of the relevant trait. For instance, self-reported conscientiousness correlated .68 with self-reported rates of performing actions categorized as prototypical of conscientiousness, and .37 with rates of these actions reported in daily diary studies over 2 weeks (Jackson et al., 2010).

Other approaches have similar conceptions of how actions relate to traits. The Density Distribution Approach (DDA; Fleeson, 2001; Fleeson & Gallagher, 2009) theorizes that a person's trait level can be understood as a central tendency of *personality states*. The Personality and Role Identity Structural Model (PRISM; Wood & Roberts, 2006) theorizes that people form general self-perceptions in large part by translating their own specific behaviors first into contextualized identities (e.g., "How conscientious I am as a [friend/spouse/coworker]?"), which in turn are integrated into a more singular identity ("How conscientious I am in general?"). Perhaps the major difference between these approaches from the AFA is that rather than asking participants how often they perform specific acts (e.g., "How often do you make your bed?"), the DDA and PRISM approaches have participants translate their actions into more abstract trait terms themselves (e.g., "How conscientious are you acting at the moment?"). Using this approach, Fleeson and Gallagher (2009) found that the aggregated reports of personality states over several days or weeks correlated between .42 and .56 with self-reported personality traits.

More generally, a number of frameworks consider major structural personality factors such as the Big Five and HEXACO dimensions as first and foremost being *summaries* or *descriptions* rather than *causes* of action tendencies (Saucier & Goldberg, 1996; Wiggins, 1997). From this perspective, such personality factors might be regarded first and foremost as indicating action tendencies that are particularly valuable for a perceiver to learn about an actor rather than approximating the sources of these actions (Buss, 2011; Srivastava, 2010; Wood, in press).

Research on formative approaches indicates that there is a fair amount of consensus among raters concerning which actions are "prototypical" of a trait (Buss & Craik, 1983), and that acts judged to be prototypical are indeed good predictors of more abstract trait perceptions (Jackson et al., 2010; Moskowitz, 1994). However, there is also a dramatic level of heterogeneity in the specific acts that are deemed relevant to a given characteristic. For instance, actions characterized as prototypically "conscientious" range from bringing the right materials to class or work, double checking one's work, correcting incorrect change given at a store, addressing people formally (as Mr., Mrs., etc.), ironing one's clothes, volunteering to do things at work, and standing up straight (Jackson et al., 2010). However, an interesting limitation of formative approaches is that they are largely agnostic concerning the features of an action that make it trait-identifying.

Similarly, the DDA and PRISM approaches implicitly assume that individuals are able to accurately translate particular actions into abstract characterizations. In essence, we trust that participants know an action's trait relevance when they see it. The existence of high interjudge agreement indicates that this is true to a considerable extent, but again the specific features that influence the characterization of particular acts are not well-articulated (Holmes, 2004; Kelley, 1997).

To make matters more difficult, what is nominally the same action can mean very different things when it is performed in different circumstances (Corr, 2009; Tausczik & Pennebaker, 2010). For instance, "breaking rules in a game" was identified as a prototypically *unconscientious* act by Jackson et al. (2010). However, in certain circumstances this could alternatively or additionally be a *kind* and *generous* act (e.g., if the person did this to keep a friend from losing), a *creative* act (e.g., if this way of breaking the rules had never occurred to others), a *submissive* act (e.g., if they didn't want to but felt coerced to do so), and even a *conscientious* act (e.g., if doing so required concerted effort and planning, and fulfilled a promise made to someone else).

Defining and Characterizing Actions

Our thesis is that perceivers describe an action by a particular characteristic *when the action's expected effects on the environment match the characteristic's conceptual template*. This is fairly close to understanding behavioral dispositions as an individual's tendencies to "restructure the field" (Lewin, 1946) or to "transform one situation into another one" (Kelley, 1997, p. 148; Holmes, 2004), and to the functionalist understanding that "things are what they do" (Tomasello, 2002, p. 5). Additionally, we expect the key features perceivers utilize to characterize an action are its *expected* effects rather than its *actual* effects. The former concern the outcomes *made more likely* by the action, whereas the latter concern the outcomes that *did* result. The idea that action charac-

terizations hinges on an action's expected effects was suggested by Wiggins (1997):

> The requirement that a specific outcome must occur [to characterize an action by a particular term] is too strong. Not all aggressive actions result in harm or injury. If John takes a swing at the boy with a meat axe and misses, the action is still unambiguously "aggressive." . . . It seems appropriate to state what I believe is meant when a trait quality is attributed to an action: *the action belongs to a class of actions that are likely to lead to a particular outcome*." (pp. 100–101; author's italics).

More generally, to characterize an action by a particular term, it should be sufficient to know that the action increases the likelihood (i.e., mathematical expectation) of certain outcomes (a) relative to alternative actions that could be performed; and (b) regardless of whether the outcomes actually do occur. For instance, we might call an action *reckless* if it increased the risk of physical harm to oneself and others relative to alternatives, even if no harm ultimately resulted. Similarly, George Kirk's actions may have had the *expected effects* of saving the *Kelvin's* passengers, but perhaps through bad luck George lands only a glancing blow to the enemy starship, and his attempt to save the *Kelvin's* passengers consequently fails. Despite this, George's action might still be regarded as *honorable, selfless,* and *altruistic* on the basis of its expected rather than actual effects.

Below we describe how an action's *expected effects* and an action characterization's *conceptual template* can be formally represented. In Table 1, we summarize definitions for important terminology for understanding this process.

Formally Representing an Action's Expected and Actual Effects

To establish an action's *expected effects*, it is necessary to consider how the situation following the performance of the action compares with the situation that would be expected to exist if the actor had performed one or more alternative (i.e., counterfactual) actions (Pearl, 2000). For instance, we can formally represent the situation faced by George Kirk in a "decision tree" similar to those found in a range of game theoretical and judgment/decision-making frameworks (e.g., Gintis, 2009; Hastie & Dawes, 2010; Krantz & Kunreuther, 2007). Figure 1 shows the potential actions that George might be considering (e.g., Action *a*: attack the enemy starship; *b*: try to negotiate; *c*: do nothing), the situations that might be expected to result from these actions (e.g., if he attacks, Situation *a1*: his attack succeeds; *a2*: his attack fails). The same information can be represented more formally

Table 1
Definitions of Important Terms for Formalizing Action Valuation and Characterization Processes

Term	Definition
Action characterization	The process of applying a particular conceptual term to a particular action. (e.g., "the action was *kind, assertive, industrious*")
Trait identification	The process of applying a particular conceptual term to a particular actor (or object, system). (e.g., "the individual is *kind, assertive, industrious*")
Trait-identifying actions	The set of actions which identify, form, establish the individual's level of a given trait
Situation	A configuration of various features in the environment (e.g., level of status, peer acceptance, attention from others).
Action matrix (*A*)	A matrix representing the likelihood that particular actions performed by an actor (listed in rows) will result in particular outcome situations (listed in columns).
Situation matrix (*S*)	A matrix representing various outcome situations (listed in rows), and the expected levels of more specific situational features (listed in columns).
Expected outcomes matrix (*E*)	A matrix detailing the situational features expected after performing a particular action, averaged across all possible outcome situations weighted by their likelihood. Estimated by multiplying *A* and *S* matrices ($E = A \times S$).
Expected effects (of an action)	The differences in the situational features expected by performing one action relative to performing an alternative action. Estimated by subtracting two rows of the *E* matrix.
Valuation matrix (*V*)	A matrix representing the extent to which particular situational features (listed in rows) receive weight within a particular valuation or conceptual template (listed in columns).
Valuation template	Specifies the particular situational features that are considered (i.e., receive non-zero weight; $\beta > 0$) in the actor's decision-making process.
Conceptual template	Specifies the particular situational features that are considered (i.e., receive non-zero weight; $\beta > 0$) in the perceiver's decision of how to characterize an action.
Functionality matrix (F)	Summarizes the expected functionality of each action (when using valuation templates) or expected characterizations of each action (when using conceptual templates). Estimated by multiplying the *A, S,* and *V* matrices ($F = A \times S \times V$) or *E* and *V* matrices ($F = E \times V$).

Note. Concepts have been ordered roughly from simplest to most complex, with latter concepts frequently building on earlier concepts, or serving as ways to formalize earlier concepts.

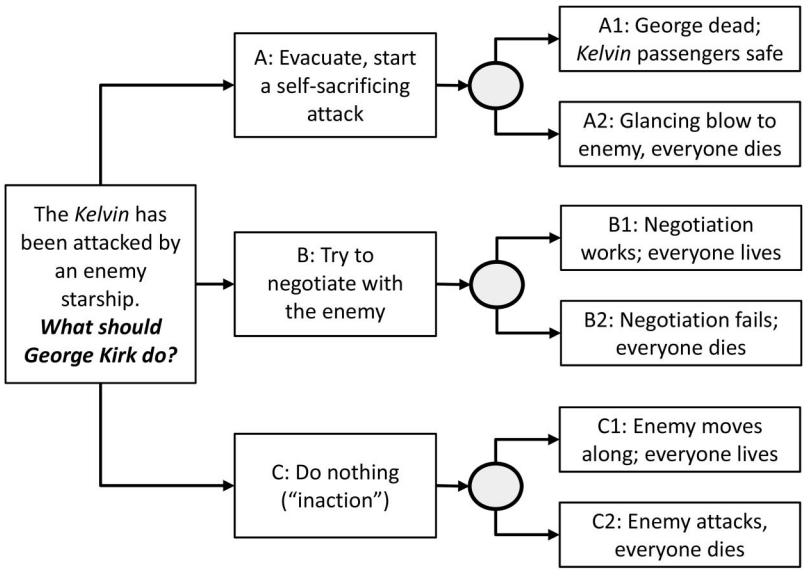

Figure 1. Graphical representation of some of potential actions George Kirk might perform in response to being attacked by a powerful alien starship, and the potential situations that might result from these actions. A matrix representation of this process is given in the Action-Outcome (A) matrix in Table 2.

in an *Action matrix* (*A*) as done in Table 2, where potential actions are displayed in rows, potential outcome situations in columns, and the probabilities that a given outcome situations will result from a particular action are given in the cells. For example, if the enemy starship is attacked (Action *a*), there may be a 90% chance that the situation will resolve such that he dies but most other *Kelvin* passengers survive (Situation *a1*), and a 10% chance that it will resolve such that his attack fails and all *Kelvin* passengers die (Situation *a2*).

Each of the potential outcomes of a set of actions can be more formally represented in a *Situation matrix* (*S*). Each row in the *S* matrix indicates the total nature of the environment if a particular situation were realized, and each column indicates a specific feature of the environment. Returning to our example, George may consider a range of outcomes of his action (e.g., whether he will be alive, what percentage of the *Kelvin* passengers will be alive). In Table 2, we see that if George attacks the enemy ship and his attack succeeds (i.e., Situation *a1* is realized), perhaps 95% of the Kelvin's passengers would survive. However, if his attack fails (i.e., Situation *a2* is realized), 0% of the Kelvin's passengers would survive.

We can combine the information in the Action and Situation matrices via matrix multiplication to estimate an *expected outcomes matrix* ($E = A \times S$). This matrix details the expected level of particular situational features resulting from each action. Expected levels are estimated as a mathematical expectation averaged across all possible outcomes, weighted by their probability of resulting from the action. These correspond to the *expectancies* described in expectancy-value models (Feather, 1982). In the case of George Kirk, by combining the probabilities that his attack may succeed or fail, we find the *expected* level of Kelvin passengers surviving after initiating his attack should be 86% (i.e., $.90 \times .95 + .10 \times 0 = .855$) of those existing beforehand (see Table 2).

We are now prepared to formally represent an action's *expected effects* which we have described as central to action characterizations. The expected effects of a given action concern the difference between the situational states expected to exist by performing the action and those expected to exist by performing some counterfactual action. This can be estimated as the difference of two rows in the expected outcomes matrix (*E*):

$$\text{Expected Effects of Action } i \text{ (relative to Action } i') = E_i - E_i, \quad (2)$$

Referring to the *E* matrix in Table 2, if George performs Action *a* (evacuate the ship and sacrifice himself), the expected effect on the survival of the *Kelvin's* passengers relative to Action *b* (try to negotiate) would be $E_a - E_b = 86\% - 10\% = +76\%$. This indicates 76% more passengers are expected to live by performing Action *a* than Action *b*. The *actual effects* of George's action are defined similarly, with the difference computed between the situation that actually transpired from the action (Situation *a1*, George dies but *Kelvin* passengers survive) and the counterfactual situation that would have existed if he performed a different action (e.g., Situation *b2*, George tries to negotiate, but everyone dies).[1]

[1] A tempting alternative for operationalizing an action's expected or actual effects may be to compare the action's expected or actual outcomes of performing the action with the initial situation (i.e., $S_{ij} - S_0$), which we can call a "situation change" estimate. This temporal operationalization seems to follow fairly intuitively from the conception of action tendencies as being tendencies to "transform one situation into another one" (Kelley, 1997, p. 148; Lewin, 1946; Minsky, 2007). The problem with operationalizing the action's effects in this manner can be illustrated with our example. Ultimately the number of *Kelvin* passengers alive after George Kirk's attack was perhaps 5% fewer than existed initially (i.e., 95–100%). However, despite the decrease in the number of people alive after George's action, it feels incorrect to characterize his action as *murderous*. This is almost certainly because perceivers intuitively compare his action with counterfactual states of "what would have happened if George had done something else?" Because his actions seemed to save more lives than any plausible counterfactual actions, it feels more appropriate to characterize his action as *honorable* and *selfless*.

