# PERSONALITY PROCESSES AND INDIVIDUAL DIFFERENCES

# The Situational Eight DIAMONDS: A Taxonomy of Major Dimensions of Situation Characteristics

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Taxonomies of person characteristics are well developed, whereas taxonomies of psychologically important situation characteristics are underdeveloped. A working model of situation perception implies the existence of taxonomizable dimensions of psychologically meaningful, important, and consequential situation characteristics tied to situation cues, goal affordances, and behavior. Such dimensions are developed and demonstrated in a multi-method set of 6 studies. First, the "Situational Eight DIAMONDS" dimensions Duty, Intellect, Adversity, Mating, pOsitivity, Negativity, Deception, and Sociality (Study 1) are established from the Riverside Situational Q-Sort (Sherman, Nave, & Funder, 2010, 2012, 2013; Wagerman & Funder, 2009). Second, their rater agreement (Study 2) and associations with situation cues and goal/trait affordances (Studies 3 and 4) are examined. Finally, the usefulness of these dimensions is demonstrated by examining their predictive power of behavior (Study 5), particularly vis-à-vis measures of personality and situations (Study 6). Together, we provide extensive and compelling evidence that the DIAMONDS taxonomy is useful for organizing major dimensions of situation characteristics. We discuss the DIAMONDS taxonomy in the context of previous taxonomic approaches and sketch future research directions.

Keywords: situations, situation characteristics, situational taxonomy, Riverside Situational Q-Sort (RSQ), Situational Eight DIAMONDS

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At the very least, a taxonomy of situations would identify the more common situations and describe their major features, thereby providing a scheme for investigating their causal characteristics and typical behavioral sequelae, as well as for conceptually integrating diverse phenomena. (Reis, 2008, p. 315)

Which characteristics of situations are psychologically important? Can these characteristics be organized into major dimensions? Psychological research has paid surprisingly little attention to these questions. Instead, research has traditionally focused on the psychologically important characteristics of persons, with the result of several widely accepted taxonomies (e.g., Big Five: Goldberg, 1990; John & Srivastava, 1999; Big Six: Lee & Ashton, 2004; Big Seven: Tellegen & Waller, 1987). By comparison, the characterization of situations has been sparsely studied and not unified—a state of affairs that has been widely lamented (e.g., Argyle, Furnham, & Graham, 1981; Edwards & Templeton, 2005; Endler, 1993; Frederiksen, 1972; Furr & Funder, 2004; Hogan, Harkness, & Lubinski, 2000; Kenny, Mohr, & Levesque, 2001; Magnusson, 1981b; Rauthmann, 2012; Reis, 2008; Rozin, 2001; Swann & Seyle, 2005; Saucier, Bel-Bahar, & Fernandez, 2007; Sherman, Nave, & Funder, 2010, 2012, 2013; Ten Berge & de Raad, 1999, 2001, 2002; Wagerman & Funder, 2009; Yang, Read, & Miller, 2006, 2009). These researchers and others agree that a synthesized psychology of situations is needed to complement, enrich, and spur forward the relatively advanced psychology of personality so that persons thinking, feeling, and acting in situ can be studied (Benet-Martínez et al., in press; Funder, 2001, 2006, 2007, 2008, 2009).

Situation research faces three key issues: definition, taxonomization, and measurement. Hogan (2009) concluded that "the conceptual status of "situations" is a mess, . . . there is little agreement about how to define situations, there is no widely accepted taxonomy of situations, and [we] have no idea how to measure them in a standardized manner" (p. 249). The present work tackles these three issues by offering a perspective that defines situations in terms of specific characteristics, proposes a taxonomy of psychologically meaningful dimensions of situation characteristics, and provides a psychometric tool for measuring these dimensions.

# The Psychology of Situations

Personality research has traditionally focused on the manifestation of individual differences in behavior, whereas social psychological research has focused on how experimentally manipulated stimuli evoke responses averaged across individuals. Thus, in effect, personality psychology sought to explain behavior by personality, and social psychology by situations (Funder, 2001; Funder & Ozer, 1983; Ross & Nisbett, 1991; Reis, 2008). These contrasting perspectives led to the "person-situation debate" (Fleeson & Noftle, 2008a; Kenrick & Funder, 1988; Mischel, 1968, 2009; Bem, 1983; Bem & Funder, 1978). Today, this debate is largely over (Fleeson & Noftle, 2008a; Mischel, 2009) and, some would argue, was futile in the first place (Hogan, 2009; Rotter, 1981). It has been supplanted by research on dynamic person-environment transactions, which bridge the divide between personality and social psychology (e.g., Cramer et al., 2012; Fleeson, 2001, 2007; Fleeson & Noftle, 2008b; Funder, 2006, 2008, 2009; Mischel & Shoda, 1995, 1999; Read et al., 2010).

The significance of person-environment transactions was recognized very early by Lewin (1936, 1943, 1946, 1951) who coined the famous (and remodeled) formula B = f(P, S), where behavior B is a function of both the person P and his or her situation S. Thus, the person, situation, and behavior form an inextricably interwoven triad (Funder, 2001, 2006, 2008, 2009; Wagerman & Funder, 2009). Regarding P, the study of personality is prolific, sophisticated, and advanced in theory and methods (Funder, 2001). Regarding B, researchers have emphasized the importance of studying behavior (Baumeister, Vohs, & Funder, 2007), which is now gaining momentum (Furr, 2009). Regarding S, however, explicit psychological research on situations still seems to be neglected despite situations sometimes being proclaimed as all-important (Ross & Nisbett, 1991). This state of affairs is troublesome because persons and behavior cannot be fully understood if situations cannot be described, measured, and taxonomized (Wagerman & Funder, 2009). After all, all action, cognition, motivation, and emotion is embedded in context: A person always navigates in situ (Block & Block, 1981). A thorough understanding of situations will thus ultimately aid the explanation, prediction, and understanding of personality and behavior (Magnusson, 1981b).

#### The Definition of Situational Information

Determining the exact definition of a "situation" has been and still is a daunting problem (Asendorpf, 2009; Hogan, 2009; Magnusson, 1981b; Reis, 2008). Despite its frequent usage in lay language ("We have a situation here!") and scientific parlance ("Situations determine behavior"), the term is an elusive panchreston. Situations have been defined in terms of physical environments (e.g., Craik, 1981), descriptive nouns (e.g., Van Heck, 1984, 1989), appraisals and attributions (e.g., Edwards & Templeton, 2005), affect (e.g., Russell, Ward, & Pratt, 1981), goals (e.g., Argyle et al., 1981; Yang et al., 2006, 2009), activities (e.g., Pervin, 1978), and other persons' behaviors (Fournier, Moskowitz, & Zuroff, 2008, 2009). As the term is ridden with complex ontological and epistemic considerations, it is beyond the scope of this work to provide a conclusive and ultimate definition. The present approach is more modest: We propose a working definition that enables the study of psychologically important characteristics of situations.

#### **Situation Perception**

We begin with the axiomatic assumption that *perceptions of situations* are meaningful and impactful.<sup>1</sup> As Hogan (2009) observed, "everyone . . . agrees that "situations" only matter if they are perceived by the individuals in them" (p. 249). This claim has indeed found wide support (e.g., Cantor, Mischel, & Schwartz, 1982; Champagne & Pervin, 1987; Cooper & Withey, 2009; Forgas, 1976; James & Sells, 1981; Magnusson, 1981b; Mischel, 1977; Mischel & Shoda, 1995, 1999; Nystedt, 1981; Rauthmann, 2012; Reis, 2008).

<sup>&</sup>lt;sup>1</sup> We do not advocate radical constructivism or solipsism. We acknowledge that there is (probably) an "objective" reality out there (e.g., physical environments), and social reality can be meaningfully approached through the consensus of ordinarily socially competent observers (see Wagerman & Funder, 2009).

Figure 1 illustrates our working model of situation perception. It distinguishes between five major components (captured in numbered boxes): (1) situation cues, (2) concurrent information processing, (3) person aspects, (4) situation characteristics, and (5) behavior. Different paths (a, a', b, c, d) connect these factors to each other. Situation cues (Box 1) are physical or objective elements that comprise the environment. They can be objectively measured and quantified. Cues include (a) persons and interactions (Who?); (b) objects, events, and activities (What?); and (c) spatial location (Where?) (Mehl & Robbins, 2012; Pervin, 1978; Saucier et al., 2007). Such cues form a constellation or setting (Pervin, 1978) or ecology (Brunswik, 1952, 1956), but they do not mean or convey anything per se. They derive ultimately from raw sensory information that has been described as physico-biological (Block & Block, 1981) or environmental (Saucier et al., 2007), and also include structures of basic events (e.g., games, parties) and settings (e.g., workplace).

Situation cues as distal environmental stimuli are filtered, evaluated, and attached with meaning (Paths a–a') by explicit and implicit bottom-up and top-down information processing (Box 2). The way these cues are processed depends to some degree also upon person aspects (Box 3; e.g., traits, knowledge, habits, social roles, mood, goals, etc.). These aspects guide chronic and concurrent selection and interpretation of situation cues (Path b; e.g., Mischel & Shoda, 1995, 1999; Magnusson, 1981b; Nystedt, 1981; Rauthmann, 2012; Reis, 2008).

As a result of the pervasive and automatic information processing of situation cues, proximal construals or representations of a *psychological situation* (Box 4) are created (Barker, 1987; Block & Block, 1981; Fleeson, 2007; Forgas, 1976; Krahé, 1990; Magnusson, 1981a; Mischel & Shoda, 1995; Murray, 1938; Pervin, 1976; Stebbins, 1967, 1969; Rauthmann, 2012; Reis, 2008; Saucier et al., 2007; Nystedt, 1981; Wicker, 1992). Psychological situations—unlike persons who are identifiably stable entities in time and space—have no clear demarcations, vary dynamically,

do not exist without at least one person to perceive them, and cannot rate themselves. Nonetheless, people form impressions of situations as if they were real, coherent entities (Cantor et al., 1982; Champagne & Pervin, 1987; Craik, 1971; Duff & Newman, 1997; Edwards & Templeton, 2005; Forgas, 1976; Krull & Dill, 1996; Lupfer, Clark, & Hutcherson, 1990; Magnusson, 1981b; Rauthmann, 2012; Quattrone, 1982; Sherman et al., 2012, 2013). Forming situation impressions serves adaptive purposes of better navigating through the world by being able to predict what will happen and coordinating behavior accordingly (Edwards & Templeton, 2005). As it would be extremely inefficient, costly, and time-consuming to process every possible raw situation cue, our perceptual system evolved to quickly attend to, filter, and interpret salient, important, and consequential information (Miller, 2007). In this vein, Edwards and Templeton (2005) proposed that "people see situations as having underlying qualities akin to human personality traits" (p. 706). Thus, psychological situations are perceived on situation characteristics (see Pervin, 1981, p. 346) which describe situations similar to the manner in which people can be described with traits, attributes, or qualities (de Raad, 2004, pp. 186/187; Edwards & Templeton, 2005). Situation characteristics people ascribe to situations can denote attributions of some underlying causal power or quality (de Raad, 2004; Edwards & Templeton, 2005; Harré & Madden, 1975; White, 1989). Thus, situation characteristics essentially capture psychologically salient and important meanings (see Magnusson & Endler, 1977, p. 4).

How a situation is perceived will determine which *behaviors* and actions (Box 5) are taken (Path c). As Endler (1981, p. 364, italics in original) states, "actual behavior occurs in a situation, or the aspect of the ecology that a person perceives and reacts to immediately" (see also Murray, 1938, p. 40 and Lewin, 1936, p. 217). Behavior may then impact the cues in the objective environmental setting in different ways (Path d). These links between behavior and cues have also been labeled person–environment transactions (e.g., Buss, 1987): Based on his or her situation

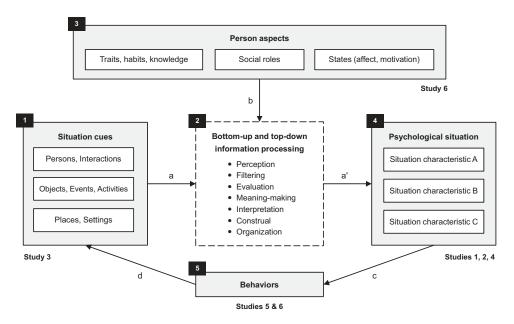


Figure 1. A working model of situation perception.

perception, a person may select, evoke, generate, or modulate certain cues within his or her environment (i.e., socio-ecological niche).

#### The Taxonomization of Situational Information

Different situational taxonomies have been proposed over the years (see Ten Berge & de Raad, 1999 and Yang et al., 2009 for excellent reviews). These have taxonomized three different kinds of situational information (in descending order of abstraction): classes ("Which kinds of situations are there?"), characteristics ("Which attributes can be used to describe situations?"), and cues ("Of which elements are situations constituted?"). In this work, we do not focus on the taxonomization of classes (i.e., groups, types, categories, clusters; e.g., "social situations," "work situations," etc.) or cues (i.e., elements, components; e.g., persons, places, objects, etc.), but on the taxonomization of psychologically important characteristics of situations (i.e., features, attributes, qualities, properties, descriptors; e.g., "terrible," "pleasant"). Table 1 gives an overview of 21 extant situational taxonomies, their situation domains, and which situational information (classes vs. characteristics vs. cues) they have taxonomized.

None of the taxonomies listed in Table 1 have achieved widespread acceptance, perhaps because they differ from each other in key respects (Rauthmann, 2014; Yang et al., 2009) and are bedeviled by different problems. First, the taxonomies are based on a variety of underlying meta-theories, theoretical perspectives, and situation concepts that do not lend themselves to be compared and integrated easily (see Ten Berge & de Raad, 1999, Table 1, p. 355).

Second, the taxonomies have addressed different kinds of situational information. As can be seen in Table 1, from the 21 taxonomies listed, 16 pertained to situation classes, 12 to situ-

ation characteristics, and 1 to situation cues. Importantly, though, most of these taxonomies only capture situation characteristics secondarily via inference or as a means of concretizing situation classes. Often, the underlying characteristic tying together several different situations is merely inferred by the fact that the situations are perceived as similar (see, e.g., Magnusson, 1971). Thus, if the situations "encountering a tiger," "going to the dentist," and "having your paper rejected" are perceived as similar, they will likely obtain a label such as "negative situations" (a class) and be marked post hoc with the attribute "negative" (a characteristic). However, this is problematic because it has not been established why, or on which dimensions, the persons have perceived the situations as similar. Indeed, participants did not actually rate any characteristics of the situations. In effect, entire situations are taxonomized in most approaches, and situation characteristics, if at all, merely inferred from the situation class.

Third, inconsistently used language (e.g., the term "feature" pertains to cues and characteristics in the literature) and lacking discrimination between the concepts of classes, characteristics, and cues can obscure what has been taxonomized (i.e., input) or what is the result of the taxonomy (i.e., output). Further, two different problems arise: the jingle fallacy (i.e., labeling two different things the same) and the jangle fallacy (i.e., labeling similar or identical things differently). As a result of these complications, no clear and common language has emerged for situational taxonomies so far, impeding comparisons between taxonomies.

Fourth, different procedures have been used to derive pools of situation variables (e.g., generation by researchers vs. daily diary by laypeople vs. lexical approach). However, most taxonomies have *a priori* restricted domains of situations. As can

Table 1
Overview of Extant Situational Taxonomies

Taxonomy	Domain	Classes	Characteristics	Cues
Sherman et al. (2010)	Students' self-reported situations	×		
Fournier et al. (2008, 2009)	Interpersonal behavior of others	×	X	
Saucier et al. (2007)	Trait-expressive situations			X
Yang et al. (2006)	Chinese idioms	×	X	
Edwards & Templeton (2005)	Adjectives		X	
Kelley et al. (2003)	Interpersonal situations	×	X	
Ten Berge & de Raad (2001, 2002)	Situations from personality traits	×		
Eckes (1995)	Students' self-reported situations		X	
van Heck (1984, 1989)	Lexically derived situation concepts in Dutch nouns	×	X	
King & Sorrentino (1983)	Goal-oriented situation vignettes		X	
Nascimento-Schulze (1981)	Situations suggested by students and researchers		X	
Battistisch & Thompson (1980)	Students' self-reported situations	×	X	
Forgas (1976)	Social episodes	×	X	
Pervin (1976)	Daily situations	×		
Price & Blashfield (1975)	Behavior settings	×		
Price (1974)	Students' diary data	×		
Moos (1973)	Social environments	×	X	
Frederiksen et al. (1972)	Paper-work problems	×		
Magnusson (1971)	Academic study situations	×	X	
Krause (1970)	Social situations	×		
Endler et al. (1962)	Anxiety-evoking situations	×		

*Note.* Taxonomies are sorted chronologically in descending order. Classes = group, cluster, type, or category of situations per se; Characteristics = psychologically relevant features, attributes, properties, and descriptors of situations; Cues = elements that constitute a situation;  $\times$  = output of the taxonomy.

be seen in Table 1, this is particularly true for social/interpersonal situations which have been given the most interest. However, not all situations are social/interpersonal in nature; thus, many and potentially important situations may be missing. Moreover, many taxonomies rely on a very limited set of situations or situation characteristics. Indeed, Yang et al. (2009) summarized in their review on situational taxonomies that "the numbers of situations sampled ranged from 12 to 36, and the numbers of features [characteristics and cues] of situations ranged from 9 to 38" (p. 1025, italics added for emphasis). The problem is that, at the beginning of taxonomic investigations, already highly restricted ad hoc samples of situations or characteristics were used. Typically, however, one would expect a broader base to draw from in order to establish a taxonomy.