An important point to emphasize is that the expected and actual outcomes of performing an action will usually differ unless we are certain of what the outcome of the individual's actions will be. We know that George Kirk's attack ultimately resulted in 95% of the *Kelvin's* passengers surviving—this is the *actual* outcome of his action. In contrast, prior to the action, the *expected* outcome was only 86% of the passengers surviving, estimated by accounting for the fact that his attack could fail. Stated another way: performing a particular action will *ultimately* resolve into only one of the outcome situations shown in the rows of the *S* matrix (if we have represented the possible outcomes accurately); however, before the action has been performed, the outcome is indeterminate. An interesting consequence of this is that performing an action can simultaneously be expected to increase the likelihood of experiencing a positive change *and* a negative change on a single feature of the situation. For instance, making a high-stakes bet increases the likelihood of both dramatically increasing *and* dramatically decreasing one's income, and asking a friend out on a date increases the likelihood of both increasing *and* decreasing one's connection with the person (e.g., sparking a romance vs. straining the friendship). However, because such outcomes are mutually exclusive, the actual situation will ultimately resolve into only the positive *or* negative change on the situational feature.

Characterized Actions by Comparisons to Conceptual Templates

More generally, we argue that an action is characterized by a particular term when it shares features with other actions characterized by that term, similar to the *family resemblance* understanding of how natural objects are categorized (Buss & Craik, 1983; Rosch & Mervis, 1975). However, we argue that the most important features to action characterizations are those which concern how the action is expected to affect the environment. We consider the effects that are central to characterizing an action in a particular way as constituting its *conceptual template*—or its *conceptual skeleton* (Hofstadter & Sander, 2013). For instance, the features of George Kirk's action share few similarities with other actions that may be prototypically *selfless* (e.g., George's involved starships, cosmic lightning storms, broken autopilot controls, photon torpedoes). It is only the fact that his action matches a small number of more abstract functional features—for example, the expected effects of his action on his well-being and the well-being of others—that make it sensible to characterize George's action by this term (Holmes, 2004; Kelley, 1997).

Valuation templates and conceptual templates. Conceptual templates can be thought of as highly analogous to the valuation templates that are central to understanding decision-making within a range of economic, game theoretical, and judgment/decision-making models (e.g., Almlund, Duckworth, Heckman, & Kautz, 2011; Gintis, 2009; Hastie & Dawes, 2010). Specifically, *valuation templates* (or *preference functions*) concern how an individual evaluates the functionality of potential actions, whereas *conceptual templates* concern how the individual should characterize these potential actions. We thus continue by describing how valuation templates function in decision-making processes, and how the conceptual templates that define action characterizations operate in essentially the same manner.

In decision-making models, individuals are regularly understood as selecting actions that will result in the outcomes they most value, given the valuation template active at the time the decision is made (Almlund et al., 2011; Gintis, 2009; Krantz & Kunreuther, 2007). We can think of a valuation template as a vector which indicates the situational features that receive weight in the actor's decision-making process. In the language of multiple regression, there are several effects that a particular action will have relative to alternatives, but only some of these will receive values of $|\beta| > 0$ toward guiding the actor's decision. As shown in Figure 1 and Table 2, we might represent George Kirk as placing a large amount of weight on "fulfilling his commitments" and on the "safety/welfare of *Kelvin* passengers," and some positive weight, but considerably less, on "his own safety." A different "selfish person" might instead weight only his own safety. As shown in Table 2, we can multiply the action (*A*), situation (*S*), and valuation (*V*) matrices together to determine the expected functionality (*F*) of the actions the individual might consider in a particular situation, using the equation below:

$$\text{Expected Functionality of Potential Actions}: F = A \times S \times V \tag{3}$$

By doing this in our example, we see that given George's valuation template, his choice among the three potential actions becomes clear: the best option is to initiate the life-sacrificing attack, because this is likely to save the most lives. In contrast, if George instead had a selfish person's valuation template, his best option would be to try to negotiate with the enemy captain, since this has the greatest likelihood of saving his own life.

The level of similarity between the role of valuation templates for guiding behavioral decisions and the role of conceptual templates for characterizing actions may be difficult to overstate. As shown particularly in the valuation matrix depicted in Table 2, we can formally specify conceptual templates for judging whether an action is *selfish* or *dependable* in precisely the same manner as an actor's valuation template. Further more, in economic and decision-making models, we can "reveal" an actor's valuation template by (a) placing the actor in situations containing various features, and (b) determining how the actor's responses are contingent on these features (Hitsch, Hortaçsu, & Ariely, 2010; Samuelson, 1948; Wood & Brumbaugh, 2009). To estimate George's valuation template in Table 2, we might determine that throughout his life, he tended to act in ways that were more expected to fulfill his commitments than to maximize self-serving goals. Analogously, we should be able to indirectly "reveal" the conceptual templates associated with action characterizations such as those in Table 2 by (a) providing judges with actions varying in their expected effects, and (b) determining how the judges' characterizations of an action are contingent on these effects.

However, beyond similarities such as these, there are some subtle differences between valuation and conceptual templates, which we elaborate below.

Template simplicity. Consistent with the analogous term *conceptual skeleton* (Hofstadter & Sander, 2013), we can regard a conceptual template as being the "bare bones" set of features necessary to characterize an action in a particular manner. Whereas people might place weight on many situational features in their behavioral decisions (i.e., the "pros and cons"), many conceptual

Table 2
Matrix Representation of George Kirk's Potential Actions, and Their Expected Outcomes, Valuations, and Characterizations

Simple matrices						
	Outcome situations					
Action matrix (A)	a1	a2	b1	b2	c1	c2
Actions						
a) Evacuate + self-sacrificing attack	0.90	0.10	0	0	0	0
b) Try to negotiate	0	0	0.10	0.90	0	0
c) Do nothing ("inaction")	0	0	0	0	0.05	0.95

	Levels of situational features						
Situation matrix (S)	1	2	3	4	5	6	7
Outcome situations							
(a1) George dead, *Kelvin* passengers alive	1	0	0.75	0	0.95	0.75	1
(a2) Glancing blow to enemy, all *Kelvin* dead	1	0	0.90	0	0	1	1
(b1) Negotiation works: Everyone lives	0	1	1	1	1	1	1
(b2) Negotiation fails: All *Kelvin* dead	0	0	1	0	0	1	1
(c1) Enemy moves along: Everyone lives	0	1	1	1	1	1	0
(c2) Enemy attacks: All *Kelvin* dead	0	0	1	0	0	1	0

	Valuation templates		Conceptual templates			
Valuation matrix (V)	George Kirk	Selfish person	Honorable	Reliable	Decisive	Selfish
Situational Features						
1. Commitments fulfilled	0.4	0	0.4	1	0	−0.2
2. Integrity of *Kelvin*	0	0	0	0	0	0
3. Integrity of enemy starship	0	0	0	0	0	0
4. Alive?	0.1	1	−0.1	0	0	0.6
5. Passengers alive?	0.5	0	0.4	0	0	−0.2
6. Enemy captain alive?	0	0	0	0	0	0
7. Performed an action?	0	0	0.1	0	1	0

Combined matrices							
	Levels of situational features						
Expected outcome matrix (E = A × S)	1	2	3	4	5	6	7
Action							
(a) Evacuate + self-sacrificing attack	1	0	0.77	0	0.86	0.78	1
(b) Try to negotiate	0	0.10	1	0.10	0.10	1	1
(c) Do nothing ("inaction")	0	0.05	1	0.05	0.05	1	0

	Action valuations		Action characterizations			
Functionality matrix (F = A × S × V, or F = E × V)	George Kirk	Selfish Person	Honorable	Reliable	Decisive	Selfish
Actions						
(a) Evacuate + self-sacrificing attack	**0.83**	0	**0.84**	**1**	**1**	−0.37
(b) Try to negotiate	0.06	**0.10**	0.13	0	**1**	**0.04**
(c) Do nothing ("inaction")	0.03	0.05	0.02	0	0	0.02

Note. Cells in the *A* matrix indicate likelihood that a particular action will result in a particular situation. Levels of all "situational features" in the *S* matrix are given on a 0 to 1 scale (0 = feature absent/low, 1 = feature present/high), and templates in the V matrix are constructed such that weights in each column sum to 1. Within the final F or A × S × V matrix, the highest value in each column is shown in bold and underlined, and should be the action selected by the actor (for valuation templates) or the action most characterized by the term (for action characterization templates).

templates might be relatively well-specified by a very small number of features. For instance, Wiggins (1997) suggested an action might be relatively well-characterized as *aggressive* principally by whether it has the expected effect of "[others] being harmed, injured, discomforted, or ridiculed" (p. 101). Similarly, we might judge an action as *dependable* principally on the basis of whether it "fulfills commitments to others."

Many conceptual templates will require two or more distinct effects in order to be adequately specified. For instance, as reflected in Table 2, we might characterize an action as *selfish* if it is expected to "benefit oneself" and additionally "neglect commitments" or "increase harm to others." Conversely, Nowak (2006) defined a *cooperator* as an actor who "pays a cost" for another person to "receive a benefit" (p. 1560). However, we expect the conceptual templates associated with most action characterizations will typically be relatively simple. That is, they should be relatively well-specified by placing nonzero weights on only a small number of distinct effect dimensions.

Conceptual templates should be relatively invariant. A conceptual template should be relatively invariant across a range of situations. Whether a specific action should be characterized by a particular term depends on how well its expected effects match the term's conceptual template—much like a key fitting a lock. If the action has effects on the situational features which receive weight within the conceptual template, the action can be described appropriately by the associated term. But the range of actions that fit a single conceptual template is vast—as illustrated by the *Star Trek* example. Presumably no one would have suggested "initiating a life-sacrificing attack after the autopilot controls of your starship are destroyed" as a prototypically *selfless* act in an AFA study. However, it is readily characterized as an instance of selfless action by perceivers. The specification of an abstract conceptual template (e.g., *if:* the action is expected to "help others" and "harm oneself," *then:* characterize the act as *selfless*) allows an infinite number of specific actions to be understood as examples of a particular characteristic (Heider, 1958; Kelley, 1997).

Conceptual templates can be correctly specified. Conceptual templates can be regarded as correctly specified to the extent that they match the consensual standard within a population. If an individual uses a term in a different way from others (e.g., "he acted *assertively* when he said nothing in class, and then followed orders he strongly disagreed with"), we are generally comfortable saying that the individual is using the term incorrectly.

The sense that conceptual templates can be correctly specified in turn allows us to understand some ways in which traits should be considered as "real" (Funder, 1991, 1995). As discussed and formalized in Equation 1, within formative models an individual can be accurately described by specific trait adjectives if there is a high expectation that the individual performs trait-identifying actions. In turn, a "trait-identifying action" can be understood as an action which has expected effects matching the trait's conceptual template.

A given action can fit multiple conceptual templates. Another point that can be seen in Table 2 is that a single action invariably has a broad range of effects, or is *multifinal* (Katz & Shapiro, 1985; Kruglanski et al., 2002; Wood, Gardner, & Harms, in press). As shown in Table 2, compared with other options George Kirk may have considered, the action he ultimately performed showed a greater expectation of fulfilling a commitment to the previous captain, saving lives, damaging the enemy starship, and ending his own life, among other things. A given action can be characterized by all of the terms that fit its diverse effects. For instance, we might characterize George Kirk's action as being *brave, honorable, dependable, selfless, bold, generous,* and *decisive* on the basis of the fact that his action's expected effects matched the conceptual templates associated with all of these characterizations.

Overview of the Current Studies

The central goal of the present studies is to develop empirically informed "drafts" of the conceptual templates associated with important action characterizations. We focused on terms that were related to the Big Five and HEXACO traits, such as *sociable, dependable, honest, kind,* and *intelligent*, as characteristics within these domains are considered among the most socially important action tendencies by personality psychologists and lay persons (Ashton & Lee, 2007; Goldberg, 1981; Goodwin, Piazza, & Rozin, 2014; Wood, in press).