Fifth, situation variables have been judged by different raters (e.g., lay people from a community sample vs. experts vs. college students) on different criteria (e.g., frequency of occurrence vs. behaviors in the situation vs. normativeness/appropriateness of behavior/trait expression vs. similarity of situations). However, most studies did not utilize sufficiently large sample sizes for factor-analytical approaches or replicated findings across different samples.

Sixth, contingent upon on the nature of the input variables and research questions, different methods have been used to analyze situational data (e.g., factor analysis, cluster analysis, multidimensional scaling). All approaches cluster together situational information by some criterion, but the resultant findings may not be compared easily to each other.

Lastly, a major limitation to virtually any situational taxonomy presented so far concerns their usefulness. Yang et al. (2006, p. 755) concluded that there is "no consensus . . . on which taxonomy has demonstrated the most conceptual and practical usefulness to our understanding of situations." This may be traced back to two problems. First, the different factors outlined above have contributed to too much diversity. As a consequence, researchers may be unsure which taxonomy to use (if they are aware of them at all). Second, traditionally less value has been assigned to deriving a psychometrically sound tool accompanying the taxonomy. To the best of our knowledge, no taxonomy has so far produced a validated, standardized measurement tool.<sup>2</sup>

The goal of this work is to provide a possible framework within which psychological characteristics of situations can be organized. This research endeavor is unique: As explained above, other taxonomies do not directly compete with our goal to derive major dimensions of situation characteristics as they concern primarily situation classes. Those taxonomies that do make inferences about or concern situation characteristics either suffer from methodological problems (e.g., small sample sizes), are confined to only one domain of situations (mostly social/interpersonal situations), have not been used in any other research, and/or did not provide psychometrically validated scales that could be used to assess the proposed dimensions. Our work should move us further toward a clear and common language in research on situation characteristics and additionally provide a measurement instrument. Researchers can then assess and study specified, broad, and agreed upon domains of situation characteristics.

#### The Measurement of Situational Information

While there is a staggering abundance of well-validated personality measures, there is a surprising paucity of situation measures. As previously noted, situational taxonomies have not produced any inventories or scales that could be used to assess their proposed dimensions. As a result, most researchers need to resort to self-constructed and unvalidated measurement tools (e.g., Argyle et al., 1981; Fleeson, 2007). Recently, however, the Riverside Situational Q-Sort (RSQ) has been introduced (Sherman et al., 2010, 2012, 2013; Wagerman & Funder, 2009). So far, it is the only available measure that samples characteristics of situations in a fairly comprehensive way. It was the final instrument developed to assess the full Person–Situation–Behavior Triad: The California Adult Q-Sort (CAQ; Block, 1961/1978) assesses personality, and the Riverside Behavioral Q-Sort (RBQ; Funder, Furr, & Colvin, 2000) assesses behaviors.

The RSQ was originally conceived as a Q-technique tool in which items are sorted into a peaked, quasi-normal distribution (Block, 1961/1978). This fixed distribution format ranges conventionally across nine slots, ranging from "highly uncharacteristic of the situation" to "highly characteristic of the situation." Readers interested in the strengths and limitations of Q-sorting techniques are referred to Block (1961/1978, 2008). As there may be some limitations to Q-sorts under certain circumstances (for details, see Kampen & Tamás, 2013; cf. Brown, Danielson, & van Exel, 2014), most researchers may prefer Likert-type ratings which are also generally more economical and less time-consuming. This work will thus make use of both Q-sort and Likert-versions of the RSQ.

The originally published version of the RSQ with 81 items was based on the 100-item CAQ that comprehensively samples personality characteristics, many of which go beyond the usual Big Five (Block, 2010). Specifically, RSQ items were written to describe contexts in which personality characteristics described by CAQ items might be expected to emerge (Wagerman & Funder, 2009). For example, the CAQ item "appears to have a high degree of intellectual capacity" yielded the RSQ item "affords an opportunity to demonstrate intellectual capacity." The RSQ was not based on any explicit theory about which characteristics a situation should have (because there simply is no theory and any theory would likely have a priori restricted the scope of characteristics), but its item content was devised to be as inclusive and comprehensive as possible. Indeed, the application of the RSQ to "as wide a range of situations as possible" was one of the guiding principles for its development (see Sherman et al., 2010, p. 332). The original

<sup>&</sup>lt;sup>2</sup> Edwards and Templeton (2005) provided suggestions of which adjectives may be used to measure their dimensions. However, there are multiple competing adjectives scales listed (see their Table 1, p. 711), and they have not been rigorously validated. Fournier et al. (2008, 2009) have the well-validated Interpersonal Grid (Moskowitz & Zuroff, 2005), but this measure was initially meant to assess someone's behavior within the interpersonal circumplex. As Fournier et al. (2008, 2009) operationalized situations as the interpersonal behavior of an interaction partner, they were able to use the Interpersonal Grid. However, we conceptually neither confine situations to solely capture the interpersonal behavior of an interaction partner (for further thoughts on this, see also Kenny, Mohr, & Levesque, 2001, pp. 129/130; Swann, 1984) nor do we advocate sampling only situations when another person is present with whom a participant has interacted.

RSQ Version 1.0 had exactly 100 items (i.e., one for each CAQ item), but some items did not make sense to readers, seemed redundant, and/or showed little to no variance. Revisions resulted in the RSQ Version 2.0 with 81 items which is detailed in Wagerman and Funder (2009) and Sherman et al. (2010). Some items have then been further slightly rephrased and refined (e.g., avoiding double-barreled items by forming two items), and some new items were added to broaden the scope. This resulted in the 88-item RSQ 3.0. The newest RSQ Version 3.15 with 89 items<sup>3</sup> that broadly sample a variety of situation characteristics can be found in the online supplemental materials, Section A (OSM A).

The RSQ has already shown itself to be useful in a variety of empirical applications despite its short history. One early study using the RSQ found that the situations experienced over time by a given participant tend to be described more similarly to each other than to situations experienced by other participants (Sherman et al., 2010). Moreover, behavior tends to be more consistent across situations described more similarly on the RSQ. A further study using the RSQ explored implications of the degree to which one's personality matches or is "congruent" with one's behavior in particular situations (Sherman et al., 2012). Other studies found that construing situational stimuli "distinctively" (i.e., differently from most other observers) is associated with personality (Todd & Funder, 2012; Serfass & Sherman, 2013; Sherman et al., 2013). Additionally, the RSQ has been used to construct and utilize prototypical templates of situations suggested by aspects of evolutionary theory (allowing behavioral predictions to be empirically tested: Morse, Neel, Todd, & Funder, 2014) and has already been employed in cross-cultural research (Funder, Guillaume, Kumagai, Kawamoto, & Sato, 2012).

Despite its demonstrated usefulness, the 89 items of the RSQ make it a lengthy instrument that can be cumbersome in some research contexts. Moreover, it would be conceptually desirable to reduce these items to a more succinct and perhaps fundamental list of core characteristics of situations. In the present research, we thus sought to examine the factorial structure of the RSQ, extract and identify major dimensions, and propose a psychometrically sound yet economically short version of the RSQ tailored to these major dimensions.

#### The Current Work

It was our goal to establish a framework that should move us one step further toward a unified language in research on psychological characteristics of situations. Specifically, we pursued following three interlocked aims:

- Deriving a taxonomy of major dimensions of situation characteristics to formulate a common language within which to position research on persons, situations, and behavior
- 2. Providing a considerably shortened version of the 89item RSQ to measure the major dimensions of situation characteristics in an economic way.
- Demonstrating the usefulness of this taxonomy and its accompanying measure.

This research endeavor covers Ekehammar's (1974, pp. 1041-1042) five pivotal areas of situation description and classification: (1) perceptions of situations, (2) situation cues of physical and social character, (3) need concepts, and (4) + (5) single and patterned behavior elicited by situations. Our working model of situation perception (see Figure 1) and Ekehammar's research areas served as organizational frameworks for a set of six studies. In Study 1, we establish and describe major, meaningful, important, and consequential dimensions of situation characteristics (Area 1). In Study 2, we examine to what extent people agree in these dimensions when judging situations (Area 1). In Studies 3 and 4, we investigate the nomological networks of these dimensions by tying them to manifest situation cues (Area 2) and a variety of situational affordances (Area 3). Lastly in Studies 5 and 6, we demonstrate the usefulness and predictive power of these dimensions by having them predict behavior (Areas 4 and 5), especially vis-à-vis other measures of personality traits and situations.

# Study 1: Major Dimensions of Situation Characteristics

#### **Background**

In reviewing the available literature on situation characteristics (see Table 1), we could identify several major dimensions that were consistently found across different situation pools, judgment criteria, samples, and data-analytical methods (see Ten Berge & de Raad, 1999; de Raad, 2004; Yang et al., 2009). Interestingly, these dimensions all had corresponding dimensions in personality trait taxonomies, specifically from the Big Five (Neuroticism, Extraversion, Openness/Intellect/Culture, Agreeableness, Conscientiousness; Costa & McCrae, 1992; Digman, 1990; Goldberg, 1990; John & Srivastava, 1999) and Big Seven (Big Five plus Positive Valence and Negative Valence; Benet & Waller, 1995; Benet-Martínez & Waller, 1997; Saucier, 1997; Tellegen & Waller, 1987; Waller 1999). This suggested that situation and personality trait taxonomies may share similar *content*.

First, there were "valence" factors as Positivity and Negativity of a situation (e.g., Edwards & Templeton, 2005; Forgas, 1976; King & Sorrentino, 1983; Magnusson, 1971; Ten Berge & de Raad, 2002). These factors appear to be distinct and do not exist on one continuum (positive vs. negative), as a situation may harbor both pleasant and unpleasant aspects simultaneously (Edwards & Templeton, 2005). In terms of personality trait content, these dimensions closely resemble Positive Valence and Extraversion (Positive Affect) versus Negative Valence and Neuroticism (Negative Affect). Second, there were factors of recreation, play, and cultural affairs (e.g., Eckes, 1995; King & Sorrentino, 1983; Pervin, 1976; Ten Berge & de Raad, 2001). In terms of personality trait content, these factors resemble Extraversion and Openness/ Intellect/Culture. Third, there were factors pertaining to different aspects of social/interpersonal affairs (Argyle et al., 1981; Battistich & Thompson, 1980; Eckes, 1995; Forgas, 1976; King & Sorrentino, 1983; Magnusson, 1971; Pervin, 1976; Ten Berge & de Raad, 2001). In terms of personality trait content, these factors

<sup>&</sup>lt;sup>3</sup> Available at http://rap.ucr.edu/qsorter/.

closely resemble Agreeableness and Extraversion. Fourth, there were factors of working, goal-pursuit, productivity, and achievement (e.g., Edwards & Templeton, 2005; Eckes, 1995; Hacker, 1981; King & Sorrentino, 1983; Nascimento-Schulze, 1981; Pervin, 1976; Yang et al., 2006). In terms of personality trait content, these factors resemble Conscientiousness. It is noteworthy that content capturing Honesty/Humility from the Big Six HEXACO Model (Lee & Ashton, 2004, 2008; Ashton & Lee, 2007, 2009) is not encoded in any situational taxonomy so far.

Why does similar content show up in situation and personality taxonomies? Situation perception may, at least partly, be governed by the same or similar cognitive and affective judgment processes as in person perception (see Nystedt, 1972a, 1972b, 1981). This notion is supported by ample research that has demonstrated that people pervasively and automatically form perceptions of situations as if they were real entities (Cantor et al., 1982; Champagne & Pervin, 1987; Duff & Newman, 1997; Edwards & Templeton, 2005; Forgas, 1976; Krull & Dill, 1996; Lupfer et al., 1990; Magnusson, 1981b; Nystedt, 1972a, 1972b, 1981; Rauthmann, 2012; Quattrone, 1982). Thus, content dimensions encapsulated in taxonomies of personality traits or how we perceive persons (Srivastava, 2010) may also show up in perceptions of situations (de Raad, 2004; Edwards & Templeton, 2005; Ten Berge & de Raad, 1999, 2001, 2002).

Because of the content similarity between personality and situational taxonomies, we classified all 89 RSQ items (Version 3.15) according to major content domains inspired by the Big Five, Six, and Seven. For example, the item "affords an opportunity to demonstrate intellectual capacity" taps the content domain of Openness/Intellect. Each RSQ item could tap multiple content domains at once. All 89 items from the RSQ 3.15 are listed in OSM A, along with the content analysis of what the items primarily tap. As can be seen there, 3.37% of items tapped content of Positive Valence, 17.98% of Negative Valence, 17.98% of Neuroticism, 10.11% of Extraversion, 13.48% of Openness/Intellect, 23.60% of Agreeableness, 10.11% of Conscientiousness, 5.62% of Honesty/Humility, and 32.58% of "Other/Unspecified." It is noteworthy that 32.58% of items could *not* be accounted for by traditional personality domains. These findings allude to the inclusiveness and broad content coverage of the RSQ.

#### **Hypotheses**

Based on content captured in extant situational taxonomies and the RSQ, we expected situation characteristics to group *at least* into the following six broad dimensions: Positivity (~ Positive Valence, Extraversion), Negativity (~ Negative Valence, Neuroticism), Intellect (~ Openness/Intellect/Culture), Sociality (~ Agreeableness, Extraversion), Duty (~ Conscientiousness), and Honesty/Trust (~ Honesty/Humility). Based on our content analysis of the RSQ (see OSM A), we found evidence that the RSQ additionally captures content beyond these major themes. Thus, we also expected to find evidence for additional dimensions.

#### Method

**Samples and measures.** Samples A–G were used for this study, totaling to N = 1,589 (914 women, 674 men; age: M =

29.56 years, SD = 14.71). These studies converged in that they used (a) situation perceptions from raters in situ, (b) naturalistically occurring situations in people's everyday lives, (c) the RSQ 3.15 with 89 items, and (d) cross-sectional RSQ data.

Samples A, B, C, and D were taken from a first wave of data collected for the International Situations Project (Guillaume & Funder, 2012). University students from the United States (N =572: 319 women, 252 men; age: M = 19.51 years, SD = 1.78), Spain (N = 105: 75 women, 30 men; age: M = 22.00 years, SD = 1006.34), Austria (N = 87: 71 women, 16 men; age: M = 24.66 years, SD = 5.12), and Germany (N = 63:50 women, 13 men; age: M = 63:5026.49 years, SD = 7.61) accessed the study website in their respective languages. After providing informed consent to participate and answering socio-demographic questions (e.g., sex, age), participants were asked to recall the situation they were in the day before at 7 p.m. They then typed a brief description of this situation and rated it along items from the RSQ 3.15 using a 9-bin Q-sort  $(1 = not \ at \ all \ characteristic \ of \ the \ situation, \ 9 = totally$ characteristic of the situation). Participants also provided other data, which will not be used here. No financial remuneration was offered.

Samples E and F (Jones, 2014) were gathered online with Amazon's Mechanical Turk (MTurk; see Buhrmester, Kwang, & Gosling, 2011). Participants from the United States (N = 185: 121 women, 64 men; age: M = 34.30 years, SD = 12.38) and India/Asia (N = 190: 81 women, 109 men; age: M = 29.91 years, SD = 8.97) participated for financial remuneration. They described a situation they experienced 24 hr prior and rated it on the RSQ 3.15 with a 9-point Likert-type scale (1 = not at all characteristic of the situation, 1 = 10.00 situation, 1 = 10.00 situation.

Sample G data were gathered from a representative community sample of German participants (N=387: 197 women, 190 men; age: M=45.59 years, SD=17.50) on a computer in a laboratory visit. Participants were asked to recall the situation they were in the day before at 11 a.m., 4 p.m., or 9 p.m. The different times were randomly assigned to participants. Participants then rated their situation on the RSQ 3.15 with a 4-point Likert-type scale (1=not at all characteristic of the situation, 4=totally characteristic of the situation). Participants received financial remuneration.