As we have noted, the conceptual templates associated with a given action characterization can be formally specified in precisely the same manner as the valuation templates that guide an actor's behavioral decisions. As such, we should be able to infer which expected effect dimensions receive weight in a conceptual template by adapting *revealed preference* methodologies used to estimate the weights within an actor's valuation template (Hastie & Dawes, 2010; Samuelson, 1948; Wood & Brumbaugh, 2009). Formally, the present studies can be considered as helping to identify the conceptual templates (columns of the V matrix in Table 2) by examining which expected effect dimensions (columns of the E matrix) successfully predict action characterizations (columns in the F matrix; see Table 2). As applied to the current studies, we use this method to show that an action's characterizations can be strongly predicted by its expected effects on a situation, and thus provide evidence regarding the specific nature of associated conceptual templates.

Additionally, a common prediction of formative trait models, formalized in Equation 1, is that describing someone by a trait term implies their likelihood of performing relevant actions (Buss & Craik, 1983; Fleeson & Gallagher, 2009; Wiggins, 1997). Thus, we expected that actions characterized by a certain term by one set of participants (e.g., *assertive*) would be more diagnostic of individual differences in self-reported levels of the same trait among a different set of participants (e.g., more predictive of the actor's *assertiveness*).

In Figure 2, we detail the steps we followed in testing our hypotheses. We began with a preliminary study to identify potential trait-identifying actions and key expected effect dimensions (Steps 1–2). In Studies 1 and 2, our team then created brief situation–action scenarios (Step 3) that served as the main stimuli for testing the links among conceptual templates, action characterizations, and trait diagnosticities (Steps 4–5).

Preliminary Study: Generating a List of Important Action Effect Dimensions

We began with fairly minimal a priori hypotheses concerning the specific effect dimensions that might be necessary to characterize an action by particular terms. However, to empirically identify the extent to which action characterizations can be predicted from their expected effects, it is important to first identify a set of effect dimensions to measure. We thus began by conducting a somewhat informal qualitative investigation to identify effect dimensions that might be most relevant to important action characterizations. An initial group of participants provided examples of actions that they felt illustrated particular characteristics. These examples were then examined by members of two research teams to identify effect dimensions that might be particularly important to the conceptual template.

Method

Participants

A total of 275 participants from Wake Forest University (WFU) and 151 participants from Singapore Management University

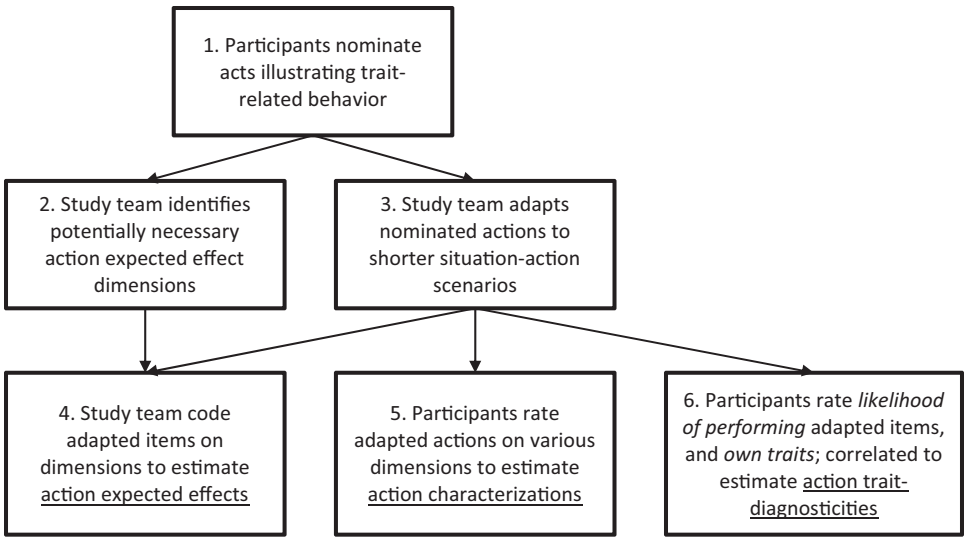

Figure 2. Flowchart of stages in the Preliminary Study and Studies 1 and 2. Stages at the same level vertically occurred roughly contemporaneously. The Preliminary Study consisted of Stages 1 and 2; Studies 1 and 2 both consisted of Stages 3 through 6.

(SMU) introductory psychology classes were asked to describe instances exemplifying various characteristics at the end of a different study. Of these, 12 WFU participants and three SMU participants did not provide answers to these questions. To ensure anonymity, demographic information was not collected with this portion of the survey, but results from the broader survey indicated that females made up approximately 59% of the WFU sample (M_{age} = 18.6) and 52% of the SMU sample (M_{age} = 21.8).

Generation of Acts

Participants were randomly assigned to write about one of 18 possible pairs of characteristics. These characteristics were selected (a) to provide three from each of the six HEXACO dimensions (Ashton & Lee, 2007); and (b) to provide as diverse a set of characteristics as possible. The two characteristics in a given pair were selected to be highly antonymous (e.g., *truthful/honest* and *untruthful/dishonest*). The 18 pairs, or 36 characteristics in total, are listed in the Table S1 of the Supplementary Materials.

First, participants described someone displaying high levels of a given characteristic (e.g., *truthful/honest*) with the following instructions:

> Think of someone you know who is very [characteristic]. (*This can be anyone you know, such as a friend, enemy, acquaintance, or family member. Please refer to this person only by their initials or as "X."*) Please describe one or two situations in which this person acted in this manner, providing details about the situation the person was in and how they acted or responded in this situation to illustrate how this person is [characteristic].

Second, the task was repeated for the antonymous characteristic (e.g., *untruthful/dishonest*). Next, the same participants were instructed to "Think of times where *you* have acted or felt very [characteristic]"—with the task repeated for both characteristics in the pair. Thus, each participant provided four action descriptions in total.

Generation of Action Effects and Provisional Conceptual Templates

Research assistants and the three authors examined the acts provided by participants. All of the examples generated by participants for a given characteristic (e.g., all *bold/assertive* actions) were examined as a single set, and in a group including the first and third authors at WFU and a group including the second author at SMU. The examples were discussed to identify potential action effects that may be important to characterizing the set of actions. For instance, examples of *dependable* acts typically contained reference to commitments being fulfilled, and so the effect "fulfills commitment to other(s)," was proposed as a potentially important effect dimension to *dependable* characterizations. A large number of effect dimensions were suggested at this stage. After all 36 characteristics were discussed, these were reduced to a smaller set of 21 dimensions for practical purposes by eliminating those that were deemed less relevant or sufficiently redundant with others already included. The full list is shown in Table S2 of the Supplementary Materials.

Next, the three authors developed a number of relatively simple "provisional conceptual templates" for the 36 different action characteristics consisting of these 21 expected effects. We found it useful to distinguish between *necessary, associated*, and *magnifying* expected effects. First, *necessary* expected effects were deemed particularly central to characterizing an action in a particular way. For instance, we hypothesized that the expected effect of "fulfilling commitments to others" was necessary to characterize an action as *dependable*. Second, *associated* expected effects often resulted from an action but were nonessential to its characterization. For example, we anticipated that *dependable* actions would often be "preferred by others," but that this expected effect is not essential (i.e., not necessary or sufficient) to characterizing an action as dependable. Third, *magnifying* expected effects primarily enhanced the relevance of other effects. For example, a particu-

larly dependable action may be one expected to "fulfill commitments" *especially if* expected to "require great effort;" here effort expenditure is a magnifying effect in that it augments the relevance of fulfilling commitments.

The complete provisional templates are listed in Table S2 of the Supplementary Materials. Although this process was somewhat informal given that the primary role of this exercise was to aid in generating a large number of expected effect dimensions, these provisional conceptual templates were nonetheless useful for providing some informed hypotheses. Here, we focused solely on whether the expected effects regarded as "necessary" elements of a conceptual template in our discussions would be highly associated with action characterizations.

Study 1: Generating Empirically Based Templates for Personality-Related Action Characterizations

The subset of actions nominated as illustrating conscientiousness-related traits in the preliminary study were adapted into short situation-action scenarios, which specified an action a person might perform in a particular situation. These scenarios were rated by two sets of participants. One group rated how much performing the action in this situation could be described by certain characteristics; the second group provided self-ratings of their personality traits and described how likely they would be to perform these actions. These latter ratings were used to evaluate whether actions characterized by a certain term were more diagnostic of an individual's trait levels, as predicted by formative trait models (Buss & Craik, 1983; Fleeson & Gallagher, 2009). Finally, research assistants rated the extent to which the specified actions should be expected to have certain effects on the situation described in the scenario. This allowed us to estimate how particular action expected effect dimensions were associated with the action characterizations provided by participants.

Method

Adaptation of participant-generated action scenarios. Due to a secondary interest in exploring cross-cultural differences in conscientiousness-related traits (Wood, Tov, & Costello, 2014), we constructed scenarios from the acts that were nominated for three pairs of conscientiousness-related characteristics: (a) dependable/reliable and undependable/unreliable, (b) disorganized/messy and organized/neat, and (c) impulsive/spontaneous and careful/cautious.

Several research assistants at both WFU and SMU adapted the original actions provided by participants in the preliminary study into shorter action scenarios. The full set of action scenarios developed for both Studies 1 and 2 is provided in Supplementary Table S3. Research assistants followed a standard format and set of guidelines to adapt the original items. First, research assistants were strongly encouraged to restrict items to 350 characters or less to reduce overall survey length. Second, items were constructed to generally either directly provide or strongly imply an alternative to the target action. Third, research assistants were instructed to create items with enough information for participants to assess the implications of performing either the target or alternative action, and to avoid using abstract action descriptors (e.g., *assertive, caring*) in the item. Fourth, the adapted items were constructed to retain key aspects of the original actions as much as possible. However, some modifications were needed. Actions that were described as habits (e.g., "he never cleans his room") were rewritten as more specific episodes. Details that were overly specific (e.g., "reading Robinson Crusoe for my First-Year Seminar class") were modified to be applicable to participants from both universities (e.g., "reading a novel for one of your classes;" Action 7 in Table S3). Finally, when the original action referred to an "internal" experience (e.g., an emotional reaction), the action was reframed as an "external" behavior. For instance, one item originally concerned feeling angry about a houseguest overstaying their welcome; the action was reframed as the likelihood of confronting this houseguest about the situation (Action 83 in Table S3).

This round of item generation resulted in an initial set of 196 items. Following this, the first and third authors further reduced the set to 150 items by removing items that seemed redundant or of lower quality given the above considerations. Slight modifications to the remaining items were done if necessary to better fit these considerations.

Estimating action properties.

Action characterizations. A total of 29 WFU students (70% Female; M_{age} = 19.2) and 37 SMU students (59% Female; M_{Age} = 20.5) from introductory psychology participant pools received credit toward a research participation requirement for completing an online survey. Participants read the items generated above and characterized the target action along a range of dimensions. An example of this is shown in Figure S1 within the Supplementary Materials (Action 69 in Table S3), which asks the participant to imagine that they agreed to proofread a friend's paper, but then developed a terrible flu. After describing salient options (to proofread the paper anyway, or to tell the friend you can't help because you are sick), the scenario concludes: "*You still proofread the paper.*"

Participants then characterized the target action along 10 dimensions spanning traits central to the Big Five and HEXACO frameworks. For each dimension, participants rated whether the action was best described by one characterization or an antonymous characterization (e.g., *bold/assertive* vs. *submissive/unassertive*) on a scale ranging from 1 = *very* (Characteristic A), to 4 = *neither* (Characteristic A) or (Characteristic B) to 7 = *very* (Characteristic B) (see Figure S1). Subsequently, 4 was subtracted from all scores resulting in a scale from −3 to + 3, with 0 indicating that the target action was not (or was equally) characterized by the two terms.

To minimize participant fatigue, the 150 action scenarios were randomly divided into three subsets of 50, and each participant only rated one subset. To ensure data quality, ratings were eliminated from subsequent analyses if their action characterizations showed corrected item-total correlations lower than .35, as this indicated participants were responding carelessly. For the WFU sample, this resulted in eliminating two participants for a total of 27, or nine for each subset. For the SMU sample, this resulted in the elimination of three participants for a total of 34, or 12 for the first subset and 11 for the second and third).

Finally, the two samples were combined to increase the reliability of the action characterizations. The cross-sample correlations were quite high (*r's* ranged from .74 for *bold/assertive* to .94 for *careful/cautious*; M_r = .85), suggesting that action characterizations were very similar across the two samples. Table S3 can be

consulted to identify more specifically the action scenarios characterized as highest and lowest on each dimension.

Trait-diagnosticities. To estimate the extent to which each action was diagnostic of different personality traits, 115 WFU students (56% female, M_{age} = 19.1) and 108 SMU students (68.5% female, M_{age} = 21.1) from introductory psychology participant pools completed a different version of the survey. Analyses are conducted by combining these samples.

Each participant completed the Inventory of Individual Differences in the Lexicon (IIDL; Wood et al., 2010), and a number of conscientiousness-related adjectives (Roberts, Bogg, Walton, Chernyshenko, & Stark, 2004). Next, participants rated all 150 scenarios on a single item of "*How likely would you be to* [target action]?" For instance, in the example given in Figure S1, participants were asked "*How likely would you be to still proofread the paper?,*" with likelihood ratings ranging from 1 = *less than 10% chance* to 5 = *more than a 90% chance.*

The self-rated personality items that participants provided to estimate the trait-diagnosticities were not identical to bipolar ratings used to estimate action characterizations. To make them more parallel, we combined a number of self-ratings; these are shown in the Appendix. The *trait-diagnosticity* of each action was estimated by correlating participants' reported likelihood of performing the action with their self-ratings of a specific trait. For instance, an estimated −.13 "*intelligent* trait-diagnosticity" for the item provided in Figure S1 indicated that higher endorsement of this item was diagnostic of slightly lower *smart/intelligent* self-ratings.

Prior to any analyses, several participants were removed using indications that they completed some or all of the survey randomly. First, we removed participants that completed the survey in less than 20 min (N = 21 WFU and 15 SMU participants). Next, we removed participants that met two of the following criteria: (a) completed the survey in less than 30 min, (b) had below r = .20 correspondence with the normative response profile to the scenarios, or (c) had below r = .20 correspondence with the normative response profile to the IIDL (N = 7 WFU and 2 SMU participants). Finally, we removed participants that met all of the following criteria: (a) completed the survey in less than 35 min, (b) had below r = .30 correspondence with the normative profile of responses to the scenarios, and (c) had below r = .30 correspondence with the normative profile of responses to the IIDL (N = 1 WFU and 1 SMU participant).[2] The final sample consisted of 176 participants (WFU N = 86; SMU N = 90).

Expected effects. Eleven research assistants coded the 150 action scenarios along the 21 expected effect dimensions generated from the preliminary study. For each item, raters were prompted "*How much would doing this (vs. the alternative) alter the potential/possibility of the following outcomes?*" and rated the action along each dimension on a scale from 1 = *greatly increase* to 3 = *no expected change* to 5 = *greatly decrease.* In subsequent analyses, 3 was subtracted from all scores resulting in a −2 to + 2 scale, and scores were then reversed such that higher scores were associated with greater expected effects on the indicated dimensions.

Research assistants were instructed to focus on how the depicted action changes the situation relative to the most salient alternative action that could be performed. The latter was usually indicated explicitly in the scenario. Additionally, raters were told that often, the likelihood of seemingly opposed effects could be simultaneously increased (or decreased) by the same action, with the example "approaching someone at a bar increases the potential or possibility of both being rejected *and* being connected/related to another person" relative to not approaching the person. Table S3 can be consulted to identify more specifically how raters described the expected effects of each action scenario.

Results and Discussion

In all of the analyses that follow, the situation–action scenarios (N = 150) serve as the unit of analysis.

Reliabilities and variabilities of action characterizations. We first examined the reliability and range of scenarios along the 10 characterization dimensions; see Table 3. The correlation between a characterization's reliability (averaged across the three sets) and its standard deviation was .86. The dimensions with both the greatest variability and reliability were conscientiousness-related terms (*industrious, organized, careful, dependable*).[3] In contrast, both the lowest alphas and variabilities were associated with *confident* and *bold* action characterizations.

Relations between action characterizations and trait-diagnosticities. In the final two columns of Table 3, we show the reliability of trait-diagnosticities, and the extent to which actions *characterized* by a given term tended to be *diagnostic* of individual differences in the same characteristic at the person level. The reliability column α_{TD} estimates the expected reliability of the ordering of trait-diagnosticity correlations (Sherman & Wood, 2014). Trait-diagnosticities were estimated to be more reliable for conscientiousness-related terms (α_{TD}'s from .57 to .78) than for the remaining terms (α_{TD}'s from .13 to .53).

As shown in Table 3, the level of correspondence between an action's characterization and its trait-diagnosticity was invariably positive, but varied widely across the 10 characteristics examined, ranging from a low of r = .22 for *confident* action characterizations to a high of r = .76 for *organized* action characterizations. Again, the four conscientiousness-related characterizations had the greatest cross-method correspondence. Overall, however, these analyses suggest that for all dimensions, actions described by a given trait term were more likely to be performed by individuals who described themselves by the same term (e.g., actions characterized as *assertive* were more diagnostic of *assertiveness*).

Relations between action properties.

Relations between action characterizations. We next explored associations among the 10 action characterizations. To better organize the dimensions, we conducted an exploratory factor analysis using principle axis factoring and varimax rotation. Results suggested a three-factor solution provided a satisfactory organizing framework. First, actions tended to be characterized similarly in the extent to which they were *industrious, organized, careful, dependable,* and *intelligent* (all pairwise *rs* between .63 and .84; Table 4). Second, actions tended to be characterized

[2] Supporting the use of response normativeness as an indicator of random responding, response time (after a log transformation) was correlated r = .21 and .13 with scenario normativeness and IIDL normativeness, respectively. In Study 2, these correlations were r = .37 and .15.

[3] For brevity and readability, the longer labels presented to participants for the action characterizations (e.g., "dependable, reliable vs. undependable, unreliable") are generally shown in the text by presenting just the first word, which is italicized (e.g., *dependable*).

Table 3
Descriptive Statistics for Action Characterizations (Studies 1 and 2)

Action characterizations	*M*	*SD*	Min	Max	α1	α2	α3	α_{TD}	*r*(*C, TD*)
Study 1: Conscientiousness-related scenarios									
1. Industrious/Hard-working (vs. Lazy/Unproductive)	.72	1.06	−2.25	2.85	.96	.97	.96	.62	.69
2. Organized/Neat (vs. Disorganized/Messy)	.77	1.24	−2.05	2.82	.97	.96	.98	.78	.76
3. Careful/Cautious (vs. Impulsive/Spontaneous)	.18	1.42	−2.75	2.65	.98	.97	.97	.57	.74
4. Dependable/Reliable (vs. Undependable/Unreliable)	.86	1.28	−2.50	2.86	.97	.97	.97	.58	.53
5. Intelligent/Smart (vs. Unintelligent/Foolish)	.35	.90	−1.80	2.05	.94	.94	.93	.53	.26
6. Kind-hearted/Caring (vs. Unfriendly/Cold)	.59	.89	−1.60	2.84	.96	.94	.96	.49	.42
7. Truthful/Honest (vs. Untruthful/Dishonest)	.45	.71	−2.33	2.70	.93	.90	.94	.52	.24
8. Confident/Self-assured (vs. Afraid/Scared)	.58	.64	−.81	2.50	.83	.79	.92	.35	.22
9. Bold/Assertive (vs. Submissive/Unassertive)	.58	.67	−.85	2.47	.82	.88	.93	.31	.41
10. Outgoing/Sociable (vs. Bashful/Shy)	.58	.64	−.24	2.85	.91	.83	.95	.13	.40
Study 2: Scenarios from remaining HEXACO domains									
1. Industrious/Hard-working (vs. Lazy/Unproductive)	.35	.81	−2.11	2.72	.89	.94	.94	.57	.44
2. Organized/Neat (vs. Disorganized/Messy)	.19	.53	−1.90	1.89	.79	.88	.87	.41	.35
3. Careful/Cautious (vs. Impulsive/Spontaneous)	−.32	1.21	−2.89	2.28	.94	.95	.96	.63	.65
4. Dependable/Reliable (vs. Undependable/Unreliable)	.45	1.12	−2.70	2.80	.98	.95	.92	.69	.62
5. Intelligent/Smart (vs. Unintelligent/Foolish)	.24	.90	−2.22	2.39	.92	.92	.94	.59	.64
6. Kind-hearted/Caring (vs. Unfriendly/Cold)	.41	1.27	−2.67	2.80	.98	.96	.95	.64	.66
7. Truthful/Honest (vs. Untruthful/Dishonest)	.62	1.04	−2.50	2.80	.97	.95	.93	.59	.39
8. Confident/Self-assured (vs. Afraid/Scared)	.91	1.18	−2.17	2.67	.92	.97	.96	.52	.65
9. Bold/Assertive (vs. Submissive/Unassertive)	.87	1.24	−2.50	2.72	.93	.96	.96	.61	.71
10. Outgoing/Sociable (vs. Bashful/Shy)	.75	1.08	−2.28	2.72	.94	.97	.96	.65	.72

Note. α1, α2, and α3 indicate reliabilities of the first, second, and third subsets. Column α_{TD} indicates the reliability of the trait-diagnosticity estimates; *r*(*C, TD*) indicates the relationship between an action's characterization and trait-diagnosticity on the corresponding dimension. All *r*(*C, TD*) correlations are significant ($p < .05$).

similarly in the extent to which they were *kind-hearted, truthful, dependable,* and *intelligent* (all pairwise *rs* between .32 and .75). Third, actions were characterized similarly in the extent to which they were *confident, bold, and outgoing* (*rs* between .37 and .83).

Some of the ways in which these characterizations were associated can be appreciated by referring to Table S3. For instance, one scenario (16) concerned agreeing to meet a friend over the weekend despite knowing that you will have to cancel later because of other commitments. This action was simultaneously characterized as the single most *unfriendly, untruthful*, and *afraid* action in the 150 item set, and nearly the most *undependable*. Such examples illustrate that a single action was regularly characterized by several distinct terms simultaneously.

Relations between expected effect dimensions. Basic descriptive properties of the 21 expected effect dimensions are given in Table 5. Reliabilities ranged from α = .66 to .93 (M_α = .85), indicating that the ordering of the 150 scenarios was highly reliable for all dimensions.

The relations between the expected effect dimensions are shown in Table 6. To better organize the 21 effects examined, we conducted a hierarchical cluster analysis using the average (within-group) linkage clustering algorithm and correlations as the index of similarity; the analysis included both the items and their reversals to allow negatively correlated effects to be placed on the same cluster (Wood et al., 2010). This suggested that the 21 measured effects could be roughly organized in four larger clusters.

Interestingly, each of the three largest clusters seemed to indicate that within this action set, "positive" effects of an action were often positively correlated with other "negative" effects. For instance, within the first cluster (rows 1–10 in

Table 4
Relationships Between Action Characterizations (Studies 1 and 2)

	Action characterizations	1	2	3	4	5	6	7	8	9	10
1	Industrious/Hard-working (vs. Lazy/Unproductive)	—	**.78**	.12	**.55**	**.72**	.27	**.41**	**.44**	**.40**	.26
2	Organized/Neat (vs. Disorganized/Messy)	**.84**	—	.33	**.57**	**.72**	.32	**.42**	.30	.26	.18
3	Careful/Cautious (vs. Impulsive/Spontaneous)	**.70**	**.72**	—	.30	**.45**	.23	.02	**−.56**	**−.56**	**−.55**
4	Dependable/Reliable (vs. Undependable/Unreliable)	**.73**	**.63**	**.69**	—	**.66**	**.81**	**.59**	.30	.14	.32
5	Intelligent/Smart (vs. Unintelligent/Foolish)	**.77**	**.71**	**.87**	**.70**	—	**.50**	**.50**	.34	.24	.24
6	Kind-hearted/Caring (vs. Unfriendly/Cold)	.28	.17	.34	**.75**	.32	—	.34	.23	−.03	**.43**
7	Truthful/Honest (vs. Untruthful/Dishonest)	.30	.23	.37	**.54**	**.48**	.38	—	**.51**	**.51**	.36
8	Confident/Self-assured (vs. Afraid/Scared)	−.13	−.22	**−.43**	−.08	−.10	−.03	.26	—	**.87**	**.82**
9	Bold/Assertive (vs. Submissive/Unassertive)	−.11	−.19	−.34	−.15	−.04	−.21	.34	**.83**	—	**.69**
10	Outgoing/Sociable (vs. Bashful/Shy)	−.24	−.32	−.31	.09	−.11	.37	.21	**.57**	.37	—

Note. $N = 150$ scenarios in Study 1 and 149 in Study 2. All $|rs| \geq .40$ shown in bold, all $|rs| \geq .17$ are statistically significant ($ps < .05$). Correlations between action characterizations found in Study 1 are shown below diagonal, and Study 2 are above diagonal.