**Data-analytical plan and procedures.** We initially explored our data with the package "psych" (Revelle, 2013) in R 3.0.0 (R Development Core Team, 2013) using different factor-analytical procedures varying in extraction and rotation methods. As recommended in Gorsuch (1983/2008, pp. 170–171), we employed both mathematical approaches (e.g., parallel analysis) and subjective approaches (e.g., inspection of different factor structures) to determine the optimal number of factors because mathematical approaches alone tend to overestimate non-trivial factors when many items (as in the RSQ) are factor-analyzed. We ultimately only retained dimensions that were (a) relatively stable across different data-analytical procedures, (b) neither under- nor over-extracted (as judged by mathematical and conceptual criteria), (c) non-trivial

<sup>&</sup>lt;sup>4</sup> This means that the raters have actually experienced the situation first-hand as they were psychologically immersed in it. In contrast, we will later introduce raters *ex situ* who have not experienced the situation but only read about it.

<sup>&</sup>lt;sup>5</sup> See http://rap.ucr.edu/ISP.html and http://www.internationalsituations project.com/.

(i.e., many and strong primary loadings, coupled with low secondary loadings), and (d) well interpretable and conceptually sensible. For brevity and clarity, we present factor-analytical findings from a bootstrapped minimum residual extraction with promaxrotation.<sup>6</sup>

Before running factor analyses, we pooled the data from Samples A-G in three steps. First, we fully ipsatized all responses in each sample using an ipsatize function available in the "multicon" package in R (Sherman, 2014) to keep intra-individual means and standard deviations constant with M = 0 and SD = 1 for responses over all 89 RSO items within each sample. This transformation brought O-sorts and Likert-ratings onto a common scale. Second, we z-standardized all 89 RSQ items within each sample to keep means and standard deviations constant with M = 0 and SD = 1 for all 89 RSQ items within each sample. This transformation adjusted for different mean levels and variances to control for sample-specific response patterns due to different administration techniques (e.g., O-Sort and Likertratings on a 9-point scale vs. Likert-ratings on a 4-point scale) and cultures (Austria, India, Germany, Spain, United States). Third, we aggregated the seven individual data sets into one final pooled data set on which we ran analyses.

#### **Results and Discussion**

Number of dimensions. We first compared different mathematical criteria to evaluate the optimal number of factors to be retained with the functions VSS and fa.parallel from the R package "psych" (Revelle, 2013). For different factor-analytic methods (extraction methods: principal components analysis vs. principal axis factoring vs. minimum residual; rotation methods: varimax vs. promax), the number of factors ranged from 3 to 17: 3 or 4 (Very Simple Structure Complexity 1 and 2), 6 (Velicer's MAP criterion), 6 to 9 (scree-plot inspection), and 15 to 17 (parallel analysis). Next, by carefully comparing solutions up to 17 factors in different factor analyses, we ultimately settled for an eight-factor solution. Eight factors were particularly favored when inspecting the bass-ackwards findings (see below; Goldberg, 2006; Waller, 2007). We gave the eight extracted dimensions following labels: Duty (e.g., A job needs to be done), Intellect (e.g., Situation affords an opportunity to demonstrate intellectual capacity), Adversity (e.g., Being blamed for something), *Mating* (e.g., Potential romantic partners are present), pOsitivity (e.g., Situation is potentially enjoyable), Negativity (e.g., Situation is potentially anxietyinducing), Deception (e.g., It is possible to deceive someone), and Sociality (e.g., Social interaction is possible). We henceforward refer to these major dimensions of situation characteristics as the "Situational Eight DIAMONDS."

Hierarchical analyses. Figure 2 illustrates the hierarchical factor tree from a bass-ackwards analysis extracting up to 17 factors. Going up the hierarchy, there were fairly abstract metadimensions which were mostly bipolar (e.g., Negativity vs. pOsitivity, Duty vs. Mating). Considering the dynamicity and pluralism of situations (e.g., Argyle et al., 1981; Magnusson, 1981b; Rommetveit, 1981), ambiguous or "complex" situations (e.g., those containing both positive and negative qualities, such as reading a typical review of one's paper) may not be described adequately. Going down the hierarchy, specific, differentiated dimensions may operate on an abstraction level comparable to facets of the Big Five (e.g., within the NEO-PI-R).

In inspecting the bass-ackwards findings, several points spoke for the extraction of an eight-factor solution (gray-shaded in Figure 2). First, factor structures were generally "messier" beyond the DIAMONDS dimensions. Primary loadings of items decreased, whereas secondary loadings increased. This resulted in more trivial factors with only one or two major factor loadings. Second, some factors were unclear (see "???" in Figure 2) because the top loading items either did not form a clearly interpretable factor or there were too few majorly loading items. This occurred from the ninth level onwards multiple times (see Figure 2). Third, factors beyond the eight-factor level broke up into facets predominantly driven by few items with similar wording or semantic content. Lastly, factors beneath the eight-factor level could all be subsumed and adequately captured by super-ordinate factors at a higher level of abstraction, specifically the DIAMONDS dimensions. Indeed, any factor that emerged below the eight-factor level could be deemed a facet of the DIAMONDS dimensions. Taken together, an eight-factor solution represented a good trade-off between parsimony (with few abstract dimensions of broad bandwidth) and highly content-specific facets (with narrow dimensions of higher fidelity).

Bootstrapped factor analysis. To extract RSQ items that dominantly loaded onto a DIAMONDS dimension, we ran a bootstrapped exploratory factor analysis with the fa function from the R package "psych" (Revelle, 2013). Specifically, we requested in 10,000 bootstrap-resamples an extraction of 8 factors with a minimum residual solution and promax-rotation. This analysis yielded bootstrapped 95% confidence intervals of factor loadings. If these confidence intervals did not contain 0, then factor loadings could be deemed as "statistically significant." The full factor loading matrix is presented in the online supplemental materials, Section B (OSM B). We then inspected those RSQ items that loaded the highest, significantly, and in one key direction onto each DIAMONDS dimension. Findings are summarized in Table 2. The fit of this eight-factor solution was relatively good, root-mean-square of residuals (RMSR) = .03(df-corrected: .05), root-mean-square error of approximation (RMSEA) = .04 (90% CI [.038, .040]), fit based on off-diagonal values = .89. Factor score adequacy (Grice, 2001) was also given with correlations of scores with factors ranging from .84 to .91 and multiple  $R^2$ s of scores with factors ranging from .71 to .84.

The RSQ-8. Based on the previous analyses, a 32-item short form of the original 89-item RSQ was generated: The RSQ-8 with 4 items per DIAMONDS scale. The respective items of the RSQ-8 are marked in Table 2 and also presented in the Appendix. Intercorrelations among the DIAMONDS dimensions were generally low with a mean r of |.15| and did not exceed a magnitude of |.35|. The pooled intercorrelation matrix across all samples is presented in the online supplemental materials, Section C (OSM C). Cronbach's alpha reliabilities ranged from  $\alpha = .48$  to  $.63^7$  and can be deemed as relatively high considering that only four items formed

<sup>&</sup>lt;sup>6</sup> Analyses with other statistical procedures and more detailed information can be obtained from the first author.

<sup>&</sup>lt;sup>7</sup> Internal consistencies were generally relatively high with a mean alpha of .64 across all samples and dimensions. Judging from mean Cronbach's alphas across all samples, the DIAMONDS dimensions can be sorted into following descending order: Negativity ( $M_α = .74$ ), Mating ( $M_α = .68$ ), Adversity ( $M_α = .65$ ), pOsitivity ( $M_α = .64$ ), Sociality ( $M_α = .63$ ), Duty ( $M_α = .61$ ), Intellect ( $M_α = .60$ ), and Deception ( $M_α = .57$ ).



Figure 2. Hierarchical factor tree. Numbers on the left side reflect the number of factors (and the level of the hierarchy). An asterisk represents the reverse pole of the factor interpreted. Gray-shaded boxes = DIAMONDS (Duty, Intellect, Adversity, Mating, positivity, Negativity, Deception, and Sociality); ??? = factor could not be clearly interpreted.

a scale. The DIAMONDS dimensions may be thus sampled with the RSO-8 in a sound yet economic way.

**Descriptives.** Descriptive statistics of the DIAMONDS dimensions, as captured within the RSQ-8, can be found in Table 3, broken down by sample. As can be judged from the means, DIAMONDS perceptions could be sorted into following descending order within almost all samples: pOsitivity, Sociality, Duty, Intellect, Mating, Negativity, Deception, and Adversity. Thus, many situations were perceived as positive and social, whereas only few as deceptive and adverse. We also examined to what extent DIAMONDS perceptions were associated with basic socio-demographic variables. There were only few and inconsistent associations with sex or age across all samples. Further in-depth research may thus be devoted to how socio-demographic as well as socio-economic factors (e.g., income, status, etc.) and culture are associated with DIAMONDS perceptions.

#### Summary

Our findings indicated that eight broad dimensions—which we labeled "DIAMONDS"—may adequately represent key dimensions on which people perceive, describe, and evaluate psychological situations: Duty, Intellect, Adversity, Mating, pOsitivity, Negativity, Deception, and Sociality. Some of these dimensions have already been partially described in extant literature, but not in any systematic way or integrated within a larger set of dimensions. Further, it is striking that the DIAMONDS dimensions have content-counterparts in person perception. Specifically, Duty can be tied to Conscientiousness, Intellect to Openness/Intellect, pOsitivity to Positive Valence and Extraversion, Negativity to Negative Valence and Neuroticism, Deception to (the inverses of) Agreeableness and Honesty/Humility, and Sociality to Extraversion and Agreeableness. Only the content of the dimensions Adversity and Mating is not

Table 2
Dominant Factor Loadings of RSQ Items on the DIAMONDS Dimensions

Dimension	Items	λ  (95% CI)
Duty		
003	A job needs to be done.	.65 (.45, .79)
006	P is counted on to do something.	.55 (.33, .72)
011	Minor details are important.	.47 (.26, .63)
025	Rational thinking is called for.	.42 (.22, .57)
Intellect	· ·	
013	Affords an opportunity to demonstrate intellectual capacity.	.58 (.40, .77)
053	Situation includes intellectual or cognitive stimuli.	.57 (.38, .76)
041	Affords an opportunity to express unusual ideas or points of view.	.38 (.18, .62)
012	Situation evokes values concerning lifestyles or politics.	.33 (.13, .56)
Adversity	·	
015	Another person (present or discussed) is under threat.	.54 (.31, .75)
016	P is being criticized, directly or indirectly.	.48 (.24, .72)
023	P is being blamed for something.	.46 (.24, .70)
017	Someone is attempting to dominate or boss P.	.46 (.22, .70)
Mating		
074	Potential romantic partners for P are present.	.68 (.91, .31)
073ª	Members of the opposite sex are present.	.53 (.85, .06)
070	Situation includes stimuli that could be construed sexually.	.44 (.77, .18)
031 <sup>b</sup>	Physical attractiveness of P is relevant.	.28 (.72, .05)
pOsitivity		
018	Situation is playful.	.76 (.50, .85)
001	Situation is potentially enjoyable.	.75 (.51, .83)
076	Situation is basically simple and clear-cut.	.51 (.31, .68)
$020^{c}$	Things are happening quickly.	.39 (.19, .52)
057°	Situation is humorous or potentially humorous.	.39 (.20, .53)
Negativity		
048	Situation entails or could entail stress or trauma.	.54 (.25, .77)
066	Situation is potentially anxiety-inducing.	.54 (.24, .74)
033	Situation would make some people tense and upset.	.47 (.17, .76)
030	Situation entails frustration.	.40 (.12, .70)
Deception		
038	Someone else in this situation might be deceitful.	.58 (.19, .79)
037	It is possible for P to deceive someone.	.50 (.11, .74)
039	Situation may cause feelings of hostility.	.37 (.08, .69)
036	A person or activity could be undermined or sabotaged.	.32 (.01, .63)
Sociality		
073ª	Members of the opposite sex are present.	.53 (.67, .24)
056	Social interaction is possible.	.49 (.71, .23)
051	Close personal relationships are present or have the potential to develop.	.42 (.65, .18)
063	Behavior of others presents a wide range of interpersonal cues.	.42 (.61, .19)
022	A reassuring other person is present.	.35 (.57, .12)

Note. N = 1,575. Factoring method: Minimum residuals (unweighted least squares solution); rotation method: Promax; bootstrapping: 10,000 resamples. Only the four top loading items that uniformly formed a factor are presented. RSQ = Riverside Situational Q-Sort; DIAMONDS = Duty, Intellect, Adversity, Mating, positivity, Negativity, Deception, and Sociality;  $|\lambda|$  (95% CI) = average absolute factor loadings from bootstrapped analyses with lower and upper 95% bootstrapped confidence intervals.

clearly encapsulated in personality trait taxonomies. However, both dimensions can be tied to evolutionarily important aspects of daily life such as harms, threats, and overt interpersonal conflict (Adversity) as well as sex, love, and romance (Mating).

#### **Study 2: Agreement in DIAMONDS Dimensions**

#### **Background**

We aimed to examine the intersubjectivity of the DIA-MONDS dimensions: To what extent do they reflect shared

social realities? People in a given socio-culture form shared mental situation models, schemata, or scripts about circumscribed situational episodes (see Krahé, 1990) such as "drinking with friends in a bar" or "writing a research paper." As such, they should possess shared meaning systems (Kenny, 1994, 2004) so that situations are to some degree perceived, described, and evaluated similarly across persons (canonico-consensual perception; Block & Block, 1981). From an evolutionary perspective, the correct perception of "reality" (contributing to canonico-consensual perceptions) has obvious

<sup>&</sup>lt;sup>a</sup> This item has substantial loadings on two factors, Sociality and Mating. It is subsequently dropped from the Sociality dimension, as it does not add anything distinctive to this factor and artificially inflates correlations with the Mating dimension. <sup>b</sup> This item had a confidence interval that included 0. It is nonetheless included in the RSQ-8 because it is conceptually viable. <sup>c</sup> Being tied, the conceptually better fitting Item 057 is subsequently used instead of Item 020.

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Table 3
Descriptive Statistics for DIAMONDS Dimensions Ratings

				Raters	in situ							Raters	ex situ			
Descriptives	D	I	A	M	О	N	D	S	D	I	A	M	О	N	D	S
Sample A																
M	5.71	5.34	4.39	4.50	6.13	4.85	4.23	5.91								
SD	0.97	1.05	0.94	1.50	1.16	1.18	0.86	1.05								
α	.60	.48	.67	.59	.56	.64	.50	.46								
Sample B	6.05		4.00	4.44		4.01	4.20	6.00								
M	6.05	5.56	4.22	4.44	6.26	4.31	4.29	6.09								
SD	0.97	1.18	0.82	1.54	1.14	1.01	0.81	1.23								
α Sample C	.56	.63	.66	.68	.60	.57	.54	.67								
M	5.43	5.26	4.13	4.33	6.28	4.42	4.11	5.89								
SD	1.02	1.18	0.91	1.69	1.10	1.13	0.80	1.37								
α	.64	.59	.56	.74	.58	.67	.49	.72								
Sample D		,		•,, •		.07	,									
$M^{\Gamma}$	5.60	5.61	3.99	4.49	6.23	4.57	4.21	5.98								
SD	0.99	1.13	0.75	1.49	1.18	1.36	0.87	1.32								
α	.53	.57	.49	.65	.63	.75	.45	.70								
Sample E																
M	5.35	4.37	2.05	3.64	6.36	3.60	2.78	4.91								
SD	2.18	2.05	1.50	2.15	1.71	2.28	1.86	2.43								
α	.77	.73	.86	.73	.64	.88	.83	.85								
Sample F																
M	5.92	5.58	4.52	5.27	6.04	5.01	4.89	5.62								
SD	1.62	1.60	2.07	1.90	1.64	1.92	1.97	1.51								
α	.66	.63	.84	.76	.68	.79	.85	.55								
Sample G	2.60	2.22	1.75	2.12	2.74	2.07	1.00	2.20								
$M \\ SD$	2.60 0.75	2.22 0.75	1.75 0.80	2.12	2.74	2.07	1.82	2.30								
	.70	.71	.88	0.78 .72	0.60 .52	0.76 .80	0.76 .87	0.77 .76								
α Sample H	.70	./1	.00	.12	.32	.00	.07	.70								
Wave 1																
M	3.56	3.55	0.83	2.67	5.09	2.37	2.08	4.13	1.59	1.74	0.11	1.33	3.49	1.06	0.63	2.46
SD	2.26	1.96	1.04	2.17	1.65	2.04	1.84	2.28	1.37	1.32	0.26	1.36	1.04	1.48	1.00	2.25
α	.74	.64	.64	.73	.63	.80	.78	.80	.80	.78	.56	.78	.66	.93	.89	.92
Wave 2																
M	3.78	3.59	1.07	2.35	5.22	2.32	1.89	4.16	3.06	2.92	0.19	1.31	4.38	0.94	0.58	3.73
SD	2.02	1.95	1.29	2.15	1.58	1.92	1.77	2.50	2.29	1.67	0.29	1.35	1.36	1.04	0.64	2.68
α	.69	.65	.78	.74	.63	.81	.82	.87	.92	.79	.58	.81	.76	.85	.73	.96
Wave 3																
M	3.46	3.86	0.81	2.79	5.37	1.94	1.51	4.32	1.50	1.45	0.09	1.41	3.39	0.70	0.29	2.54
SD	2.02	2.03	1.00	2.44	1.58	1.77	1.60	2.63	1.44	0.94	0.30	1.66	1.23	0.86	0.61	1.86
α	.68	.73	.73	.82	.62	.79	.81	.89	.76	.51	.63	.81	.64	.71	.81	.84
Sample I																
Wave 1	5.07	c c 1	2.14	4.40	( 10	4.67	4.40	5.50	5.00	5.40	2.64	4.50	611	4.50	4.10	6 15
M	5.97	5.51	3.14	4.40	6.13	4.67	4.48	5.50	5.89	5.43	3.64	4.58	6.14	4.52	4.19	6.15
SD	1.29	1.41	1.08	1.37	1.49	1.29	1.08	0.95	1.03	1.10	0.59	1.07	1.16	1.12	0.58	1.03
α Waya 2	.54	.53	.39	.61	.70	.66	.38	.28	.70	.58	.56	.73	.83	.91	.24	.76
Wave 2 M	5.98	5.39	3.20	4.41	6.09	4.87	4.25	5.64	5.91	5.50	3.78	4.57	6.10	4.52	4.19	6.23
SD	1.17	1.48	1.15	1.36	1.52	1.33	1.09	0.94	1.08	1.08	0.56	1.04	1.12	1.06	0.55	0.23
α	.42	.62	.57	.55	.76	.70	.25	.34	.70	.53	.49	.68	.80	.89	.08	.73
Wave 3	.72	.02		.55	.70	.70	.23	.,⊤	.70	.55	.77	.00	.00	.07	.00	.13
M	6.02	5.33	3.25	4.37	6.21	4.80	4.17	5.51	5.84	5.53	3.68	4.46	6.13	4.51	4.15	6.18
SD	1.27	1.37	1.16	1.37	1.41	1.36	1.07	1.01	1.01	1.07	0.56	0.97	1.05	1.14	0.59	0.16
α	.52	.49	.54	.60	.69	.73	.14	.41	.71	.54	.53	.68	.79	.91	.23	.74
Wave 4	.52			.00	.07	.75			.,, 1		.55	.00	.,,	.,,	.23	., т
M	5.83	5.47	3.30	4.49	6.21	4.65	4.15	5.53	5.82	5.46	3.76	4.47	6.12	4.51	4.12	6.18
SD	1.32	1.33	1.09	1.37	1.49	1.31	1.13	1.09	1.12	1.12	0.61	0.96	1.18	1.06	0.50	1.01
α	.49	.46	.48	.60	.75	.73	.33	.50	.73	.60	.52	.65	.84	.91	.03	.79

Note. Sample H used a 32-item version of the Riverside Situational Q-Sort (RSQ-8), and Sample I used a 30-item version. Means (and standard deviations) are not comparable across samples, as different sampling techniques, response scales, and cultures were used. DIAMONDS = Duty, Intellect, Adversity, Mating, pOsitivity, Negativity, Deception, and Sociality.

adaptive value: perceiving situations as most other people do should have served adaptive purposes in human phylogenesis (e.g., precise movements in the environment, smooth communication, group coordination, etc.). For example, almost all people would perceive encountering a tiger as a threatening situation; not perceiving such a situation as threatening (and thus not initiating flight) might have unfortunate consequences. To summarize, characteristics of the psychological situation may gain a social reality by being uniformly, or almost uniformly, perceived. This means that we can expect a substantive amount of *agreement* in situation ratings (see Sherman et al., 2013).

The present data allow two types of situation raters: Raters *in situ* who were actively involved in the situation and thus have experienced it themselves first-hand and raters *ex situ* who have not experienced the situation themselves but read the open-ended descriptions written by participants. Thus, agreement can be quantified by (a) the agreement among raters *ex situ* (*external agreement*) and (b) the agreement between raters *in situ* and *ex situ* (*internal-external agreement*). Analogous to how it is important to demonstrate agreement in traits (Kenrick & Funder, 1988), the DIAMONDS dimensions reflect meaningful and important dimensions to the extent that people agree on them and can infer them even from very little information.

# **Hypotheses**

We expected agreement on the DIAMONDS dimensions based on very "thin slices" of situational information: written situation descriptions from the situations the raters *in situ* provided. Specifically, we hypothesized that there would be relatively strong levels of (a) external agreement among raters ex situ and (b) internal–external agreement between raters in situ and ex situ (Pearson's rs > .50) in situation judgments on the DIAMONDS dimensions.

# Method

**Samples.** Sample H data were gathered from N = 180 Austrian/German university students (out of a total possible pool of 201 students) in Austria within a larger online daily diary study for which students could earn credit points. Out of these, complete data from N = 178 participants (133 women, 45 men; age: M =21.58 years, SD = 2.88, range: 18-44 years) could be used for the present analyses. On three Fridays (of Week 1, Week 2, and Week 4) participants were asked on a customized web-platform to recall the situation they were in the day before at 7 p.m. They typed brief responses prompted by questions pertaining to persons/interactions, events/activities, and places: "Who was with you? What was going on? What were you doing? Where were you?" Participants then rated their situations on the RSQ 3.00 with a 9-point Likerttype scale (0 = does not apply at all, 8 = totally applies). Participants also provided other data, such as personality and behavior in the situation (to be used in Studies 4-6).

Sample I data were gathered from N=204 U.S. American university students during five laboratory visits over 5 weeks (with visits being at least 48 hr apart). Out of these, complete data from N=202 participants (105 women, 97 men; age: M=19.62 years, SD=1.74) could be used for the present analyses. On the first visit, participants obtained information on the study, provided

informed consent, and filled out personality questionnaires. On the subsequent visits (Waves 1–4), participants wrote a brief description of the situation they had experienced the day before at either 10 a.m., 2 p.m., 5 p.m., or 9 p.m. A Latin-square design was used so that approximately one fourth of participants completed the study using one of the following time sequences: 10 a.m.–2 p.m.–5 p.m.–9 p.m.–10 a.m.–2 p.m.–10

**Procedures.** Raters *ex situ* were presented with the situation descriptions provided by the raters *in situ* (e.g., "I was studying in my room for my psychology class") to independently rate the encapsulated situations on the RSQ. These descriptions were short (Sample H: mean word number = 11.62, SD = 8.58; Sample I: mean word number = 10.63, SD = 6.43), although participants *in situ* were advised to include different situation cues (persons/interactions; events/objects/activities; places). Thus, ratings from raters *ex situ* were made on "thin slice" information from situation vignettes: They could not observe or experience the situations themselves, but they read about them from condensed and prefiltered verbal descriptions (see Sherman et al., 2010, 2012, 2013 for prior use of this methodology).

In Sample H, two raters ex situ per wave (from a pool of six raters) independently rated all situations from a wave on the RSQ 3.0. In Sample I, four raters per wave (from a pool of 22 raters) independently rated all situations from a wave on the RSQ 2.0. For approx. 50 situations reported, one rating (causing low interrater agreement) was dropped and an additional one completed to maximize profile agreement between the raters regarding one situation. The four ratings were then aggregated to one reliable composite score (average vector correlation agreement: r = .49, SD = .08; average  $\alpha = .79$ , SD = .06). We used these composite scores for subsequent analyses as individual, disaggregated scores are no longer available.

**Measures.** Sample H used the RSQ 3.00 (88 items) with a 9-point Likert-type scale (0 = not at all characteristic of the situation, 8 = totally characteristic of the situation). We could thus use the RSQ-8 with 32 items here. Sample I used the RSQ 2.00 (81 items) with a nine-category Q-sort (1 = not at all characteristic of the situation, 9 = totally characteristic of the situation). For this sample, the DIAMONDS dimensions were measured as follows: Duty = Items 2, 5, 21, 23; Intellect = Items 6, 7, 36, 47; Adversity = Items 10, 11, 20, 13; Mating = Items 28, 64, 67; pOsitivity = Items 9, 14, 51, 69; Negativity = Items 27, 30, 42, 60; Deception = Items 33, 34, 15; Sociality = Items 17, 45, 50, 57.

<sup>&</sup>lt;sup>8</sup> In principle, it would also be valuable to have raters *juxta situm* who observed the situations directly without actively participating, but for the present project, based on self-reports of real-life situations, this was not practical. The direct *juxta situm* observation of situations remains an important direction for future research.

<sup>&</sup>lt;sup>6</sup> The situation descriptions provided by the raters *in situ* were slightly edited prior to being presented to raters *ex situ*. Specifically, they were corrected for orthographical and grammatical errors.

**Statistical analyses.** For each DIAMONDS dimension, we computed agreement estimates in forms of external agreement (agreement among two raters ex situ: Sample H) and internal-external agreement (agreement between raters in situ with an aggregated composite from raters ex situ: Samples H and I). To quantify agreement, we computed bivariate Pearson's product-moment correlations among raters. For external and internal-external agreement separately, we also computed  $M_r$  as the mean Pearson correlation across all DIAMONDS dimensions (by mean-aggregating r-to-z transformed coefficients and then z-to-r backtransforming the resulting mean).

#### Results

**External agreement.** External agreement estimates for the DIAMONDS dimensions in each of the three waves of Sample H (Austria) can be found in the upper half of Table 4 under "External agreement." Findings on external agreement across both samples and all waves are graphically condensed in Figure 3. As can be seen in Table 4 and Figure 3, there was a fair amount of agreement among raters  $ex\ situ$  for all DIAMONDS dimensions,  $M_r=.64$ . Duty, Intellect, Mating, pOsitivity, Negativity, and Deception showed moderate to high amounts of agreement. Sociality showed the highest and Adversity the least amount of agreement. Indeed, agreement in Adversity could only be estimated for Wave 2 because there was not enough variance to compute correlations in Waves 1 and 3.

Internal-external agreement. Internal-external agreement estimates for the DIAMONDS dimensions in each of the three waves of Sample H (Austria) and I (United States) can be found in the lower half of Table 4 under "Internal-external agreement." Findings on internal-external agreement across both samples and all waves are graphically condensed in Figure 3. As can be seen in Table 4 and Figure 3, there was a fair amount of internal-external agreement between raters in situ and ex situ for all DIAMONDS dimensions (with the exception of Adversity and Deception),  $M_r =$ .50. Further, internal–external agreements were highly similar in magnitude across both samples, speaking for the replicability and robustness of results. Duty, Intellect, Mating, pOsitivity, Negativity, and Sociality showed relatively high amounts of internalexternal agreement across both samples, with rs generally larger than .50. Deception and Adversity, on the other hand, showed only low to moderate amounts of internal-external agreement across both samples.

# **Summary and Discussion**

We found substantial levels of external and internal–external agreement in the DIAMONDS dimensions. The relatively high levels of external agreement indicated sufficient intersubjectivity among raters *ex situ*. <sup>11</sup> Moreover, external agreement was at least as high as consensus in personality ratings (Connelly & Ones, 2010; Kenny, 1994). The levels of internal–external agreement between raters *in situ* and *ex situ* were also at least comparable to what is typically found in perceptions of personality traits or cognitive/affective states (Borkenau & Liebler, 1992, 1993a, 1993b; Connelly & Ones, 2010; Funder, 1999; Kenny, 1994; Kenny, Albright, Malloy, & Kashy, 1994;

Shrauger & Schoeneman, 1979), particularly when verbal, written, or textual stimuli were used (e.g., Fast & Funder, 2008; Gifford & Hine, 1994; Küfner, Back, Nestler, & Egloff, 2010). Hall, Andrzejewski, Murphy, Mast, and Feinstein (2008, Table 5, p. 1484) provided standardized Proportion Index *pi* values (Rosenthal & Rubin, 1982) for judgments of personality and affect. As can be deduced from their table, the mean *pi* for personality accuracy amounted to .61 and for affect accuracy to .74. In comparison, the mean *pi* across all DIAMONDS dimensions amounted to .75 (range: .63 to .82).

# Study 3: Situation Cues of the DIAMONDS Dimensions

### **Background**

Endler (1981, p. 365) contended that "we should focus on the psychological characteristics of situations . . . and treat the objective characteristics [i.e., cues] as one of the determinants . . . of the perception (psychological meaning) of situations." In accordance with this, our working model of situation perception in Figure 1 specifies that situation characteristics derive from observable situation cues in the environment. Situation cues capture the "ecology" (Brunswik, 1952, 1956) and thus represent the more objec-"environmental" (physical, biological, geographical, tive meteorological, architectural) level of situations upon which functional or more subjective levels of situation perception (i.e., situation characteristics) are over-laid (Block & Block, 1981; Endler, 1981; Nystedt, 1981; Rauthmann, 2012; Saucier et al., 2007). In this study, we thus aim to tie the abstract DIAMONDS dimensions to concrete situation cues (persons and interactions; activities, events, and objects; places) to illuminate the "ingredients" of the DIAMONDS dimensions.

#### **Hypotheses**

Based on prior research (Mehl & Robbins, 2012; Pervin, 1978; Saucier et al., 2007), we expected to find situation cues roughly referring to (a) persons, relationships, communication, and interaction; (b) events, objects, and activities; and (c) places. These should be encoded in raters' *in situ* written situation descriptions. Since we first had to distill the situation cues from the descriptions, we did not form *a priori* hypotheses on how they would be associated with the DIAMONDS dimensions. As our analyses were thus not guided by theory but were exploratory, we used two large samples to replicate findings.

#### Method

**Samples.** Data from Samples H and I were used for this study (see Study 2).

 $<sup>^{10}</sup>$  We also computed intra-class correlation coefficients (ICCs) to assess agreement between different raters. Findings between ICCs and Pearson's rs were highly similar, yielding the same substantive conclusions. Pearson's rs may, however, be preferred for the current data as indices of agreement (see Furr, 2010). For comparison's sake, the ICC estimates are also displayed in Table 4, but we only discuss r estimates.

<sup>&</sup>lt;sup>11</sup> These findings may also be interpreted in a psychometric sense: The DIAMONDS dimensions, as assessed with the RSQ-8, show not only internal consistency reliability, but also interrater reliability.

Table 4
Agreement in DIAMONDS Ratings

	Du	ity	Intel	lect	Adv	ersity	Ma	ting	pOsit	ivity	Nega	tivity	Dece	ption	Socia	ality
Sample	ICC	r	ICC	r	ICC	r	ICC	r	ICC	r	ICC	r	ICC	r	ICC	r
External agreement																
Sample H																
Wave 1	.64	.67	.67	.53	_		.62	.85	.59	.66	.85	.98	.83	.71	.94	.89
Wave 2	.88	.80	.82	.71	.29	.35	.73	.81	.58	.52	.67	.85	.32	.29	.93	.91
Wave 3	.56	.58	.47	.39	_	_	.77	1.00	.44	.48	.39	.81	.59	.48	.67	.67
Internal-external agreement																
Sample H																
Wave 1	.52	.62	.42	.46	05	08	.56	.73	.48	.59	.56	.65	.37	.40	.73	.73
Wave 2	.83	.75	.53	.39	.14	.24	.58	.68	.71	.65	.40	.48	.17	.22	.82	.70
Wave 3	.58	.71	.30	.50	.26	.40	.66	.79	.44	.58	.60	.80	.28	.37	.70	.75
Sample I																
Wave 1	.65	.49	.69	.55	.42	.37	.65	.75	.76	.64	.55	.71	.23	.16	.56	.47
Wave 2	.72	.57	.70	.57	.33	.30	.61	.75	.74	.62	.50	.63	.26	.18	.60	.51
Wave 3	.71	.56	.70	.56	.31	.26	.51	.56	.76	.63	.53	.65	.40	.30	.57	.49
Wave 4	.78	.65	.73	.58	.40	.33	.58	.70	.78	.66	.49	.60	.32	.25	.62	.54

Note. Sample H (Austria): N = 173-179; Sample I (United States): N = 202-204. External agreement: Correlation among raters' ex situ ratings. Internal-external agreement: Correlation between raters' in situ and ex situ ratings. Sample H: Two different raters ex situ were used per wave (i.e., six raters in total) who rated together all situation descriptions of an entire wave. Sample I: Four different raters ex situ were used per wave (22 raters in total) who rated together all situation descriptions of an entire wave. Dashes indicate that no estimate was available (due to variances being too small); ICC = ICC(2,1), intra-class correlation coefficient as two-way random average measures with absolute agreement; r = bivariate zero-order Pearson product-moment correlation coefficient. All correlation and ICC coefficients (except for those in internal-external agreement for Adversity in Wave 1 of Sample H) are significant at least at p < .05. DIAMONDS = Duty, Intellect, Adversity, Mating, pOsitivity, Negativity, Deception, and Sociality.