Tables 5–7), actions expected to better express one's desires were expected to conflict with others' preferences and increase risk of negative interpersonal consequences; and actions expected to better advance others' preferences and fulfill commitments were expected to increase effort expenditure. Within the second cluster (rows 11–14), actions expected to increase status and connection to others were expected to result in more work in the future. In the third cluster (rows 15–19), actions expected to increase environmental predictability and order were expected to result in greater effort expenditure and less exposure to social and stimulating environments.

Relations between action characterizations and expected effects. Finally, we explored the relationships between the 10 action characterizations and action expected effects; these are shown in Table 7. Below we discuss each characterization, particularly noting expected effects dimensions that correlated above $|r| = .60$ with the characterization, and additional expected effects that correlated above $|r| = .40$. Although $|rs|$ as low as .17 were statistically significant, we limited our interpretations to a threshold of .40 as this has been offered as a convention for a "moderate" to "high" association (Cohen, 1988). We felt this was an appropriate minimum association to expect for dimensions which are "necessary" elements of a characteristic's conceptual template.

Industrious/hardworking. Actions were particularly likely (i.e., $|rs| \geq .60$) to be characterized as *industrious* if they were expected to increase effort expenditure (Feature 8; Table 7), advance career goals (18), increase environmental order (15) and predictability (16). Furthermore, such characterizations tended to be associated (i.e., $|rs|$ between .40 and .59) with expected increases in social status (11), fulfillment of commitments (2), and decreases in social rejection (3) and future commitments in others (9).

Organized/neat. Actions were particularly likely to be characterized as *organized* if they were expected to increase environmental order (16), predictability (15), and effort expenditure (8). Further more, such characterizations were associated with actions expected to advance achievement goals (18), and decrease both future commitments (14) and social rejection (3).

Careful/cautious. Actions were particularly likely to be characterized as *careful* if they were expected to increase environmental predictability (15) and order (16), and decrease surprise in others (5) and sensory/physical excitement (17). Furthermore, such characterizations tended to be associated with actions expected to increase effort expenditure (8), match to others' preferences (1) and fulfillment of commitments (2), and decrease social rejection (3), attention to self (6), and harm in oneself or others (20–21).

Table 5
Descriptive Statistics for Action Expected Effects (Studies 1 and 2)

		Study 1: Consc-related traits					Study 2: Other HEXACO traits				
#	Action expected effects	*M*	*SD*	Min	Max	α	*M*	*SD*	Min	Max	α
1	Doing what other(s) would prefer you to do	.28	.78	−1.43	1.57	.91	.06	.91	−1.78	1.67	.93
2	Fulfilling your commitments to other(s)	.22	.74	−1.71	1.86	.66	.12	.52	−1.56	1.44	.84
3	Experiencing rejection, negative interpersonal consequences	−.01	.56	−1.29	1.71	.93	.28	.62	−1.00	1.56	.83
4	Someone else experiencing rejection, negative interpersonal consequences	−.04	.41	−1.29	1.29	.78	.13	.78	−1.33	1.78	.90
5	Acting in way unexpected/surprising to others	.23	.51	−1.14	1.57	.86	.33	.53	−1.00	1.89	.81
6	Drawing attention of others to yourself	.30	.43	−.57	1.71	.83	.49	.75	−1.38	2.00	.92
7	Expressing/enacting your own wants, desires, values	.33	.52	−1.14	1.71	.87	.53	.76	−1.33	1.56	.88
8	Effort expended (to perform the action)	.77	.61	−1.43	1.71	.79	.51	.72	−1.33	1.67	.88
9	Someone else having commitments, work to do in the future	−.01	.42	−1.43	1.43	.92	.06	.36	−.89	1.78	.80
10	Learn new things, acquire new knowledge/ information	.18	.31	−.71	1.43	.86	.17	.52	−1.22	1.89	.88
11	Gaining social status (e.g., rank/power/prestige/popularity)	.10	.32	−1.00	1.00	.88	.09	.52	−1.11	1.56	.85
12	Be more related/connected to other(s)	.23	.50	−1.29	1.57	.83	.20	.83	−1.67	1.67	.93
13	Being exposed to social situations	.28	.42	−1.43	1.71	.93	.33	.64	−1.67	1.78	.89
14	Having commitments, work to do in the future	.03	.57	−1.29	1.71	.90	.25	.47	−1.33	1.67	.82
15	Being in a predictable situation	−.01	.72	−1.57	1.71	.88	−.23	.62	−1.56	1.33	.84
16	Having order/structure in environment	.32	.75	−1.57	1.86	.85	−.01	.50	−1.56	1.11	.79
17	Experiencing sensory/physical stimulation/ activity/excitement	.25	.39	−.86	1.57	.82	.25	.51	−1.33	1.44	.86
18	Meeting career/academic/achievement goals	.15	.60	−1.43	1.71	.85	.06	.50	−1.78	1.67	.93
19	Providing accurate information about what you know, or truly feel/believe	.12	.30	−.86	1.43	.90	.36	.65	−1.50	1.67	.87
20	Experiencing physical harm/pain	.08	.34	−1.29	2.00	.81	.03	.27	−1.33	1.67	.89
21	Someone else experiencing physical harm/ pain	.00	.32	−1.57	1.14	.86	−.03	.17	−1.11	.44	.69

Note. Consc-related = conscientiousness-related traits. $N = 150$ scenarios in Study 1 and 149 in Study 2. Alphas (α*s*) based on 11 raters in Study 1, and 10 in Study 2.

Table 6
Relationships Between Action Expected Effects (Studies 1 and 2)

#	Action expected effect (abbrv.)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1	Do what others would prefer	—	**.77**	**−.64**	**−.82**	**−.57**	−.35	**−.59**	.26	**−.48**	.14	**.60**	**.76**	.34	.35	.14	.15	−.04	−.07	−.32	−.14	−.29
2	Fulfilling commitments	**.79**	—	**−.45**	**−.60**	−.38	−.10	−.35	**.47**	−.33	.15	**.49**	**.58**	.30	.30	.04	.14	−.02	.08	−.01	−.02	−.31
3	Being rejected	**−.65**	**−.45**	—	**.63**	**.71**	**.64**	**.58**	.13	.31	.06	−.32	**−.48**	.00	−.11	**−.49**	**−.40**	.32	.13	**.47**	.20	.17
4	Someone else being rejected	**−.82**	**−.60**	**.68**	—	**.58**	.36	**.54**	−.17	**.47**	−.12	**−.49**	**−.72**	−.27	−.35	−.17	−.11	.08	.11	.38	.09	.26
5	Surprising others	**−.58**	−.38	**.68**	**.58**	—	**.69**	**.58**	.19	.22	.00	−.28	**−.41**	.01	−.01	**−.57**	**−.50**	**.42**	.03	**.45**	.28	.19
6	Drawing attention	−.36	−.10	**.64**	**.43**	**.65**	—	**.64**	**.50**	.14	.19	.14	−.08	.39	.13	**−.56**	**−.42**	**.53**	.14	**.62**	.22	.09
7	Enacting desires/values	**−.59**	−.35	**.50**	**.42**	**.58**	**.64**	—	.23	.37	.11	−.15	−.30	.09	.00	−.34	−.19	.33	.14	**.71**	.13	.08
8	Effort expended	**.54**	**.47**	**−.50**	−.28	−.33	−.26	−.28	—	−.12	**.50**	**.50**	.37	**.50**	**.46**	**−.52**	−.30	**.50**	.28	.32	.30	−.17
9	Work others need to do in future	**−.44**	−.38	.35	.12	.10	.05	.14	**−.52**	—	−.06	−.31	−.34	−.06	−.39	−.11	.07	.07	.04	.26	.06	.12
10	Acquire knowledge/information	.17	.12	−.14	−.05	−.16	−.11	−.02	.33	−.06	—	**.40**	.26	.39	.28	−.34	−.20	.34	**.57**	.09	.04	.03
11	Gaining status	**.67**	**.49**	**−.57**	**−.42**	**−.42**	−.22	−.30	**.50**	−.31	**.40**	—	**.78**	**.70**	**.42**	−.17	−.12	.29	.08	−.07	−.07	−.15
12	Connection/relation to others	**.64**	**.47**	**−.43**	**−.63**	−.36	−.24	−.36	.26	−.15	.25	**.65**	—	**.66**	.37	−.03	−.03	.23	−.13	−.18	−.11	−.20
13	Exposure to social situations	.25	.17	.03	−.24	−.01	.15	−.08	−.03	−.01	.12	.33	**.66**	—	.39	**−.45**	**−.41**	**.61**	−.12	.08	.02	.03
14	Work to do in the future	.22	.10	−.06	−.24	−.05	.08	−.04	−.14	−.10	.02	.20	.33	.37	—	−.31	−.36	.34	.02	.03	.11	−.21
15	Being in a predictable situation	.39	.36	**−.57**	−.26	**−.60**	**−.49**	−.21	**.43**	−.18	.20	.24	−.05	−.32	−.20	—	**.80**	**−.80**	.06	−.29	−.39	−.08
16	Order/structure in environment	.15	.17	−.31	−.02	−.32	−.36	−.10	**.52**	−.27	.12	.15	−.12	−.34	**−.44**	**.80**	—	**−.73**	.21	−.10	−.29	−.21
17	Sensory stimulation/excitement	−.15	−.08	.25	.10	**.42**	.37	.23	−.11	.04	.01	.08	.23	**.45**	.25	**−.80**	**−.73**	—	−.17	.21	**.40**	.09
18	Meeting achievement goals	.14	.08	−.24	.13	−.23	−.09	.04	.38	.04	**.56**	.30	−.13	−.12	.02	.06	.21	−.16	—	.22	−.03	.02
19	Providing accurate information	.01	.23	.12	.26	−.11	.13	**.47**	.11	.27	.07	.08	−.19	.08	.03	−.29	−.10	.22	.39	—	.03	.02
20	Physical harm/pain to self	−.15	.05	.07	.08	.24	.18	−.07	−.07	.05	−.18	−.02	.07	.05	−.01	−.39	−.29	**.42**	−.09	−.17	—	−.10
21	Physical harm/pain to others	−.36	−.22	.21	.22	.32	.27	.17	−.22	.12	−.08	−.10	−.12	−.05	−.03	−.33	−.22	.35	−.03	−.05	**.56**	—

Note. $N = 150$ scenarios in Study 1 and 149 in Study 2. All $|rs| \geq .40$ shown in bold, all $|rs| \geq .17$ are statistically significant ($ps < .05$). "Action expected effects (abbrv.)" indicates that the listed action expected effects are abbreviations of the full descriptions presented to participants, as shown in Table 5. Correlations between action characterizations found in Study 1 are shown below diagonal, and Study 2 are above diagonal.

Table 7
Relationships Between Action Expected Effects and Characterizations (Studies 1 and 2)