Measures. Situation cues were coded from the situation descriptions provided by raters in situ. In a first exploratory step, all situation descriptions from Samples H and I were read through several times by the first author to get a feel for which situation cues could be coded. This survey yielded 31 situation cues which can be grouped into "Persons and Interactions" (7 cues), "Objects, Events, and Activities" (18 cues), and "Places" (6 cues). This classification is consistent with prior literature (e.g., Pervin, 1978; Saucier et al., 2007). In a second step, each situation description was coded on each of the 31 situation cues by the first author. Codings were done binarily: If a cue was present, then it obtained a score of "1"; if it was not present, then it obtained a score of "0." Additionally, an undergraduate research assistant coded all situation descriptions so that we could compute Cohen's (1968) kappa  $(\kappa)$  as the interrater agreement of codings. Values of  $\kappa > .75$  or .80 can be deemed as denoting almost perfect agreement (Fleiss, 1981; Landis & Koch, 1977), and present ks ranged from .80 to 1.00. For the current analyses, the first authors' codings were used. Descriptions and markers, frequencies, and interrater agreement for each situation cue are presented in the online supplemental materials, Section D (OSM D).

**Data-analytical plan and statistical analyses.** We computed point-biserial correlation coefficients between binarily coded situation cues and DIAMONDS dimensions ratings. <sup>12</sup> These correlations are mathematically equivalent to zero-order bivariate Pearson's product-moment correlations.

# Results

Correlations of the codings of the 31 situation cues with the DIAMONDS dimensions in the Austrian and U.S. sample can be found in Table 5. As can be judged by the significant correlations of cues with the DIAMONDS dimensions in Table 5, several cues

could be tied to each DIAMONDS dimension in the Austrian and U.S. sample: the amount of significant situation cues ranged from 12.19% to 70.97% across both samples. Although there were, on average, more and stronger correlations in the Austrian sample than in the U.S. sample, correlational patterns were generally similar across both. The online supplemental materials, Section E (OSM E), present replicability estimates of findings across samples. In general, the situation cue correlates of each DIAMONDS dimension replicated well across the two samples. Moreover, the correlates that emerged for each DIAMONDS dimension were conceptually plausible.

Duty correlated significantly with 41.94% of situation cues in both the Austrian sample (average absolute r:  $M_{|r|} = .11$ ) and the U.S. sample ( $M_{|r|} = .09$ ). In the Austrian sample, the top three correlates were (rs in parentheses): "Working, studying" (.60), "TV, Movies" (-.31), and "Eating" (-.26). In the U.S. sample, the top three correlates were: "Working, studying" (.44), "Eating" (-.25), and "TV, Movies" (-.24).

Intellect correlated significantly with 48.39% of situation cues in the Austrian sample ( $M_{|r|} = .09$ ) and with 41.94% of situation cues in the U.S. sample ( $M_{|r|} = .04$ ). In the Austrian sample, the top three correlates were: "Being alone" (-.20), "Communicating" (.20), and "Grooming" (-.19). In the U.S. sample, the top three correlates were: "Working, studying" (.34), "At university" (.30), and "Sports/Training" (-.22).

Adversity correlated significantly with 25.81% of situation cues in the Austrian sample ( $M_{|r|} = .06$ ) and with 12.19% of situation

<sup>&</sup>lt;sup>12</sup> This was done with disaggregated data in long-format, and thus we followed a different data-analytical approach than the one used in Studies 4 and 5. Specifically, the randomization procedures later used did not work with binary data that tend to produce variances of 0 (due to zero inflation).

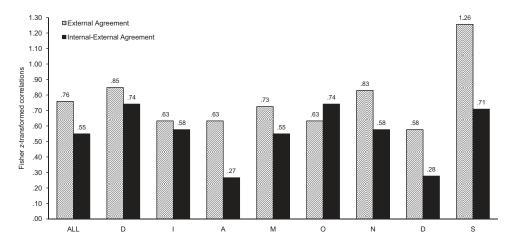


Figure 3. Average levels of agreement in the DIAMONDS (Duty, Intellect, Adversity, Mating, pOsitivity, Negativity, Deception, and Sociality) dimensions. Findings are averaged across all waves from Samples H (Austria) and I (United States). Correlation coefficients were Fisher z-transformed. Internal–external agreement = agreement among raters in situ and ex situ; external agreement = agreement among raters ex situ; x-axis = DIAMONDS dimensions; ALL = Average across all DIAMONDS dimensions; y-axis = magnitude of (averaged) Fisher z-transformed Pearson's product–moment correlation coefficient.

cues in the U.S. sample ( $M_{|r|} = .10$ ). In the Austrian sample, the top three correlates were: "Being alone" (-.18), "Friends" (.13), and "Exam" (.10). In the U.S. sample, the top three correlates were: "Videogames" (.19), "Eating" (-.10), and "Sports/Training" (.07).

*Mating* correlated significantly with 32.26% of situation cues in the Austrian sample ( $M_{|r|} = .10$ ) and with 35.48% of situation cues in the U.S. sample ( $M_{|r|} = .05$ ). In the Austrian sample, the top three correlates were: "Mate, spouse" (.48), "Being alone" (-.36), and "At home" (-.27). In the U.S. sample, the top three correlates were: "Mate, spouse" (.28), "Working, studying" (-.23), and "At home" (-.13).

pOsitivity correlated significantly with 54.84% of situation cues in the Austrian sample ( $M_{|r|}=.13$ ) and with 48.39% of situation cues in the U.S. sample ( $M_{|r|}=.13$ ). In the Austrian sample, the top three correlates were: "Working, studying" (-.46), "Being alone" (-.30), and "Friends" (.30). In the U.S. sample, the top three correlates were: "Working, studying" (-.40), "At university" (-.26), and "TV, Movies" (.26).

Negativity correlated significantly with 45.16% of situation cues in the Austrian sample ( $M_{|r|}=.10$ ) and with 41.94% of situation cues in the U.S. sample ( $M_{|r|}=.07$ ). In the Austrian sample, the top three correlates were: "Working, studying" (.42), "Exam" (.30), and "At university" (.25). In the U.S. sample, the top three correlates were: "Working, studying" (.26), "Eating" (-.22), and "Exam" (.20).

Deception correlated significantly with 41.94% of situation cues in the Austrian sample ( $M_{|r|} = .08$ ) and with 29.03% of situation cues in the U.S. sample ( $M_{|r|} = .13$ ). In the Austrian sample, the top three correlates were: "Exam" (.24), "At university" (.19), and "Being alone" (-.15). In the U.S. sample, the top three correlates were: "Being alone" (.12), "Computer/Online" (.11), and "Eating" (-.10).

Sociality correlated significantly with 70.97% of situation cues in the Austrian sample ( $M_{|r|} = .16$ ) and with 48.39% of situation

cues in the U.S. sample ( $M_{|r|} = .07$ ). In the Austrian sample, the top three correlates were: "Being alone" (-.58), "Friends" (.32), and "Communicating" (.31). In the U.S. sample, the top three correlates were: "Working, studying" (-.27), "Friends" (.27), and "Exam" (-.19).

#### Discussion

As we had hypothesized, the DIAMONDS dimensions were related to a variety of concrete situation cues. The associations uncovered may further illuminate the nature of each DIAMONDS dimension. A potential limitation of this study is that the only situation cues we extracted came from verbally encoded "thin slice" situation descriptions reported by raters *in situ*. The descriptions are probably biased toward cues that were salient (i.e., captured selective attention), consciously processed, and easily recalled. More cues can be sampled by recording everyday situations (e.g., with mini-cameras and microphones) and attempting to sample an exhaustive set of cues (e.g., by including tactile/haptic, olfactory, gustatory, vestibular, and unconsciously processed cues). Multimodal cues pertaining to *all* types of sensory information may be established for each DIAMONDS dimension in future studies.

#### Study 4: Affordances of the DIAMONDS Dimensions

# **Background**

Situations have been frequently understood in terms of their affordances (see Chemero, 2001, 2003; Gibson, 1977, 1979; Stoffregen, 2000a, 2000b, 2003, 2004): What does a situation demand, call for, require, or elicit? Affordances have been described as the relevance of needs, motives, and goals to a situation because "the essence of a situation is its affordance of

Table 5
Associations Between the DIAMONDS Dimensions and Situation Cues

	Ι	)	I		A	Λ.	N	1	C	)	N	1	Ι	)	S	3
Cues	Austria	United States														
Persons, Interactions																
Family	06	10*	.08	05	04	.04	07	05	.15*	.09*	13*	09*	05	.01	.23*	.08*
Mate, spouse	03	09*	.06	06	.02	02	.48*	.28*	.18*	.07	17*	11*	04	$07^{*}$	.30*	.16*
Friends	13*	23*	.15*	08*	.13*	.00	.08	.07*	.30*	.23*	09*	15*	.13*	$07^{*}$	.32*	.27*
Cohabitants	.01	12*	.01	03	.05	03	12*	05	.12*	.13*	07	07*	01	.03	.10*	.11*
Colleagues	.15*	.12*	.09*	.03	.09*	.04	.14*	01	.00	02	.09*	03	.11*	04	.13*	.04
Animal	.01	_	.01	_	03	_	.02	_	.06	_	01	_	07	_	.04	_
Being alone	.00	.06	20*	.00	18*	.02	36*	09*	30*	05	.11*	.12*	15*	.12*	58*	18*
Objects, Events, Activities																
Sports/training	.06	01	11*	22*	.08	.07*	.05	.10*	.12*	.08*	.09*	01	.04	$07^{*}$	.02	.04
Exam	.23*	.17*	.05	.10*	.10*	.04	.03	05	20*	20*	.30*	.20*	.24*	.08*	10*	19*
Preparing food	.14*	.03	.02	09	.04	02	.04	.05	.13*	.06	10*	08*	05	09*	.12*	.05
Eating	26*	25*	.09*	.02	08	10*	.02	.04	.18*	.18*	21*	22*	09*	10*	.18*	.17*
Drinking	16*	05	.15*	05	.03	.03	.16*	.02	.20*	.06	07	02	.10*	04	.26*	.03
Communicating	03	10*	.20*	01	.09*	.06	.01	.04	.23*	.05	14*	10*	.12*	.06	.31*	.18*
TV, movies	31*	24*	12*	.02	09*	.00	01	.07*	.04	.26*	10*	06	15*	.00	15*	.03
Commuting	10*	.01	10*	09*	03	.07*	.00	02	09*	04	.01	.00	08	.06	.02	.03
Computer/online	.03	03	.05	.03	02	06	11*	02	.00	.07*	.04	04	.05	.11*	07	02
Videogames	.02	06	01	13*	.08	.19*	06	06	.12*	.17*	.05	.02	.11*	.04	05	04
Reading	02	.02	.03	.11*	07	05	13*	09*	12*	04	.03	.01	08	03	18*	09*
Working, studying	.60*	.44*	.07	.34*	.07	06	13*	23*	46*	40*	.42*	.26*	.15*	.03	23*	27*
Shopping	01	.03	16*	14*	05	01	.07	.06	01	.06	05	03	04	.00	.00	.07*
Grooming	05	.07*	19*	15*	01	02	.01	.12*	05	03	04	03	07	03	11*	04
Waiting	06	04	08	.02	05	03	.04	.01	03	10*	05	.09*	03	.02	.02	.01
Sleep	12*	.00	12*	.00	.00	04	04	.02	06	.04	02	05	03	.01	17*	01
Music, dance	06	02	09*	02	.01	02	08	.04	03	.07*	05	06	05	05	15*	.01
Telephone	.03	03	.09*	02	.05	.03	07	.02	.05	.02	08	05	.06	04	.10*	.08*
Places																
At home	.03	03	03	.04	09*	05	27*	13*	08	.05	03	.00	14*	.04	29*	12*
In bathroom	09*	.02	17*	07*	09*	04	01	.09*	02	.03	08	03	10*	02	11*	06
In kitchen	.07	.02	.03	07*	.05	.00	02	.02	.06	.05	03	05	01	.00	.01	.00
In bed	06	01	.00	04	05	05	05	.03	04	.02	01	03	05	.00	12*	.01
At university	.24*	.17*	.07	.30*	.04	02	.06	04	23*	26*	.25*	.16*	.19*	01	06	08*
In bar/café/restaurant	12*	17*	.18*	02	.03	05	.25*	.11*	.20*	.11*	09*	13*	.03	07*	.25*	.13*

Note. Sample H (Austria): N = 532-534; Sample I (United States): N = 810. DIAMONDS = Duty, Intellect, Adversity, Mating, pOsitivity, Negativity, Deception, and Sociality. Dashes indicate that correlations could not be computed (because there were no animals as situation cues in Sample I). \* p < .05.

human goals" (Yang et al., 2009, p. 1030, italicized in the original; see also Argyle et al., 1981; Edwards & Templeton, 2005; Yang et al., 2006, 2009). Further, affordances may also refer to the probability of the expression of traits (e.g., Kenrick, McCreath, Govern, King, & Bordin, 1990; Saucier et al., 2007; Ten Berge & de Raad, 1999, 2001, 2002). As the RSQ was not built on an explicit theory of affordances, it may be helpful to examine the goal and trait affordances of the DIAMONDS dimensions. In this study, we thus embed the DIAMONDS dimensions into a rich nomological network of affordances to yield a differentiated picture of which goal and trait content each dimension taps.

#### **Hypotheses**

We broadly hypothesized that the DIAMONDS dimensions would be related to a host of affordances. Specifically, we expected that Duty would be related to achievement-/work-related affordances, Intellect to intellectual/educational affordances, Adversity to conflict affordances, Mating to sexual/romantic affordances, pOsitivity to social-affiliative and pleasant affordances,

Negativity to unpleasant affordances, Deception to aggression/ hostility affordances, and Sociality to social/affiliative affordances.

#### Method

**Samples.** Data from Sample H were used for this study (see Study 2).

Measures. Affordances were assessed in Sample H with (a) afforded Big Five traits as well as (b) afforded motives, needs, and goals (see Bernard, Mills, Swenson, & Walsh, 2005; Chulef, Read, & Walsh, 2001). For each of the three waves, two raters *ex situ* rated each situation on all of these dimensions (one item per dimension). They indicated on a 9-point Likert-type scale from 0 (*not at all*) to 8 (*completely*) to what extent each situation they read "afforded" or "called for" a trait or motive. We then formed a composite-score for each dimension by mean-aggregating the two ratings. Reliabilities (ICCs and Cronbach's αs) of these composite-scores can be found in the online supplemental materials, Section F (OSM F), broken down by wave and averaged across waves. The mean ICC for

Big Five affordances was .71 (i.e., good agreement), for Big Three motive affordances .76 (i.e., good agreement), and for goal affordances .50 (i.e., moderate agreement).

**Data-analytical plan and statistical analyses.** We used the R function cor.comb from the "multicon" package (Sherman, 2014) to handle the time-varying data and nesting within persons (because affordances and DIAMONDS dimensions ratings varied across three time points within individuals in Sample H). The function computes the correlation at each of the time points (which correspond to disaggregated analyses) and then combines the resulting estimates in a sample-size weighted meta-analysis. It additionally provides randomized p values that are appropriate in the context of non-independent data (as time points are nested within persons).  $^{13}$ 

#### Results

Correlations between situational affordance ratings and the DIAMONDS dimensions are displayed in Table 6. The amount of significant correlations with affordances ranged from 31.71% to 82.39%. The correlates that emerged for each DIAMONDS dimension were conceptually plausible and in line with our hypotheses.

Duty correlated significantly with 75% of affordance ratings  $(M_{\rm lrl} = .21)$ , and its top three correlates were (rs in parentheses): "Achievement" (.61), "Conscientiousness" (.60), and "Career" (.53). Intellect correlated with 56.25% of affordance ratings  $(M_{\rm brl} = .13)$ , and its top three correlates were: "Social recognition" (.26); "Affiliation," "Extraversion," and "Agreeableness" (.23); and "Education" (.22). Adversity correlated significantly with 34.38% of affordance ratings ( $M_{|r|} = .07$ ), and its top three correlates were: "Power" (.22), "Social recognition" (.20), and "Aggression" (.16). Mating correlated significantly with 53.13% of affordance ratings ( $M_{|r|} = .14$ ), and its top three correlates were: "Love/sex" (.41), "Agreeableness" (.35), and "Extraversion" (.34). pOsitivity correlated significantly with 87.50% of affordance ratings ( $M_{|r|} = .28$ ), and its top three correlates were: "Fun" (.53), "Agreeableness" (.52), and "Extraversion" (.51). Negativity correlated significantly with 81.25% of affordance ratings ( $M_{|r|} = .22$ ), and its top three correlates were: "Achievement" (.47), "Career" (.42), and "Conscientiousness" (.40). Deception correlated significantly with 43.75% of affordance ratings ( $M_{|r|} = .10$ ), and its top three correlates were: "Power" (.28), "Career" (.21), and "Achievement" (.19). Sociality correlated significantly with 81.25% of affordance ratings  $(M_{\rm bd} = .28)$ , and its top three correlates were: "Power" (.28), "Career" (.21), and "Achievement" (.19).

#### **Summary and Discussion**

The DIAMONDS dimensions were related in conceptually plausible and meaningful ways to a multitude of affordances. In line with our hypotheses, Duty was related to achievement- and work-related affordances, Intellect to intellectual affordances, Adversity to conflict affordances, Mating to sexual and romantic affordances, pOsitivity to social-affiliative and pleasant affordances, Negativity to negative affect and unpleasant affordances, Deception to aggression/hostility affordances, and Sociality to social-affiliative affordances. Future research may be devoted in detail to the goal content and processes (Yang et al., 2009) that may underlie the DIAMONDS dimensions. The current findings provide first evidence that such research on motive-/need-/goal-underpinnings may be a fruitful avenue.

# Study 5: Behavioral Prediction From the DIAMONDS Dimensions

#### **Background**

A key goal of almost any psychological concept or measurement tool is to predict real-world consequences such as behavior (Baumeister et al., 2007; Reis, 2008). Indeed, situations are primarily important because of their alleged effects on behavior (Argyle et al., 1981; Magnusson, 1981b; Pervin, 1981; Ross & Nisbett, 1991). Consistent with this link between situations and behavior, some strands in situation research have examined similar, expressed, or appropriate behaviors across different situations (e.g., Argyle et al., 1981; Barker, 1963, 1968; Barker & Wright, 1951, 1955; Wicker, 1979/1984). Accordingly, a situational taxonomy must also explicitly address behavioral sequelae (Reis, 2008, p. 315). Hence, situation perceptions should predict behavior enacted in situ, and the usefulness of any new taxonomic model of situation characteristics along with its corresponding psychometric measurement tool hinges upon the question to what extent behavior (whether selfreported, peer-observed, or coder-rated; see Sherman, Nave, & Funder, 2009) can be predicted. Thus, if the DIAMONDS dimensions are to be deemed useful for future research, then they must predict behavior.

### **Hypotheses**

We expected that the DIAMONDS dimensions would be able to predict a variety of self-reported behaviors enacted *in situ*. Specifically, Duty should predict work-, achievement-, and education-related behavior; Intellect cognitive-intellectual behavior; Adversity conflict behavior; Mating romantic, sexual, and attraction behavior; pOsitivity joyous and positively valued behavior; Negativity anxious and irritated behavior; Deception deceptive and antagonistic behavior; and Sociality interaction and communication behavior.

#### Method

**Samples.** Data from Samples H and I were used for this study (see Study 2).

**Measures.** Self-reported behaviors were assessed broadly with 67 items from the Riverside Behavioral Q-Sort Version 3.0 (RBQ; Funder et al., 2000), as described by the participants who performed them. This measure captures a wide range of self-reported behaviors in a reliable and valid fashion (see Sherman et al., 2009). Sample H used a 9-point Likert-type scale from 0 (not at all) to 8 (completely) and Sample I a 9-bin Q-sort from 1 (extremely uncharacteristic) to 9 (extremely characteristic).

<sup>&</sup>lt;sup>13</sup> Note that affordances rated *ex situ* and DIAMONDS rated *in situ* were correlated here. This effectively controls for common method bias due to shared variance sources. Correlating affordances rated *ex situ* with DIAMONDS rated *ex situ* lead to correlations stronger in magnitude (because of an inflation due to the common variance source of raters *ex situ*), but the pattern of findings remained highly similar and was thus replicated.

Table 6
Associations Between the DIAMONDS Dimensions and Situational Affordance Ratings

	Descr	iptives		Corre	elations with	the DIAMO	NDS dimens	sions (raters	in situ)	
Situation ratings	M	SD	D	I	A	M	О	N	D	S
Big Five affordances										
Extraversion	3.42	1.57	$10^{*}$	.23*	.15*	.34*	.51*	$29^{*}$	.13*	.69*
Agreeableness	3.72	1.72	$10^{*}$	.23*	.09	.35*	.52*	34*	.07	.71*
Conscientiousness	2.66	1.60	.60*	.00	.04	$14^{*}$	44*	.40*	.12*	$22^{*}$
Openness	2.96	1.11	.01	.22*	03	.02	.16*	09	01	.20*
Neuroticism	0.84	0.59	.12*	.03	.12*	03	31*	.32*	.18*	16*
Big Three Motives affordances										
Achievement	2.12	1.69	.61*	.10	.09*	$10^{*}$	38*	.47*	.19*	$22^{*}$
Affiliation	3.28	1.58	$15^{*}$	.23*	.13*	.29*	.49*	$29^{*}$	.09	.67*
Power	0.36	0.38	.35*	.09	.22*	01	22*	.30*	.28*	05
Goal affordances										
Mating and kinship	0.72	4.00	0.5	0.6	0.4	0.5	4.50	4.0*	0.5	2.50
Family	0.72	1.20	05	.06	01	05	.15*	12*	05	.25*
Looks	0.94	0.93	09	14*	.01	.20*	.10*	12*	06	.09
Love/sex	0.64	0.88	10*	.01	03	.41*	.22*	21*	06	.30*
Social relations										
Friendship	3.14	1.83	12*	.22*	.13*	.23*	.46*	25*	.09	.56*
Positive social qualities	2.65	1.33	03	.22*	.10*	.24*	.48*	$27^{*}$	.05	.64*
Social awareness	2.44	1.28	10*	.22*	.10*	.27*	.47*	$29^{*}$	.05	.65*
Social recognition	2.96	1.30	01	.26*	.20*	.30*	.41*	16*	.18*	.59*
Obtaining	1.37	0.93	.02	.15*	.07	.19*	.19*	08	.08	.36*
Fun	3.58	1.63	41*	.10*	.01	.16*	.53*	33*	01	.31*
Teaching/helping	0.62	0.70	.25*	.06	.08	.01	.01	.00	.06	.16*
Intellect and growth										
Education	2.04	1.77	.41*	.22*	01	14*	42*	.37*	.14*	$27^{*}$
Career	1.30	1.36	.53*	.20*	.07	05	41*	.42*	.21*	$17^{*}$
Personal development	1.50	0.98	.40*	.22*	.09	10*	26*	.35*	.14*	16*
Creativity	0.79	0.79	.21*	.06	.04	03	.11*	03	.02	.04
Flexibility/openness	2.40	0.94	08	.18*	.04	.17*	.31*	16*	.08	.39*
Aesthetics	0.93	0.74	$20^{*}$	13*	04	.06	.12*	14*	11*	05
Health and safety										
Physical health	1.43	1.19	16*	16*	04	.06	.14*	13*	13*	.01
Psychological health	1.83	0.80	$17^{*}$	02	.01	.03	.18*	13*	03	.13*
Stability/security	1.45	0.66	.09*	.11*	.12*	.09	.01	.05	.13*	.27*
Order	1.05	0.88	.41*	06	.01	09*	36*	.25*	.04	$17^{*}$
Freedom	1.33	0.71	26*	.08	.00	.04	.24*	15*	02	.11*
Autonomy	2.12	0.72	.36*	.02	.03	07	29*	.29*	.14*	23*
Money/materialism	0.61	0.64	.10*	01	.03	.08	.00	02	.08	.12*
Aggression	0.16	0.32	.06	.00	.16*	.01	05	.17*	.15*	.03
Not enough variance										
Higher meaning	0.42	0.53	_	_	_	_	_	_	_	_
Leading	0.44	0.49	_	_	_	_	_	_	_	_
Defense	0.38	0.39	_	_	_	_	_	_	_	_
Ethics/ideals	0.80	0.51	_	_		_		_	_	_
Religion	0.06	0.16	_	_		_		_	_	_
Marriage	0.04	0.16	_	_			_	_		_

Note. N=174-178. Affordances within each of their categories (Big Five, Big Three Motives) are sorted according to their mean level of intraclass correlation coefficients (ICCs; see the online supplemental materials, Section F, penultimate column: Agg. ICC<sub>adj</sub>) in descending order. For more clarity, goal affordances are arranged in conceptually meaningful chunks (but *not* ordered according to mean-level ICCs). DIAMONDS (Duty, Intellect, Adversity, Mating, pOsitivity, Negativity, Deception, and Sociality): in situ ratings; affordances: ex situ ratings. Dashes indicate that correlations could not be computed (due to too little variance). Meta-analytically combined and sample-weighted Pearson's product–moment correlation coefficients (zero-order) are presented. Randomized p values were used to judge statistical significance.

\* p < .05.

**Data-analytical plan and procedure.** As in Study 4, we used the cor.comb function from the "multicon" package (Sherman, 2014) in R to handle time-varying data (because behavior and DIAMONDS dimensions ratings varied across three and four time points within individuals in Samples H and I, respectively).

#### Results

Correlations between all RBQ items and the DIAMONDS dimensions as rated by raters *in situ* in Sample H (Austria) and I (United States) are displayed in Table 7. The amount of significant situation cues ranged from 46.27 to 88.06% across

This document is copyrighted by the American Psychological Association or one of its allied publishers. This article is intended solely for the personal use of the individual user and is not to be disseminated broadly. Associations Between the DIAMONDS Dimensions and Behavior

					▼			M			Z		Ω		S	
RBQ items	Austria	United States	Austria	United States	Austria	United States	Austria	United States	Austria	United States	Austria	United States	Austria	United States	Austria	United States
Neurotic behavior  31a—Acting irritated 36a—Behaving in fearful or timid manner 44a—Saying negative things about self 47a—Expressing self-pity or victimization 06—Being relaxed and comfortable 14—Comparing self to other(s) 21—Expressing insecurity 22—Exhibiting physical signs of tension/anxiety 26—Seeking reassurance 39—Expressing guilt 67—Exhibiting physical discomfort/pain			. 18* . 08 . 08 . 25* . 25* . 24* . 34* . 34*	.03 .03 .03 .03 .00 .01 .01 .07 .06	34* 334* 24* 34* 34* 30* 30* 31* 31*	. 18* . 00 . 05 . 08* . 19* . 15* . 14* . 02 . 06	**************************************						34** 35** 34** 34** 30** 30** 30** 30** 30** 34** 34	. 26* . 14* . 10* . 12* . 03 . 03 . 15* . 18* 	.08 .04 .32* .12* .31* .31* .13* .17*  .32* .32* .33*	
Extraverted behavior  15 <sup>a</sup> —Exhibiting high enthusiasm and energy level  20 <sup>a</sup> —Being talkative  37 <sup>a</sup> —Being expressive in voice, face, or gesture  49 <sup>a</sup> —Behaving in a cheerful manner  Sociability-aspect  01—Interviewing other(s)  02—Volunteering information about self  29—Seeking advice  08—Behaving reserved and unexpressive  60—Seeming detached from situation  17—Talking at other(s)  40—Keeping other(s)  40—Keeping other(s) at a distance  Positive-affect-ancet	. 18* 06 09 09 09 09 09 	09* 20* 07 03 12* 14* .07* .07*		07* 19* 07 03 03 08* 04 04 04	.18* .15* .19* .25* .28* .32* .32* .19*	- 03 - 04 - 08 - 08 - 07 - 07 - 07 - 07 - 07 - 03	.21* .33* .26* .27* .34* .08 .01* .08	.10** .06 .06 .07 .17** .01 .01 .04 .04 .05 .05 .06 .06 .06 .06 .07	.37* .58* .40* .71* .40* .46* .18* .13*	36° 36° 30° 30° 10° 10° 10° 12° 12° 12° 13° 13° 13°	.02 28* 11* 43* 19* .12* .15* .08	21* 32* 32* 26* 26* .16* .26* .26* .26*	19**		39* .77* .50° .51* .69* .65* .49* 30° 21*	.17* .09* .09* .21* .29* .29* .25* 28*
09—Laughing frequently 10—Smiling frequently 25—Initiating humor 42—Enjoying situation 62—Acting playful	20* 20* 10* 38* 08	30* 24* 24* 24*	.24* .28* .36* .16*	10* 13* 15* 07	.09* .08 .16* 07	02 07 04 12*	.35* .35* .37* .35*	.19* .26* .15* .18* .21*	.698 .688 .613 .744 .673	.62* .55* .54* .63* .63*	36* 37* 30* 47*	41* 35* 25* 28*	.03 .02 .11* 13*	16* 15* 15* 19* 12*	.61* .61* .39* .52*	.31* .34* .21* .21* .35*
Energy-aspect 11—Being physically animated; moving a lot 56—Speaking in a loud voice 61—Speaking quickly 65—Engaging in physical activity Savuolity, aspect	.03 .05 .04 .16*	.00 02 05 .08*	11* .30* .27* 07	21* 14* 08* 22*	.10* .25* .17* .19*	.06 .07 .01	.28* .20* .15* .24*	.07* 01 09*	.27* .27* .13*	.23* .06 06 09*		16* 02 .05	01 .25* .22* .06	03 06 .08*	.24** .38** .15**	.12* .05 .00 06
58—Making physical contact 59—Bngaging in constant eye contact 30—Annearing to regard self as physically	06	10* .01	.18*	03	80.	11* 06	.45* .31*	.24*	.33* *££:	03 09*	14* 21*	05 .02	.09	.08*	.42* .55*	.16*
	.01	07 19*	.11*	02 08*	.10*	*60	.41* .67*	.31*	.25* .28*	.06 *80.	$10^{*}$ $15^{*}$	17* 23*	.12*	04	.40* .37*	.06
2	08	01	.05	*60	.03	03	.18*	.16*	.21*	.02	15*	04	90.	03	.27*	.05
04—Trying to control situation	.38*	.26*	.08	$10^{*}$	.21*	.19*	.01	16*	14*	21*	.37*	.21*	.32*	.10*	0224* (table continues)	24* ttinues)

Table 7 (continued)

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	D		I		A		M		0		Z	_		۵	S	
RBQ items	Austria	United States	Austria	United States	Austria	United	Austria	United States	Austria	United States	Austria	United States	Austria	United States	Austria	United States
05—Dominating situation 52—Offering advice 63—Other(s) seeking advice from self	.27* .20* .25*	.24* .04 .11*	.06 .42* .41*	06 .05	.14* .26* .30*	.16* .02 08*	02 .20* .15*	13* 08* 04	10* .29* .23*	15* 04 14*	.28* .01 .12*	.17* 03	.19* .27* .29*	.10* 06 03	08 .57* .48*	21* .10* 02
Open/intellectual behavior  16 <sup>a</sup> —Displaying wide range of interests 23 <sup>a</sup> —Exhibiting high degree of intelligence	07 .28*	16* .26*	*84. *74.	.13*	.15*	14* 05	.34 **	01 25*	.55* .05	.26* 27*	23* .21*	29* .22*	.13*	11 <sub>*</sub>	.70* .27*	.18*
1 .1	.17*	.18*	.67* .41*	.51*	.17*	16* 09*	.20* .22*	17* 02	.19* .52*	24* .25*	.08	.17*	.25* .14*	04	.41 <sub>*</sub> .51.	16* .07*
	11 <sub>*</sub>	06	.36* .49*	.15*	.10*	21* 11*	.20* .28*	07	.28* .46*	.07	14* 12*	.05	.05	07	.32*	11*
33—Having an unusual or unconventional appearance	90.	90.	.26*	.01	.25*	01	.20*	05	.10*	13*	.16*	.11*	.28*	.10*	.16*	16*
Agreeable behavior 12 <sup>a</sup> —Liking other(s) 18 <sup>a</sup> —Expressing agreement frequently 24 <sup>a</sup> —Expressing sympathy	01 .0.	12* .01 04	£ £ £ £ £	12* .03	.17*	02 04 02	.45. .27. .36.	.12*	.50* .43* .52*	.33* .01	20* 17* 26*	29* 09* 07	.13*	12* 10* .01	.80°. .60°.	.35* .15* .09*
32a—Expressing warmth 03—Interested in what partner(s) say	05 .01	15* 08*	.38*	.00	.12*	15* 04	33*	.19*	.54*	.23*	23* 12*	27* 25*	.11.	11*	.75*	.34* .34*
	.11.	.01	£ £ £ £ £ £ £ £ £ £ £ £ £ £ £ £ £ £ £	111 04 05	27**	03 .24* 10*	.38*	- 1.2 - 1.2 - 1.2 - 1.2	.15**	.37 15* .35*	25 .111* 26*	38 22 28	32*************************************	-114		.43 
46—Blaming others 57—Speaking sarcastically	.19*	.01	.31*	07° 05	.31*	.10°	.06	09° 01	07 .26*	17° .01	.35°.	.16° .02	.48° .34*	.12°.	.14° .40*	12° .03
Conscientious behavior 45a—Displaying ambition 54a—Emphasizing accomplishments 55a—Behaving in competitive manner 64a—Concentrating; working hard at task 50—Giving up when faced with obstacles	* 44. 02 :21. :64.* .03		.38* .34* .12* .15* .16*	.23* .11* 03 .15*	.20* .19* .33* .22* .08	05 11* 01 11*	.13* .19* .07 .06	17* 06 10* 23*	.04 .27* 13* 34*	30* 10* 18* 37*	.28* 12* .31* .51*	.20* 04 .23* .34* .03	.26* .37* .27* .14*	05 03 .14* .06	.39* .39* 11* 15*	13* 03 26* 34*
Honest/ingenuous behaviors 27—Exhibiting condescending behavior 33—Trying to undermine/sabotage 34—Expressing hostility 66—Acting in self-indulgent manner 13—Exhibiting an awkward interpersonal style	.08 .06 .11.* 13*	.07 .02 .08* 16*	.15* .15* .15* .16*	08* 12* 01 06	24. 24. 30. 30. 38.	*41. *15. *21. *0.	.03 .06 .00 .14* .19*	05 04 14* 12*	02 01 11* 19*	13* 17* 28* 23*	.16* .25* .31* 11*	.14* .17* .31* .05	.24* .37* .04 .26*	.20* .24* .30* 05	.04 .03 .03 .15*	16* 23* 29* 06