		Indust		Organized		Careful		Depend		Intelligent		Kind		Truthful		Confid		Bold		Outgoing	
#	Action expected effect (abbrv.)	S1	S2	S1	S2	S1	S2	S1	S2	S1	S2	S1	S2	S1	S2	S1	S2	S1	S2	S1	S2
1	Do what others would prefer	39	13	28	29	**47**	30	***77***	***64***	**42**	36	***81***	***76***	38	15	−21	−01	***−39***	***−28***	25	21
2	Fulfilling commitments	**43**	31	32	37	**43**	23	***80***	***76***	**44**	**45**	**65**	**68**	**55**	35	−03	16	−11	01	18	26
3	Being rejected	**−47**	02	**−40**	−19	**−58**	**−54**	**−67**	−36	**−47**	−21	**−62**	**−47**	−16	19	**40**	**44**	**50**	**62**	07	23
4	Someone else being rejected	−09	−08	−08	−22	−27	−32	**−47**	**−55**	−21	−32	***−65***	***−76***	−15	−04	18	03	37	30	−20	−19
5	Surprising others	−38	−06	−36	−28	**−63**	**−64**	**−56**	−28	**−53**	−34	**−44**	−36	−35	11	**42**	34	**48**	**52**	10	23
6	Drawing attention	−26	17	−35	−02	**−48**	**−63**	−30	00	−30	−05	−31	−10	05	34	**61**	**64**	**64**	**77**	***28***	***60***
7	Enacting desires/values	−17	15	−12	01	−29	**−41**	−36	−13	−09	06	**−45**	−27	19	31	**43**	**47**	***61***	***69***	−02	31
8	Effort expended	**78**	**49**	**64**	32	***48***	***−31***	**69**	**49**	**51**	34	**46**	**41**	21	38	−15	**64**	−18	**60**	−03	**67**
9	Work others need to do in future	**−48**	−03	−34	−12	−16	−17	**−49**	−30	−19	−06	−39	−34	−13	−07	−04	12	05	19	−04	01
10	Acquire knowledge/information	37	**55**	20	38	26	−13	24	26	**42**	**46**	15	19	22	18	04	**43**	06	37	17	**40**
11	Gaining status	**43**	21	29	27	29	−05	**57**	**44**	**41**	34	**59**	**61**	20	08	06	32	−13	13	38	**57**
12	Connection/relation to others	01	05	−03	18	03	09	**40**	**48**	06	28	***67***	***76***	17	08	06	15	−18	−09	**62**	**48**
13	Exposure to social situations	−28	03	−30	03	−31	**−40**	−01	22	−23	06	25	**40**	03	11	25	**48**	05	35	***73***	***75***
14	Work to do in the future	−34	12	**−41**	09	−25	−18	−07	34	−24	06	20	37	−05	12	11	24	00	13	32	33
15	Being in a predictable situation	**65**	00	**68**	23	***86***	***77***	**57**	03	**75**	22	21	−01	22	−13	**−51**	**−63**	−37	**−57**	**−41**	**−57**
16	Order/structure in environment	**69**	20	***89***	***37***	**64**	**74**	**48**	18	**57**	**42**	07	09	13	03	−30	−39	−25	−35	**−40**	**−41**
17	Sensory stimulation/excitement	−36	−04	−39	−17	***−62***	***−73***	−32	−04	**−47**	−19	−17	05	−22	10	**43**	**60**	33	**54**	**43**	**65**
18	Meeting achievement goals	**72**	**73**	**54**	**55**	**56**	16	**42**	20	**72**	**54**	00	−05	27	22	−06	27	08	33	−23	08
19	Providing accurate information	33	27	32	14	27	−28	25	18	**43**	21	−01	−05	***62***	***64***	24	**49**	38	**61**	02	33
20	Physical harm/pain to self	−15	−02	−22	−12	**−44**	−30	−14	00	**−40**	−27	−04	−01	−18	00	29	19	19	23	11	13
21	Physical harm/pain to others	−18	−09	−18	−10	**−45**	−27	−37	−36	−35	−28	−39	−33	−19	−07	22	01	24	07	02	−01
	Cross-study vector correlation	***.69***		***.82***		***.86***		***.88***		***.90***		***.97***		***.61***		***.72***		***.82***		***.82***	

Note. $N = 150$ scenarios in Study 1 and 149 in Study 2. Decimals for correlations have been omitted. All $|rs| > .17$ are statistically significant ($p < .05$), and $|rs| > .40$ shown in bold. Italicized values indicate that these features were hypothesized prior to data collection as expected effects that were necessary for considering an action to have the characteristic listed at the top of the column. Expansions for the abbreviated labels are given in Tables 2 and 4.

Dependable/reliable. Actions were particularly likely to be characterized as *dependable* if they were expected to fulfill commitments (2), match others' preferences (1), expend effort (8), and decrease social rejection (3). Furthermore, such characterizations tended to be associated with actions expected to increase environmental predictability (15) and order (18), status (11), relations to others (12), and decrease surprise in others (5), work for others to do (9), and rejection felt by others (4).

Intelligent/smart. Actions were particularly likely to be characterized as *intelligent* if they were expected to increase environmental predictability (15), and the attainment of achievement goals (18). Furthermore, such characterizations tended to be associated with actions expected to increase environmental order (16), effort expenditure (8), fulfillment of commitments (2), provision of accurate information (19), matching others' preferences (1), acquisition of new knowledge (10), and status (11), and decrease surprise in others (5), social rejection (3), harm/pain (20), and sensory excitement (17).

Kind-hearted/caring. Actions were particularly likely to be characterized as *kind-hearted* if they were expected to do what others would prefer (1), increase relatedness to others (12), fulfill commitments (2), and decrease social rejection of oneself and others (3, 4). Furthermore, such characterizations tended to be associated with actions expected to increase social status (11) and effort expenditure (8), and decrease expression of one's desires (7) and surprise in others (5).

Truthful/honest. Actions were particularly likely to be characterized as *truthful* if they were expected to express information that accurately reflected one's feelings/beliefs (19). Furthermore, such characterizations tended to be associated with actions expected to fulfill commitments (2).

Confident/self-assured. Actions were particularly likely to be characterized as *confident* if they were expected to increase attention to oneself (6). Furthermore, such characterizations tended to be associated with actions expected to increase sensory/physical stimulation (17), expression of one's values or desires (7), surprise in others (5), and social rejection (3), while decreasing environmental predictability (15).

Bold/assertive. Actions were particularly likely to be characterized as *bold* if they were expected to increase attention to oneself (6) and expression of one's desires (7). Furthermore, such characterizations tended to be associated with actions expected to increase social rejection (3) and surprise in others (5).

Outgoing/sociable. Actions were particularly likely to be characterized as *outgoing* if expected to increase exposure to social situations (13) and relatedness to others (12). Furthermore, such characterizations tended to be associated with actions expected to increase experience of sensory/physical stimulation (17), and environmental predictability and order (15, 16).

Other themes regarding action characterization-expected effect relationships.

Correspondence to prestudy predictions. There was also considerable correspondence between the observed action characterization-expected effect associations and the prestudy provisional predictions shown in Table S2. In Table 7, we indicated the 14 effects ventured as potentially "necessary" to characterizing an action by a particular term by italicizing these cells. In all cases the predicted association was significant in the expected direction (all $|rs| \geq .28$); and in 11 of the 14 cases, the strength of the association exceeded $|r| = .60$.

"Mixed" templates. An interesting finding that can be seen in Table 7 is that most action characterizations were associated with a blend of positive and negative expected effects. For instance, actions tended to be characterized by communal terms (e.g., *dependable, kind*) if expected to match others' preferences (1), but also if expected to increase effort expenditure (8) and decrease expression of one's desires (7). Similarly, actions tended to be characterized by agentic terms (e.g., *bold*, *confident*) if expected to increase expression of one's desires (7), but also if expected to increase the likelihood of physical harm (20) and social rejection (3).

Study 2: Replication in a Broader Set of Stimuli

In Study 1, we found that an action's characterizations could be very strongly predicted by how the action was expected to alter the situation. Additionally, the expected effect dimensions that were associated with action characterizations tended to show strong correspondence with provisional prestudy hypotheses. We also found that action characterizations tended to be highly diagnostic of analogous trait perceptions at the person level.

There were nonetheless important limitations of the first study. Perhaps the most important was that the set of actions were selected entirely from actions nominated as conscientiousness-related behaviors. The consequences of this were visible in various ways. As shown in Table 3, the four conscientiousness-related characterizations showed greater levels of variability across the scenarios, higher reliabilities, and greater trait diagnosticities than the remaining six characterizations. This may have influenced other features of Study 1, such as the covariation of action expected effect dimensions, and relations between an action's expected effects and characterizations. Consequently, it is thus possible that these relationships could change substantially with a sampling of scenarios drawn from a wider range of traits.

The principle aim of Study 2 was to expand the sampling of scenarios to a more diverse set of traits. To make the set as distinct as possible from Study 1, we adapted illustrative actions for all HEXACO dimensions *except* conscientiousness. These were taken from the preliminary study described earlier. We then replicated most of the analyses conducted in Study 1.

We anticipated that many expected effect dimensions which were highly associated with action characterizations in Study 1 were not necessary components of the characterization's conceptual template, but rather were associated due to covarying with these components within the Study 1 action set. For instance, actions which increased expected rejection tended to be characterized as less *industrious* ($r = -.47$); however, this may have been because these actions tended to decrease effort expenditure ($r = -.50$), and thus could have covaried with *industrious* characterizations due to covarying with this more necessary feature. An advantage of using a new action set—particularly one constructed from a different population of stimuli—is that features which are not necessary components of a term's conceptual template might be revealed as correlations which fail to replicate in Study 2. In contrast, expected effect dimensions which are truly necessary components of the conceptual template should remain highly correlated with action characterizations across sets. Consequently, the

use of a distinct scenario set should help clarify the nature of the conceptual templates associated with important action characterizations.

Method

Generation of action set. Items were created from the same set of scenarios generated in the preliminary study, but this time using scenarios generated for the 15 bipolar nonconscientiousness-related trait pairs listed in Table S1. Scenarios were adapted in the same manner as Study 1, with the exception that all scenarios came from the WFU sample and were adapted by research assistants at WFU. The first and third author again finalized items after this first round of adaptation by research assistants. Five scenarios were selected for each end of the 15 bipolar dimensions. The resulting 150 scenarios are listed in Table S3 (scenarios 151–300). Due to an error at the data collection phase, all ratings for one scenario (266) were not collected, resulting in 149 scenarios available for analyses.

Action properties.

Action characterizations. A total of 60 WFU undergraduates (75% female; M_{age} = 18.8) characterized the actions, again rating only one subset of 50 actions; due to a missing item, the third subset consisted of 49 scenarios. Instructions and rating scales were the same as in Study 1. Participants were excluded using the same criteria as in Study 1, resulting in two exclusions: zero from the first subset, one from the second, and one from the third. This resulted in a final sample 20, 20, and 18 participants rating the first, second, and third subsets, respectively.

Trait diagnosticities. A total of 258 WFU undergraduates (58% female; M_{age} = 18.8) rated their likelihood of performing the 150 actions as in Study 1. We excluded 41 participants using the same criteria as Study 1, yielding a final sample of 217 participants.

Participants completed the IIDL, and seven additional items which consisted of any pole of the 10 bipolar action characterizations dimensions which were not included in the IIDL, as shown in Table 3. This allowed us to compute trait diagnosticities that more directly paralleled the action characterization items than was possible in Study 1.

Expected effects. A total of 10 research assistants rated each action's expected effects on the same 21 dimensions, using the same instructions and scales as in Study 1.

Results and Discussion

Reliabilities and variabilities of action properties. As expected, the use of nonconscientiousness scenarios resulted in less variability in the extent to which actions were characterized by conscientiousness-related terms (*industrious, organized, careful, dependable*) than found in Study 1, and more variability in the extent to which the actions were characterized by almost all other terms (*kindhearted, truthful, confident, bold, outgoing*; Table 3). There was a particularly truncated range in the extent to which actions were characterized as *organized* (*SD* = .52; all others between .80 and 1.27). The ordering of action characterizations was highly reliable for all dimensions (all αs $\geq$ .79).

Relations between action characterizations and trait-diagnosticities. As shown in Table 3, reliabilities of trait-diagnosticities ranged from .41 for *organization* to .69 for *dependability*. Further more, actions characterized by certain trait terms again tended to be more diagnostic of individual differences in self-reported levels of these terms. Associations between corresponding action characterizations and trait-diagnosticities were invariably positive and at least moderate in magnitude, ranging from r = .35 for actions characterized as *organized* and .72 for actions characterized as *sociable*. Associations were much larger for nonconscientiousness related characterizations in Study 2 than Study 1 (M_r = .62 vs. .33), whereas they were somewhat smaller for conscientiousness-related characterizations (M_r = .52 vs. .68).

These findings thus replicate Study 1 in showing that actions characterized by a particular term are typically more diagnostic of individual differences in the corresponding trait.

Relations between action properties.

Relations among action characterizations. The relations among the 10 action characterizations largely paralleled those observed in Study 1. The correlation between the action characterization correlation matrices observed in Studies 1 and 2 (the top-right and bottom-left halves of Table 4) was .70, indicating that the pattern of associations was fairly stationary. However, there were some sizable shifts. For instance, actions that were characterized as *careful* were substantially less likely to be characterized as *industrious*, *organized, dependable*, and *intelligent* and *truthful* in Study 2 than in Study 1 (Δrs −.34 to −.58). Similarly, actions that were characterized as *confident*, *bold*, and *outgoing* were substantially more likely to be characterized as *industrious*, *organized*, *dependable*, and *intelligent* in Study 2 than in Study 1 (Δrs +.23 to +.57).

Relations among action expected effects. The relations among the 21 expected effects dimensions also largely paralleled those observed in Study 1. The correlation between the correlation matrices observed in Studies 1 and 2 (the top-right and bottom-left halves of Table 6) was .81, indicating that the pattern of associations was fairly stationary. However there some sizable shifts. Interestingly, only 26 of the 210 pairs of correlations differed by $|\Delta r| > .30$ across the two studies, but 11 of these involved effort expenditure (Feature 8 in Table 6). Expected effort expenditure was much more positively associated with expectations of rejection, surprising others, drawing attention to oneself, expressing one's desires, being exposed to social situations, having commitments, and experiencing excitement in Study 2 (all $\Delta rs \geq +.51$) and much less positively associated with expected environmental predictability and order (all $\Delta rs \leq -.82$).