Note. Sample H (Austria): N = 173–179; Sample I (United States): N = 202–204. DIAMONDS = Duty, Intellect, Adversity, Mating, pOsitivity, Negativity, Deception, and Sociality. RBQ = Riverside Behavioral Q-Sort Version 3.0. For the full RBQ item wordings, see Funder, Furr, and Colvin (2000) and http://rap.ucr.edu/qsorter/. For more clarity, RBQ behaviors were meaningfully arranged according to Big Five and Big Six domains. Meta-analytically combined and sample-weighted Pearson's product-moment correlation coefficients (zero-order) are presented. Randomized p values were used to judge statistical significance.

<sup>a</sup> These RBQ items were used in Study 6 to form aggregate Big Five scores.

<sup>b</sup> P < .05.

both samples. Although there were, on average, more and stronger correlations in the Austrian sample than in the U.S. sample, correlational patterns were generally highly similar across both samples (see OSM E for replicability). This indicated that the behavioral correlates of each DIAMONDS dimension could be replicated well across the two samples. Moreover, the correlates that emerged for each DIAMONDS dimension were conceptually plausible and in line with our hypotheses.

Duty correlated significantly with 56.72% of RBQ items ( $M_{|r|} = .14$ ) in the Austrian sample and with 58.21% of RBQ items ( $M_{|r|} = .12$ ) in the U.S. sample. In the Austrian sample, the top three behavioral correlates were (rs in parentheses): "Concentrating; working hard at task" (.64), "Displaying ambition" (.44), and "Enjoying situation" (-.38) as well as "Trying to control situation" (.38). In the U.S. sample, the top three correlates were: "Concentrating; working hard at task" (.41), "Laughing frequently" (-.30), and "Initiating humor" (-.29).

Intellect correlated significantly with 86.57% of RBQ items  $(M_{|r|} = .26)$  in the Austrian sample and with 46.27% of RBQ items  $(M_{|r|} = .09)$  in the U.S. sample. In the Austrian sample, the top three behavioral correlates were: "Exhibiting an interest in intellectual/cognitive matters" (.67), "Speaking fluently; expressing ideas well" (.49), and "Displaying wide range of interests" (.48). In the U.S. sample, the top three correlates were: "Exhibiting an interest in intellectual/cognitive matters" (.51), "Exhibiting high degree of intelligence" (.49), and "Displaying ambition" (.23).

Adversity correlated significantly with 85.07% of RBQ items  $(M_{|r|} = .20)$  in the Austrian sample and with 46.27% of RBQ items  $(M_{|r|} = .08)$  in the U.S. sample. In the Austrian sample, the top three behavioral correlates were: "Blaming others" (.47), "Trying to undermine/sabotage" (.40), and "Exhibiting an awkward interpersonal style" (.38). In the U.S. sample, the top three correlates were: "Expressing criticism" (.24), "Exhibiting an interest in fantasy or daydreams" (-.21), and "Being relaxed and comfortable" (-.19).

*Mating* correlated significantly with 76.12% of RBQ items  $(M_{|r|} = .21)$  in the Austrian sample and with 65.67% of RBQ items  $(M_{|r|} = .12)$  in the U.S. sample. In the Austrian sample, the top three behavioral correlates were: "Expressing sexual interest" (.67), "Making physical contact" (.45), and "Liking other(s)" (.45). In the U.S. sample, the top three correlates were: "Expressing sexual interest" (.52), "Appearing to regard self as physically attractive" (.31), and "Smiling frequently" (.26).

pOsitivity correlated significantly with 86.57% of RBQ items  $(M_{|r|}=.32)$  in the Austrian sample and with 79.10% of RBQ items  $(M_{|r|}=.24)$  in the U.S. sample. In the Austrian sample, the top three behavioral correlates were: "Enjoying situation" (.74), "Behaving in a cheerful manner" (.71), and "Laughing frequently" (.69). In the U.S. sample, the top three correlates were: "Enjoying situation" (.63), "Laughing frequently" (.62), and "Smiling frequently" (.55).

*Negativity* correlated significantly with 83.58% of RBQ items  $(M_{|r|} = .22)$  in the Austrian sample and with 77.61% of RBQ items  $(M_{|r|} = .20)$  in the U.S. sample. In the Austrian sample, the top three behavioral correlates were: "Being relaxed and comfortable" (-.56), "Concentrating; working hard at task" (.51), and "Enjoying situation" (-.47). In the U.S. sample, the top three correlates

were: "Acting irritated" (.52), "Exhibiting physical signs of tension/anxiety" (.49), and "Smiling frequently" (-.44).

Deception correlated significantly with 85.07% of RBQ items  $(M_{|r|} = .21)$  in the Austrian sample and with 64.18% of RBQ items  $(M_{|r|} = .10)$  in the U.S. sample. In the Austrian sample, the top three behavioral correlates were: "Blaming others" (.48), "Behaving in competitive manner" (.37), and "Trying to undermine/sabotage" (.37). In the U.S. sample, the top three correlates were: "Expressing hostility" (.30), "Acting irritated" (.26), and "Trying to undermine/sabotage" (.24).

Sociality correlated significantly with 88.06% of RBQ items  $(M_{|r|} = .40)$  in the Austrian sample and with 80.60% of RBQ items  $(M_{|r|} = .18)$  in the U.S. sample. In the Austrian sample, the top three behavioral correlates were: "Exhibiting social skills" (.82), "Liking other(s)" (.80), and "Seeming/Being likeable" (.78). In the U.S. sample, the top three correlates were: "Exhibiting social skills" (.43), "Being talkative" (.39), and "Acting irritated" (-.38).

#### **Summary and Discussion**

As expected, the DIAMONDS dimensions were meaningfully associated with a broad set of behavioral sequelae (Reis, 2008): Duty was related to achievement-/work-related behaviors, Intellect to intellectual behaviors, Adversity to conflict behaviors, Mating to sexual/romantic behaviors, pOsitivity to social-affiliative and pleasant behaviors, Negativity to unpleasant behaviors, Deception to antagonistic behaviors, and Sociality to social-affiliative behaviors. These findings provide further evidence for the usefulness of the DIAMONDS taxonomy.

# Study 6: Relative Predictive Power of the DIAMONDS Dimensions

#### **Background**

We have previously established in Study 5 that the DIAMONDS dimensions are associated with a plethora of behaviors. Another important objective is to establish the *relative usefulness* of behavioral predictions. In other words, the predictive power of the DIAMONDS vis-à-vis other measures predicting behavior needs to be demonstrated. Ideally, the DIAMONDS dimensions would be (a) strong predictors of behavior, (b) predict behavior more strongly than other measures, and (c) tap incremental and unique variance not tapped by other measures. The DIAMONDS dimensions should thus outperform personality and other situation measures to be of maximum practical utility when real-world phenomena are to be explained.

Estimations of predictors' utility or importance *relative to* other predictors cannot be based on correlation or regression coefficients alone. Recently, Nimon and Oswald (2013) have systematized different metrics that can be used to judge predictors' relative predictive power (see also Nathans, Oswald, & Nimon, 2012). These metrics are particularly useful when predictor variables are intercorrrelated (multicollinearity) or when suppressor effects may be present (by having many predictors in a regression model). They capitalize on an "all-possible-subsets regression approach" (APS regressions): metrics of relative importance for each predictor p (and sets of predictors) are derived by running regressions for all  $2^p - 1$  subsets of predictors. This allows examining different

metrics that go beyond traditional correlation and regression coefficients (and do not suffer from multicollinearity or suppression effects).

Based on the different kinds of metrics available for estimating predictive power, we discriminate three different (but related) aspects of predictive power in this study: incremental, dominant, and unique prediction. First, we need to compare how much incremental variance the DIAMONDS dimensions can add above personality or other situation measures to how much incremental variance personality or other situation measures can add above the DIAMONDS dimensions. The practice of estimating incremental predictive criterion validity has a long-standing history in personality psychological and psychometric literature. In the current case, it yields a first but crude estimate of whether the DIAMONDS dimensions, as a set of predictors, harbor incremental predictive abilities above and beyond personality and other situation measures, as sets, respectively. However, this approach does not readily allow inferences about relative predictive power. Thus, we additionally consider dominant and unique prediction to cast a more differentiated picture on the DIAMONDS dimensions' predictive abilities.

Second, *dominant prediction* is contingent upon incremental prediction in the sense that each predictor's incremental validity is computed across all possible regression submodels with that predictor. The resulting incremental validity coefficients are then used to establish whether there is complete, conditional, or general dominance (Nimon & Oswald, 2013). Complete dominance, rarely to be ever achieved, indicates that one predictor dominates another predictor in all submodels of a regression. In most cases, however, it is enough to establish that one predictor is generally more dominant than other predictors across most regression submodels.

Third, unique prediction can be investigated with commonality analysis which partitions the total explained variance of a criterion/ dependent variable into unique contributions from each predictor and common contributions shared between all combinations of the predictors. For example, if a dependent variable Z is predicted by three Predictors  $X_1$ ,  $X_2$ , and  $X_3$ , then the unique portions of variance (from the total amount of variance that  $X_1$ ,  $X_2$ , and  $X_3$ account for in Z) refer to  $X_1$ ,  $X_2$ , and  $X_3$  separately, whereas the common portions of variance to what is shared between  $X_1$ - $X_2$ ,  $X_1$ - $X_3$ ,  $X_2$ - $X_3$ , and  $X_1$ - $X_2$ - $X_3$ . Seibold and McPhee (1979) explained that only by "determining the extent to which . . . independent variables, singly and in all combinations, share variance with the dependent variable . . . can we fully know the relative importance of independent variables with regard to the dependent variable in question" (p. 355; italics added for emphasis). In essence, commonality analyses yield commonality coefficients that (a) sum up to the fully explained  $R^2$ , (b) can be compared to each other, and (c) are separated into unique and common effects (Nimon & Oswald, 2013). The unique effects are of most interest in our context because they tell us something about the "pure" effect of one predictor (relative to other pure effects of other predictors as well as what is shared with other predictors).

### **Hypotheses**

To demonstrate the relative usefulness of the DIAMONDS dimensions, we expected that they would outperform personality traits and other situation measures in the prediction of behavior.

For competing personality traits, we chose the Big Five because they represent the most widely acknowledged taxonomy of major categories of human individual differences (John & Srivastava, 1999). For the same reasons, we used Big Five behaviors as outcome variables. The selection of only five broad behavior dimensions additionally had the benefit of greatly reducing the amount of outcome variables to be considered. For competing situation measures, we chose Van Heck's (1984, 1989) situational taxonomy consisting of ten dimensions (interpersonal conflict, joint working and information exchange, intimacy and interpersonal relations, recreation, traveling, rituals, sport, excesses, serving, trading). It has been described as the most useful taxonomy so far (Ten Berge & de Raad, 1999, p. 353) and is thus a good benchmark.<sup>14</sup>

We broadly expected that Duty would predict Conscientiousness behavior positively; Intellect Openness behavior positively; Adversity Neuroticism behavior positively and/or Agreeableness behavior negatively; Mating Extraversion behavior positively; pOsitivity Extraversion behavior positively (and Neuroticism behavior negatively); Negativity Neuroticism behavior positively (and Extraversion behavior negatively); Deception Agreeableness behavior negatively; and Sociality Extraversion and Agreeableness behavior positively. These relations should be uncovered in regular correlation and multiple regression analyses, but also in the more sophisticated dominant and unique prediction analyses. Specifically, the DIAMONDS dimensions should represent incremental, dominant, and unique predictors of Big Five behaviors enacted *in situ* over and above Big Five traits and Van Heck's situation dimensions.

#### Method

**Samples.** Data from Samples H and I were used for this study (see Study 2).

**Measures.** To assess the *Big Five personality traits*, participants rated themselves on the BFI-S (Rammstedt & John, 2005) with 25 items and on a 5-point Likert-type scale ( $0 = does \ not \ at \ all \ apply \ to \ me$ ,  $4 = totally \ applies \ to \ me$ ) in Sample H, and on the BFI (John & Srivastava, 1999) with 44 items and a 5-point Likert-type scale ( $1 = does \ not \ at \ all \ apply \ to \ me$ ,  $5 = totally \ applies \ to \ me$ ) in Sample I.

To assess *Van Heck's situation dimensions*, one item per dimension was generated based on Van Heck's (1984, 1989) descriptions of the situation dimensions. Two raters *ex situ* (per wave) rated each situation description (provided by the raters *in situ*) on Van Heck's

<sup>&</sup>lt;sup>14</sup> As noted in the Introduction, the current research is unique so that there are no fully comparable taxonomies. In the absence of a real benchmark taxonomy of psychological situation characteristics to compete with, we chose Van Heck's situational taxonomy because of (a) the methodological rigor it has undergone, (b) its inclusiveness (with 10 dimensions it has more dimensions than other taxonomies), and (c) particularly its appraisal by other researchers (e.g., Ten Berge & de Raad, 1999). However, there are also several limitations to this taxonomy. First, it was derived from a lexical approach and may hence be restricted to the vocabulary of its language (Dutch). Second, the taxonomy did not strictly produce major dimensions of situation characteristics, but rather a mixture of classes and cues. Third, there is no valid measure of these dimensions as of yet. In fairness, however, no other situational taxonomy has produced a valid measure either. All things considered, Van Heck's situational taxonomy nonetheless represents the best possible benchmark for the DIA-MONDS dimensions.

dimensions on a scale from 0 "not at all relevant" to 8 "totally relevant." The mean ICC of these ratings was .78 (i.e., good agreement). Detailed reliability estimates can be found in OSM E.

To assess self-reported behavior, Big Five scales derived from the RBQ 3.0 were used. Based on conceptual considerations and literature examining concrete behavioral acts of the Big Five traits (Eaton & Funder, 2000; Markey, Markey, & Tinsley, 2004), 20 items (i.e., 4 items for each Big Five trait) of the 67 RBQ items were selected (see RBQ items marked with an asterisk in Table 7) by the first author under consideration of coauthors' expertise and input. The following items were used for *Neuroticism* behavior (Sample H: M = 1.47, SD = 0.95,  $\alpha = .76$ ; Sample I: M = 4.03, SD = 0.78,  $\alpha = .65$ ): "Acting irritated," "Behaving in a fearful or timid manner," "Saying negative things about self," and "Expressing self-pity or victimization." The following items were used for Extraversion behavior (Sample H: M = 4.31, SD = 1.30,  $\alpha = .75$ ; Sample I: M = 5.90, SD = 0.67,  $\alpha = .43$ ): "Having a high enthusiasm and energy level," "Being talkative," "Being expressive in voice, face, or gestures," and "Behaving in a cheerful manner." The following items were used for Openness behavior (Sample H: M = 3.77, SD = 1.25,  $\alpha = .75$ ; Sample I: M = 5.80, SD = 0.65,  $\alpha = .50$ ): "Displaying a wide range of interests," "Exhibiting a high degree of intelligence," "Having an interest in intellectual/cognitive matters," and "Saying or doing interesting things." The following items were used for Agreeableness behavior (Sample H: M = 4.40, SD = 1.42,  $\alpha = .78$ ; Sample I: M =5.48, SD = 0.63,  $\alpha = .44$ ): "Liking others," "Expressing agreement," "Expressing sympathy," and "Expressing warmth." The following items were used for Conscientiousness behavior (Sample H: M =2.79, SD = 1.11,  $\alpha = .71$ ; Sample I: M = 5.58, SD = 0.60,  $\alpha = .56$ ): "Displaying ambition," "Emphasizing accomplishments," "Behaving in competitive manner," and "Concentrating, working hard at a task."