Consistent relations between action expected effects and characterizations across studies. As shown at the bottom of Table 7, the consistency in how the 10 action characterizations were associated with the 21 expected effect dimensions across studies, estimated by column-vector correlations, ranged from high to near unity (*rs* between .61 and .97, M_r = .81). However, as expected, there were nonetheless many differences in action characterization-expected effect associations across studies. We continue by reporting only characterization-expected effect associations which were above a $|r|$ = .40 magnitude in both studies, as these are the most likely to be *necessary* components of the characterization's conceptual template. We report these in decreasing order of magnitude averaged across studies.

Industrious/hardworking. Actions expected to meet achievement goals (18 in Table 7) and expend effort (8) were substantially more likely to be characterized as *industrious* across studies.

In contrast, whereas an action's expected effects on increasing environmental order (16) and predictability (15), status (11), and commitment fulfillment (2), and on decreasing rejection (3) and work for others (9) were associated with *industrious* action characterizations above the $|r| = .40$ threshold in Study 1, they were not in Study 2. This suggests that these effect dimensions were less important or necessary elements of the conceptual template for *industrious* action characterizations than suggested in Study 1.

Organized/neat. In both studies, actions expected to advance achievement goals (18) were substantially more likely to be characterized as *organized* in both studies. No other effects were consistently associated above a .40 magnitude, likely in part due to the restriction of range in *organized* actions in this set (see Table 3).

Careful/cautious. Actions expected to increase the environment's predictability (15) and order (16), and to decrease sensory pleasure (17), surprise in others (5), rejection (3), and attention to oneself (6) were substantially more likely to be characterized as *careful* in both studies.

Dependable/reliable. Actions expected to increase fulfillment of obligations (2) and of others' preferences (1), effort expenditure (8), social status (11), and relatedness to others (12), and to decrease rejection of others (4) were substantially more likely to be characterized as *dependable* in both studies.

Intelligent/smart. Actions expected to increase attainment of achievement goals (18), environmental order (16), fulfillment of commitments (2), and knowledge acquisition (10) were substantially more likely to be characterized as *intelligent* in both studies.

Kind-hearted/caring. Actions expected to increase fulfillment of others' preferences (1), relatedness to others (12), fulfillment of commitments (2), social status (11), and effort expenditure (8), and to decrease the likelihood of someone else or oneself experiencing rejection (4 and 3) were substantially more likely to be characterized as *kind-hearted* in both studies.

Truthful/honest. Only the expected effect of having provided accurate information about one's knowledge, beliefs, or feelings (11) was consistently highly associated with *truthful* characterizations across both studies.

Confident/self-assured. Actions expected to increase attention to oneself (6), sensory excitement (17), expression of one's desires (7), and social rejection (3), and to decrease environmental predictability (15) were substantially more likely to be characterized as *confident* in both studies.

Bold/assertive. Actions expected to increase expression of one's desires (7), attention to oneself (6), social rejection (3), expression of one's beliefs or feelings (3), and surprise in others (5) were substantially more likely to be characterized as *bold* in both studies.

Outgoing/sociable. Actions expected to increase exposure to social situations (13), relatedness to others (55), sensory excitement (17), and to decrease environmental predictability (15) and order (16) were substantially more likely to be characterized as *outgoing* in both studies.

Summary

To the extent that there was heterogeneity in the associations between an action's expected effects and its characterizations across studies, the results seemed consistent with the prediction that expected effects dimensions that were necessary for characterizing an action by a particular term stayed highly associated in both studies. For instance, *industrious* characterizations showed a fair level of heterogeneity in how they were associated with expected effect dimensions across studies—with five of the 21 expected effects differing by more than $|\Delta r| = .40$ in magnitude—but the two expected effect dimensions most highly associated with *industrious* characterizations in Study 1 (8: effort expenditure, and #18: meeting career goals) remained the two most high associated dimensions in Study 2. Additionally, nine of the 13 effects provisionally hypothesized as "necessary" components of a characterization's conceptual template were associated above a $|r| = .60$ magnitude in the expected direction in both studies.

General Discussion

This work was initiated to address a limitation with trait models that regard personality descriptors as summaries or expected likelihoods of certain actions (e.g., Buss & Craik, 1983; Fleeson & Gallagher, 2009; Wiggins, 1997). Specifically, if individuals' trait levels are formed by their expected rate of trait-identifying actions, what makes an action trait-identifying? Results from two studies indicate that we can very effectively predict how an action will be characterized from its expected effects. Furthermore, relationships between action characterizations and expected effects were highly consistent across studies and corresponded with prespecified predictions. This supports the view that action characterizations are applied when an action's expected effects fit relatively invariant conceptual templates. These findings advance the broader goal of determining how personality-relevant action concepts can be formally represented by high-level abstract features (Heider, 1958; Holmes, 2004; Kelley, 1997).

Limitations and Future Directions

Refining the templates. The expected effect dimensions that were consistently related to action characterizations across studies, as shown in Table 7, provide good first approximations of the characterizations' conceptual templates. As an interesting example, *cooperative* actions have previously been described in game theoretical and economic frameworks as actions which are expected to benefit others but come at costs to the actor (Nowak, 2006). Although specifically *cooperative* action characterizations were not examined here, it is instructive that in both studies *dependable* and *kind* characterizations were more highly ascribed to actions likely to do what others prefer (Feature #1 in Table 6) and to expend effort (Feature #8). The similarity between the empirically identified templates for these concepts and the working definitions of similar concepts in game theoretical frameworks bolsters our confidence that "revealed preference" methodologies (Hitsch et al., 2010; Samuelson, 1948) can be applied to illuminate the nature of concepts. Nevertheless, these should be regarded as "drafts" which can be improved by various routes. We consider some of these below.

Inclusion of additional effect dimensions. First, we limited our analysis to 21 expected effect dimensions on the basis of practical considerations. As a result, some dimensions that may be fairly central to the characterizations examined in the current study were likely not included, or included only indirectly. For instance,

"provided a high quality solution to a problem" is a somewhat distinct effect dimension from "advanced achievement goals" (and likely is often *why* this latter effect occurs), and this may be particularly important to *intelligent* action characterizations. Certainly, as more action characterizations are explored (e.g., *controlling, stingy, humble*), additional effect dimensions will need to be added.

The list of important effect dimensions for characterizing actions might be expanded by considering unique features found within major situational frameworks (Kelley et al., 2003; Rauthmann et al., 2014; Sherman, Nave, & Funder, 2010), or within values and motivational frameworks (Murray, 1938; Schwartz, 1992). A small sampling of features that play an important role in other frameworks include the presence of sexual opportunities (Kenrick, Griskevicius, Neuberg, & Schaller, 2010; Rauthmann et al., 2014), distinctions between the effects of one's actions on in-group members, out-group members, and strangers (Bugental, 2000; Reis, 2008), and distinctions between the effects of one's actions in the short-term and in the long-run (e.g., doing a chore could take more effort now but save more effort later).

Breaking the empirically estimated templates. As noted previously, the empirically estimated templates which serve as the central results of the study are likely to contain some elements that are *necessary* to characterizing an action by a given term, and others that are merely *associated* due to covarying with these elements. As one example, actions that had the expected effect of "gaining status" tended to be characterized as *kind* in both Studies 1 and 2 ($rs = .59$ and .60, respectively). However, we imagine that this is not what makes an action *kind*. Rather, it is likely associated (as any good elected politician knows) because social status is frequently afforded to individuals who advance the interests of others (i.e., who do *kind* actions). To explore whether particular features are necessary components of a conceptual template, future research may subject such features to a "stress test" of sorts: seeing whether perceivers continue to characterize actions expected to have particular effects by the term even as other potentially necessary effects are expected to decrease.

Beyond expected effects. Although we have argued that an action's expected effects are central to its characterizations, other action properties likely serve important roles. Two may be of particular interest to explore in future research.

First, numerous characterizations may hinge on an action's *actual* effects, regardless of whether the effects were expected or not. For instance, we might regard George Kirk's actions as *helpful* and *intelligent* before knowing their results, but then discount these characterizations if they ultimately failed to save anyone. This could be explored empirically by seeing how action characterizations change before and after specifying the ultimate outcomes of an action, which was not done in these scenarios.

Second, it seems likely that actions are characterized to a considerable degree by their *intended* effects (Malle, 1999; Read, Druian, & Miller, 1989). For instance, two individuals may perform nominally the same action in the same situation, but with different motivations. Perhaps the first helped someone in order to make the person happy, whereas the second did so in order to curry favor or foster a positive reputation. It is easy to imagine that the second action might be less likely characterized as *caring* and more likely characterized as *calculating* or *manipulative*. This can be explored by specifying the effects that actors were striving to attain by their actions.

Deepening connections to decision-making models. As noted earlier, a signature of expected effects is that a given action can increase the likelihood of *both* increasing and decreasing on a single dimension (e.g., wealth, interpersonal relations). Our raters sensibly coded actions as having these sorts of expected effects. For instance, our raters coded the actions of running for Student Government President (Action #247), asking a friend out for a date (210), and sharing an embarrassing story with a new friend (142) as simultaneously increasing the expected likelihood of *experiencing rejection* and of *being connected to others* (Features #3 and #12; see Table S3). As shown in Table S1, these three actions were also described as moderately to highly *confident* and *bold* by our participants. We believe these expected effects may be singularly important for understanding these characterizations: The fact that rejection *could* occur by doing these actions was likely an important reason perceivers characterized them as *confident* and *bold*.

It is nonetheless useful to recall the large number of steps that must be taken to formally estimate an action's expected effects, as done with the example of George Kirk in Table 2. To do this, we must (a) make reasonable representations of the actions the actor has available; (b) make reasonable representations of the possible outcome situations that might result from these actions, and of their probabilities; (c) represent levels of more specific features of these outcome situations; (d) use these values to calculate an action's "expected outcomes;" and (e) take the difference between the action's expected outcomes and some counterfactual action. Although the process we have described has strong parallels to major frameworks for representing decision-making (e.g., Almlund et al., 2011; Gintis, 2009; Krantz & Kunreuther, 2007), perceivers almost certainly simplify this more complete chain of steps to characterize most actions. Connecting this framework to others which more centrally emphasize the costs and constraints on information processing (Anderson, 1990; Kahneman, 2011; Todd & Gigerenzer, 2012), would help to better understand how perceivers do this. For instance, perceivers could compare the expected outcomes of an action with the initial situation that existed before the action was perceived (rather than generate a set of counterfactual actions) to quickly estimate an action's expected effects. Even more simply, perceivers may characterize actions simply by detecting a small number of specific cues in the environment if these cues have been reliably associated with certain situational effects in the past (Luan, Schooler, & Gigerenzer, 2011).

Relatedly, action characterizations should depend critically on the counterfactual actions that perceiver compare with the performed action, as these are critical for determining an action's effects (Equation 2). In both studies, raters were instructed to evaluate an action's "expected effects" by considering how it would change the situation relative to the alternative action suggested within the item. However, in more natural settings, perceivers presumably must spontaneously generate counterfactuals themselves—which should have large implications for action characterizations. Returning to our ongoing example of George Kirk, it appeared that his son James T. Kirk had less positive characterizations of his father's actions as interim captain of the *Kelvin* than those held by others. This may have stemmed from his general belief that there is no such thing as a "no-win situation," and that therefore there must have been alternative actions that

George could have performed which would have both saved more people and himself. Future studies could thus more explicitly examine the counterfactuals that individuals spontaneously generate to determine how an action should be characterized.

Generalization to other populations of perceivers and actors. Finally, we have argued that the conceptual templates associated with action characterizations should be highly static regardless of whether we are considering the actions of people from different age groups (e.g., adolescents vs. adults), historical time periods (e.g., students in 2014 vs. 1960), or cultures and geographic locations (e.g., U.S. vs. Peru; Brooklyn, NY vs. Sioux City, IA). We should even expect that individuals are communicating similar abstract meaning through the use of action concepts regardless of whether they are characterizing actions performed by human or nonhuman agents (e.g., dogs, fishes, machines, governments). Indeed, perceivers will reliably describe the movements of simple geometric shapes such as triangles as *aggressive* when animated in particular ways (Heider & Simmel, 1944). However, the scenarios we have examined have consisted of actions nominated by college students. Future studies could explore the generality of the relationships between action effects and characterizations observed here in much more diverse populations of actors and actions to more critically examine this assumption.

Such studies would be useful for understanding why certain personality traits have been hard for observers to reliably judge in certain actors or systems. For instance, traits in the domain of conscientiousness (e.g., *dependable*) have been difficult to code reliably in dogs and most other animal species (Gosling & John, 1999). However, understanding the expected effect dimension of "fulfilling commitments" as central to *dependable* characterizations suggests this might arise from departures in how judges regard animals as having commitments to fulfill. It may be appropriate to say that certain actors simply cannot meaningfully be regarded as performing actions which match certain conceptual templates.

Additionally, future research may examine how conceptual templates vary across different perceivers. For instance, some group-level differences in personality traits are likely to be due in part to how the same actions are characterized by perceivers rather than due to differences in actual behavioral tendencies. For instance, perceivers from different ages, genders, or cultural groups may differ in what they regard as constituting a *kind* or *assertive* action. More generally, there are certainly individual differences in the action effects perceivers use to characterize actions by particular terms, which concerns the issue of *cue utilization* in person perception (Brunswik, 1956). Better understanding such differences should help to understand discrepancies between self- and peer-ratings of personality traits, or between observer judgments more generally.

Broader Implications

Although we have primarily framed the present framework as filling a gap in formative trait models such as the AFA, DDA, and PRISM frameworks, there are a number of fairly natural connections to other important areas in psychology.

Connections to Other Frameworks for Describing Behavior

There are several ways in which this study may contribute to other prominent approaches to the study of behavior. First, a number of approaches to the characterization of behavior are at highly "molecular" levels of analysis—which might involve counting an actor's use of specific types of words, such as profanities or first-person pronouns (Tausczik & Pennebaker, 2010), use of particular facial muscles (Ekman & Rosenberg, 1997; Scherer & Ellgring, 2007), or the number of times a participant sighs or makes eye contact (Argyle & Dean, 1965; Kahlbaugh & Haviland, 1994). A regularly noted limitation of such approaches is that the meaning of the behavior can be lost at such molecular levels of analysis—and particularly when aggregating many different instantiations of behavior together (Furr, 2009b; Sherman, Nave, & Funder, 2009; Tausczik & Pennebaker, 2010). Perhaps reflecting this limitation, correlations between rates of molecular behaviors with broader trait measures are often low to moderate (Kern et al., 2013; Mehl, Gosling, & Pennebaker, 2006), and may tend to be lower than correlations between trait measures and more "molar" behavioral codings (e.g., whether a person has uttered a specific profanity vs. an "insult;" Sherman et al., 2009).

The current framework should shed light on such issues. Analogous to how judges rated specific action scenarios in both studies, we can code a molecular behavior along relevant expected effect dimensions, which should allow us to predict why certain behaviors correlate more strongly with personality traits than others. For instance, the negative correlations found between profanity use and measures of agreeableness or conscientiousness (Kern et al., 2013; Mehl et al., 2006) could be anticipated by the fact that profanity use tends to have effects which fit the conceptual templates of *unkind* or *undependable* actions (e.g., cause others to feel irritated or rejected, roughly Features #1 and 4 in Tables 5–7).

We can also burrow deeper to code specific *instances* of a molecular behavior for their expected effects, as was done with the action scenarios in the present study. This may help to more formally understand why relationships between rates of molecular behaviors and more general traits are not higher by showing that specific instances of a molecular behavior have different expected effects, and thus have different meanings. Coding each instance of a behavior by its expected effects in a situation should allow us to establish why not all instances of a behavior are equally diagnostic of a trait like *kindness*. More molar characterizations of an individual's behavior—for example, counts of a person's number of *insults* versus counts of usage of more specific profanities—may have greater correlations with trait measures because they capture more of a behavior's meaning in this way (Sherman et al., 2009). For instance, raters probably will not code an individual's utterance of a profanity after stubbing a toe in private as an "insult" because it is unlikely to cause others to feel more rejected.

More generally, current approaches to coding an individual's actions for the most part involve coding them along highly molecular levels, or along more abstract characterizations (e.g., "S/he acted assertively;" Fleeson, 2001; Funder, Furr, & Colvin, 2000; Furr, 2009a). However, the current framework suggests that it may be useful and important to code an individual's actions for their expected effects as well. This is because, as our results suggest, an action's expected effects likely have a central role in determining whether abstract characterizations can be validly applied to actions in the first place.

Implications for psychometric theory and test development. Psychometricians have long wrestled with the issue of how to define a *behavior domain* (or the *universe of admissible measure-*

ments; Cronbach, Gleser, Nanda, & Rajaratnam, 1972; McDonald, 2003). When applied to behavioral traits, this essentially concerns the same issue examined here: If we want to develop a test of *assertiveness*, what is the universe of possible items that represent *assertiveness*? As noted by McDonald (2003), psychometricians have largely adopted statistical techniques to establish the relevance of items to a trait—such as seeing which item correlates best with a criterion or with other items in the set—but there is an important sense in which these questions concern semantic or logical considerations rather than purely statistical ones.

The model delineated here suggests a solution to this question: A behavioral concept's domain can be understood as those behaviors which fit a specified template of expected effects. Formally represented conceptual templates of the sort that we have identified here could have a range of useful psychometric applications. Operationally defining a characteristic in this manner may allow us to "fix" or "anchor" the meaning of a concept, which can be used to help generate items. Test developers may compare generated items with a trait's conceptual templates to ensure that variation in item endorsement corresponds to the necessary pattern of expected effects.

Identifying behavioral domains with conceptual templates also provides an alternative perspective on why traits such as *dependability* and *kindness* covary. Rather than covarying due to sharing common causes (Cattell, 1950; McCrae & Costa, 2008; Wood et al., in press), many traits should covary in large part due to having overlapping conceptual templates. That is, some of the effects that identify an action as an instance of one trait may simultaneously identify it as an instance of the other. This would be consistent with an understanding of correlated trait terms such as *bold* and *confident* as representing nuances in meaning (McCrae, 2014; Wiggins, 2003), and of broad trait dimensions such as the Big Five and HEXACO dimensions as representing summaries of action tendencies with particularly important effects an actor has on their social environments rather than approximations of particularly important sources of the actor's own behavior (Buss, 2011; Goldberg, 1981; Wood, in press).

Implications for the Identification of Important Features of Situations

As we have regarded action characterizations as principally describing patterns of an action's expected effects on the situation, better specifying conceptual templates should simultaneously help to identify important situational features. This understanding parallels an understanding within interdependence theory, where theorists have noted that formal representations action and situation concepts should help to understand the links between persons, situations, and behavior (Holmes, 2004; Kelley, 1997). Many of the situational features identified here as potentially necessary to specify conceptual templates extend beyond those most commonly found in interdependence and game theoretical frameworks, which typically consist of overall utility values for the individuals involved in the situation (Gintis, 2009; Kelley et al., 2003). Our analyses suggest that many of the situational features that underlie important action characterizations involve more specific costs and benefits (e.g., "effort expenditure" and "achievement goals" for *industrious* actions) and other features of more ambiguous positivity (e.g., "exposure to social situations" for *outgoing* actions).

More generally, the current framework should supplement the wide range of approaches to the identification of important aspects of situations. Many investigators have attempted to identify important situational features as those which characterize naturalistically occurring situations (e.g., "What were you doing at [a particular time] yesterday?;" Pervin, 1976; Rauthmann et al., 2014). This framework ultimately more closely resembles approaches which have focused on identifying features of trait-relevant situations, but differs in an interesting respect. Most previous approaches in this family have focused on identifying situational features which *elicit* trait-relevant actions (Saucier, Bel-Bahar, & Fernandez, 2007; Ten Berge & De Raad, 2001). The current framework represents an inversion of this usual approach: We may be able to identify many important situational features as those that are necessary to *identify* an action as trait-relevant by being predictable *outcomes* of such actions.[4]

Formally representing the impact of situational features on trait-related actions. As noted by Hölldobler and Wilson (2009), "concepts, when skeletonized, lend themselves to mathematical modeling, and they can be of significant heuristic value and explanatory power" (p. 309; Hofstadter & Sander, 2013). Nowhere is this idea illustrated more dramatically than the expansive game theoretical literature on cooperation. As noted earlier, a *cooperative* action can be formally defined by a simple conceptual template of an action expected to cost the actor while benefitting someone else (Nowak, 2006). However, from this simple template theorists have mathematically derived a wide number of formal predictions of when cooperative actions should be observed, and strategies for the facilitation of such actions (Axelrod & Hamilton, 1981; Bowles & Gintis, 2011; Fehr & Gächter, 2002; Gächter, Renner, & Sefton, 2008; Nowak, 2006; Nowak, Tarnita, & Wilson, 2010). Correctly specifying the conceptual templates for other important action characteristics should allow us to extend these techniques to other trait domains.

This should help understand a range of interesting phenomena in personality psychology, such as why individuals have low levels of behavioral traits they might describe as desirable (e.g., *dependability, confidence*). One way to understand this is that individuals might *ideally* prefer their actions to have trait-identifying effects, but *in practice* these trait-identifying effects are often negatively associated with other valued outcomes. For instance, most people would ideally prefer to express their desires and values through their actions (Feature 7 in Tables 5–7) which would in turn help identify their actions as *confident* or *bold*. However, for many people such actions could particularly increase their risk of rejection (Feature 3), require an inordinate expenditure of time and energy (Feature 8), or come at other costs.

More generally, it is the pattern of interdependence existing between the diverse effects of one's available actions which may be central to defining situations and understanding their influence on behavior (Halevy, Chou, & Murnighan, 2012; Kelley et al.,

[4] This difference may be particularly well-illustrated by a comparison with Ten Berge and De Raad (2001). Both studies begin by asking participants to suggest situation-action scenarios that illustrate different trait concepts (generically: "I was in Situation X, *I did Action Y*"). However, whereas Ten Berge and De Raad identified situation features that regularly elicited trait-related actions, this study identified situation features that were regularly affected by such actions.

2003; Reis & Holmes, 2012). Understanding (a) how we can identify action concepts as subsets of these expected effects and (b) how these effects covary with other outcomes the actor values in particular situations should allow us to formally represent how environmental features impact traits in the way that they do. For instance: The declines in violence over historical time seem to be partly due to the effects of strong governments on increasing the negative correlation between "harming others" (Feature 21) and a range of self-benefitting outcomes (e.g., Features 11, and 18; Pinker, 2011). Entrance into adulthood may tend to increase *dependable* behaviors by increasing the extent to which "completing commitments" is associated with "connection with others" versus "social rejection" (Features 2, 3, and 12; Wood, Gosling, & Potter, 2007). And regional prevalence of infection diseases is likely negatively associated with trait extraversion because such diseases increase the correlation between "interacting with others" and "physical harm" (Features 12 and 21; Schaller & Murray, 2008). Numerous other examples can be given.

Conclusion

In psychology, the characterization of specific actions by terms such as *assertive, polite,* and *honest* has regularly followed from perceiver judgments of prototypicality, or the direct translation of a specific action into such terms by one or more perceivers (Buss & Craik, 1983; Fleeson, 2001; Wood & Roberts, 2006). However, both methods leave unanswered questions regarding the specific processes by which perceivers reach these judgments. We have argued that perceivers apply such characterizations to an action when their expected effects match relatively invariant conceptual templates. In a fundamental way, these conceptual templates can be understood as *definitions* of important action concepts (Holmes, 2004; Kelley, 1997).

Our goal was to better articulate the conceptual templates associated with socially important action characterizations. We found that how perceivers characterize an action can be very highly predicted by its expected effects, in ways that were both highly sensible and highly consistent across two distinct sets of action scenarios. Although future work will undoubtedly refine these conceptual templates, this represents an important step in delineating the elements necessary to formalize important trait and action concepts, and detailing how they can be empirically identified. Apart from the most direct applications to the formalization of action and person concepts, further improvements in the specification of conceptual templates hold deep promise to improve our understanding of how personality traits relate to behavior and situations.

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(*Appendix follows*)

Appendix

Self-Rated Items Used to Estimate Trait-Diagnosticities in Study 1

Action characterization	Trait self-descriptions
1. Industrious/Hard-working vs. Lazy/Unproductive	*M*(hardworking/productive, Industriousness)
2. Organized/Neat vs. Disorganized/Messy	*M*(Organized, -disorganized/messy)
3. Careful/Cautious vs. Impulsive/Spontaneous	*M*(Careful, -impulsive)
4. Dependable/Reliable vs. Undependable/Unreliable	*M*(Dependable/reliable, -undependable/unreliable)
5. Intelligent/Smart vs. Unintelligent/Foolish	Smart/intelligent
6. Kind-hearted/Caring vs. Unfriendly/Cold	*M*(Kindhearted/caring, -unfriendly/cold)
7. Truthful/Honest vs. Untruthful/Dishonest	Truthful/honest
8. Confident/Self-assured vs. Afraid/Scared	*M*(Competent/capable, -afraid/scared)
9. Bold/Assertive vs. Submissive/Unassertive	*M*(Assertive/bold, brave/adventurous)
10. Outgoing/Sociable vs. Bashful/Shy	Sociable/outgoing

Note. *M*(X,Y) indicate that diagnosticities of two items (X and Y) were averaged; -Y indicates that the trait diagnosticity for item Y was reversed.

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