Data-analytical plan and procedure. Incremental, dominant, and unique predictive abilities of the DIAMONDS dimensions were examined above two competing measures: the Big Five (Samples H and I) and Van Heck's situation dimensions (Sample H only). Incremental prediction was established by contrasting findings from two sets of hierarchical multiple linear regression analyses (predicting Big Five behavior). The first set contained the competing measures in Block 1 and the DIAMONDS dimensions in Block 2, while the second set contained the DIAMONDS dimensions in Block 1 and the competing measures in Block 2. Results then yield (a) how much variance the DIAMONDS dimensions and competing measures account for together in behavior; (b) how much variance the DIAMONDS dimensions, as a set of predictors, and the competing measures, as a set of predictors, account for separately from each other; and (c) how much incremental variance the DIAMONDS dimensions and the competing measures can account for above and beyond each other, respectively.

Dominant prediction was established with the calc.yhat function from the R package "yhat" (Nimon & Roberts, 2012). Dominance analyses can be used to examine whether one predictor can explain more incremental variance in a criterion variable than another predictor (a) across all possible multiple regression sub-models (i.e., complete dominance) or (b) on average across models of APS sizes (i.e., conditional dominance; Nimon & Oswald, 2013). The average of the conditional dominance weights represents the general dominance weights. We were interested in general dominance,

but report complete and conditional dominance in the online supplemental materials.

Unique prediction was also established with the calc.yhat function from the R package "yhat" (Nimon & Roberts, 2012). Commonality analyses can be used to identify unique portions of variance in the totally explained variance of a criterion variable by (a) one predictor alone (uniqueness) and (b) what is shared between several predictors (commonality). We were interested in unique effects only. Because unique effects can be summed, summing together each DIAMONDS dimension's unique effect equals the total unique effect of all DIAMONDS dimensions combined. Similarly, the unique effects of the "competing" predictors (i.e., personality or other situation measures) can be summed. Then, the summed unique effects of both sets of predictors can be compared to give an estimate of how important the DIAMONDS dimensions, as a set of predictors, are in terms of contributing to predicted variance in a criterion in relation to another set of predictors.

# Results

**Predictive power vis-à-vis Big Five personality traits.** First, we examined to what extent the Big Five traits were associated with the DIAMONDS dimensions (aggregated across waves). Findings are displayed in Table 8. The magnitude of intercorrelations were low in both samples (Sample H:  $M_{|r|}=.10$ ; Sample I:  $M_{|r|}=.08$ ). Further, the pattern of findings was replicable and conceptually plausible. Specifically, Intellect was positively associated with Openness, positivity negatively with Neuroticism, Negativity positively with Neuroticism, Deception negatively with Agreeableness, and Sociality with Extraversion (Sample H only). <sup>15</sup>

Incremental prediction. As can be seen in the first columns of Table 9 under "DIAMONDS and B5 together," the DIAMONDS and Big Five dimensions explained sizable portions of variance in behavior: 45%–75% in the Austrian and 32%–52% in the U.S. sample. As can be seen in the columns "DIAMONDS only (as Set 1)" and "B5 only (as Set 1)," the DIAMONDS dimensions consistently predicted more variance (Austria: 39%–74%; United States: 24%–46%) than the Big Five dimensions did (Austria: 3%–11%; United States: 7%–18%). As can be seen in the columns "DIAMONDS above B5" and "B5 above DIAMONDS," the DIAMONDS dimensions added greater amounts of incrementally explained variance over and above the Big Five dimensions (Austria: 41%–66%; United States: 17%–39%) than the Big Five dimensions did over and above the DIAMONDS dimensions (Austria: 1%–5%; United States: 5%–9%).

**Dominant prediction.** General dominance scores for each DIAMONDS and Big Five dimension can be found in Table 10 under "Dom.," while pairwise dominance comparisons (highlighting dominance for pairs of predictors across all regression submodels) are compiled in the online supplemental materials, Section

<sup>&</sup>lt;sup>15</sup> The reported associations may originate from different person-environment transactions (e.g., Buss, 1987): reactive (i.e., processing of situations), selective (i.e., voluntary choice of situations), evocative (i.e., involuntary elicitation of situations), or proactive/manipulative (i.e., generation and alteration of situations once in them). Disentangling which of these transactions account for the observed links between personality and the DIAMONDS dimensions may be a daunting but potentially very informative task.

Table 8
Associations Between the DIAMONDS Dimensions and Personality Traits

		Sa	mple H (Aus	tria)			Sam	ple I (United St	ates)	
DIAMONDS	N	Е	О	A	С	N	Е	О	A	С
Correlations										
Duty	.03	.12	.13 <sup>†</sup>	$14^{\dagger}$	04	.01	08	01	.07	.13 <sup>†</sup>
Intellect	.08	.06	.16*	05	06	.03	02	.27***	.01	.11
Adversity	.03	.07	.03	06	24**	.09	.17**	.02	$12^{\dagger}$	12
Mating	11	.00	.12 <sup>†</sup>	04	.12	07	.13 <sup>†</sup>	.07	.02	.03
pOsitivity	$19^{*}$	.07	.12	.00	.07	$16^{*}$	01	.06	$15^{*}$	11
Negativity	.17*	07	.04	12	15*	.16*	02	08	01	.01
Deception	.04	06	.06	$15^{*}$	$20^{**}$	.13 <sup>†</sup>	07	03	$17^{*}$	06
Sociality	11	.17*	.11	.05	.20**	07	.05	02	.02	11
Descriptives										
M	1.99	2.53	2.92	2.46	2.46	2.76	3.38	3.69	3.83	3.50
SD	0.80	0.80	0.68	0.54	0.60	0.67	0.74	0.63	0.57	0.61
α	.79	.78	.70	.79	.68	.80	.85	.73	.78	.82

Note. Sample H (Austria): N = 180; Sample I (United States): N = 204. DIAMONDS = Duty, Intellect, Adversity, Mating, positivity, Negativity, Deception, and Sociality, N = Neuroticism; E = Extraversion; O = Openness; O = Openne

G.1 (OSM G.1). As can be seen in Table 10, the DIAMONDS dimensions harbored the most dominant predictive power in almost every instance. Neurotic behavior was most dominantly predicted by Negativity (Austria) and Adversity (United States), extraverted behavior by Positivity (Austria, United States) and Sociality (Austria), open/intellectual behavior by Intellect (Austria, United States), agreeable behavior by Sociality (Austria, United States), and conscientious behavior by Duty (Austria) and Conscientiousness from the Big Five (United States). Moreover, as can be seen in OSM G.1 (gray-shaded cells), the DIAMONDS dimensions often showed complete dominance over all Big Five traits, meaning that they were able to predict incremental amounts of variance over the Big Five in every regression submodel.

Unique prediction. Unique effect scores for each DIAMONDS and Big Five dimension can be found in Table 10 under "Uniq.," and (summed up) percentages of unique variance covered by the DIAMONDS and Big Five dimensions, as sets of predictors, respectively, can be found in Figure 4 (first panel: Austria; middle panel: United States; last panel: mean findings aggregated across both samples). As can be seen in Table 10, the DIAMONDS dimensions harbored the most unique predictive power in almost every instance. Neurotic behavior was uniquely predicted the most by Adversity (Austria) and Negativity (United States), extraverted behavior by pOsitivity (Austria, United States), open/intellectual behavior by Intellect (Austria, United States), agreeable behavior by Sociality (Austria, United States), and conscientious behavior by Duty (Austria, United States). As can be seen in Figure 4, the DIAMONDS, as a set of predictors, occupied more unique variance in the prediction of Big Five behaviors than did the Big Five traits, as a set of predictors, in the Austrian sample (24.25%–34.26% vs. 1.70%– 10.78%) and in the U.S. sample (31.20%–51.77% vs. 9.87%– 24.59%).

Predictive power vis-à-vis Van Heck's situation dimensions. First, we examined to what extent Van Heck's situation dimensions were associated with the DIAMONDS dimensions. Findings are displayed in Table 11. The magnitude of intercorrelations were generally low  $(M_{\rm Irl}=.13)$ . Further, the pattern of findings was concep-

tually plausible. Specifically, amongst others, Duty was positively associated with Joint working and negatively with Recreation; Adversity positively with Conflict; Mating positively with Intimacy/Relationships; pOsitivity positively with Recreation and Excesses; Negativity positively with Conflict and negatively with Intimacy/relationships, Recreation, and Excesses; Deception positively with Conflict; and Sociality positively with Intimacy/Relationships.

Incremental prediction. As can be seen in the first columns of Table 12 under "DIAMONDS and V.H. together," the DIAMONDS and Van Heck's situation dimensions explained sizable portions of variance in behavior (43%–77%). As can be seen in the middle columns under "DIAMONDS only (as Set 1)" and "V.H. only (as Set 1)," the DIAMONDS dimensions consistently predicted more variance (39%–74%) than Van Heck's situation dimensions did (7%–39%). As can be seen in the last columns under "DIAMONDS above V.H." and "V.H. above DIAMONDS," the DIAMONDS dimensions added greater amounts of incrementally explained variance over and above Van Heck's situation dimensions (39%–74%) than Van Heck's situation dimensions did over and above the DIAMONDS dimensions (3%–6%).

Dominant prediction. General dominance scores for each DIAMONDS and Van Heck situation dimension can be found in Table 13 under "Dom.," while pairwise dominance comparisons are compiled in the online supplemental materials, Section G.2 (OSM G.2). As can be seen in Table 13, the DIAMONDS dimensions harbored the most dominant predictive power in every instance. Adversity was the most dominant predictor of neurotic behavior, positivity and Sociality of extraverted behavior, Intellect of open/intellectual behavior, Sociality of agreeable behavior, and Duty of conscientious behavior. Moreover, as can be seen in OSM G.2 (gray-shaded cells), the DIAMONDS dimensions often showed complete dominance over all Van Heck situation dimensions, meaning that they were able to predict incremental amounts of variance over the Van Heck situation dimensions in every regression submodel.

*Unique prediction.* Unique effect scores for each DIAMONDS and Van Heck's situation dimensions can be found in Table 13 under

Table 9
DIAMONDS Versus Big Five: Incremental Predictive Power

							Prec	dictor s	ets				
	-		IONDS together			IONDS as Set 1)	В	5 only	(as Set 1)		IAMONDS above B5		B5 above (AMONDS
Outcome	$R^2$	Adj. R <sup>2</sup>	$F(df_1, df_2)^{\mathrm{a}}$	$R^2$	Adj. R <sup>2</sup>	$F(df_1, df_2)^{\mathrm{b}}$	$R^2$	Adj. <i>R</i> <sup>2</sup>	$F(df_1, df_2)^{c}$	$\Delta R^2$	$\Delta F(df_1, df_2)^{\mathrm{d}}$	$\Delta R^2$	$\Delta F(df_1, df_2)^{\rm e}$
Sample H (Austria)													
N	.56	.52	15.91***	.51	.49	22.11***	.08	.06	3.20**	.47	21.93***	.05	3.46**
E	.63	.60	21.94***	.59	.57	30.88***	.11	.09	4.50**	.52	29.20***	.04	3.71**
O	.63	.61	22.13***	.60	.58	32.27***	.10	.08	3.99**	.53	30.13***	.03	2.96*
A	.75	.73	38.09***	.74	.72	59.83***	.09	.06	3.40**	.66	54.55***	.01	1.61
C	.45	.40	10.25***	.39	.37	13.92***	.03	.00	1.16	.41	15.45***	.05	3.04*
Sample I (United States)													
N	.52	.48	15.51***	.46	.44	20.90***	.12	.10	5.44***	.39	19.29***	.05	4.16**
E	.35	.31	7.97***	.26	.23	8.66***	.10	.08	4.47**	.25	9.22***	.09	5.33***
O	.44	.40	11.46***	.36	.33	13.50***	.18	.16	8.65***	.26	11.03***	.08	5.63***
A	.31	.26	6.56***	.26	.23	8.66***	.07	.05	3.13**	.24	8.14***	.05	2.62*
С	.32	.27	6.75***	.24	.21	7.71***	.14	.12	6.55***	.17	6.04***	.08	4.21**

Note. Hierarchical multiple linear regressions (with two blocks) were performed. DIAMONDS = Duty, Intellect, Adversity, Mating, pOsitivity, Negativity, Deception, and Sociality; B5 = Big Five; N = Neuroticism; E = Extraversion; O = Openness/Intellect; A = Agreeableness; C = Conscientiousness; Outcome = dependent variable of Big Five behavioral enactment (Riverside Behavioral Q-Sort aggregate score); Adj. = Adjusted. 
<sup>a</sup> Sample H (Austria):  $df_1 = 13$ ,  $df_2 = 166$ ; Sample I (United States):  $df_1 = 13$ ,  $df_2 = 195$ . 
<sup>b</sup> Sample H (Austria):  $df_1 = 8$ ,  $df_2 = 174$ ; Sample I (United States):  $df_1 = 5$ ,  $df_2 = 186$ ; Sample H (Austria):  $df_1 = 8$ ,  $df_2 = 186$ ; Sample I (United States):  $df_1 = 8$ ,  $df_2 = 186$ ; Sample I (United St

"Uniq.," and (summed up) percentages of unique variance covered by the DIAMONDS and Van Heck's situation dimensions as sets can be found in Figure 5. As can be seen in Table 13, the DIAMONDS dimensions harbored the most unique predictive power in every instance. Adversity and Negativity occupied the most unique variance in the prediction of neurotic behavior, pOsitivity in extraverted behavior, Intellect in open/intellectual behavior, Sociality in agreeable behavior, and Duty in conscientious behavior. As can also be seen in Table 13, the DIAMONDS, as a set of predictors, occupied more unique variance in the prediction of Big Five behaviors than did the Van Heck situation dimensions, as a set of predictors (17.44%–29.28% vs. 4.27%–9.57%).

### **Summary and Discussion**

First, findings strongly supported the hypotheses that the DIAMONDS dimensions would outperform competing measures in the prediction of behavior. Taken together, the DIAMONDS dimensions harbored incremental, dominant, and unique predictive abilities over and above both Big Five personality traits as well as Van Heck's situation dimensions as the competing scales. Specifically, the DIA-MONDS dimensions (a) were the strongest predictors of behavior with more variance explanation than the competing scales; (b) incrementally tapped variance above and beyond the competing scales (and, specifically, more so than the competing scales could tap beyond them); (c) generally dominated the competing scales in their predictions; and (d) occupied more unique portions of the totally explained variance than the competing scales could. These findings held true for the DIAMONDS dimensions as a set of predictors but also for single dimensions (see Tables 10–13, Figures 4 and 5, and OSMs G.1 and G.2). Second, the DIAMONDS dimensions were related meaningfully to self-reported Big Five behavior aggregates as initially predicted. Third, patterns of findings were replicated across the Austrian and U.S. sample, suggesting that they were robust. Thus, we conclude that the DIAMONDS dimensions (encapsulated in the RSQ-8) are useful for predicting real-world phenomena, such as self-reported personality-relevant behavior.

# **General Discussion**

#### **Summary of Findings**

Based on previous literature and our own assumptions, we expected to find major, meaningful, important, and consequential dimensions of situation characteristics. In six studies, we provided evidence that this is the case. Central findings are summarized in Table 14.

In Study 1, we factor-analytically established eight major dimensions of situation characteristics from the fairly comprehensive RSQ: The Situational Eight DIAMONDS dimensions Duty, Intellect, Adversity, Mating, pOsitivity, Negativity, Deception, and Sociality. We additionally demonstrated how these dimensions could be captured within a shorter, revised version of the RSQ, the RSQ-8. Moreover, we examined in descriptive analyses the prevalence, internal consistency reliabilities, and intercorrelations of the DIAMONDS dimensions. In Study 2, we examined to what extent different raters (i.e., in situ and ex situ) agreed in their perceptions of the DIAMONDS dimensions. We found substantive levels of external and internalexternal agreement, indicating that people likely possess shared meaning systems of situations—even if judged only from very thin slice vignettes of static, verbally encoded situation information. As such, the DIAMONDS dimensions may be deemed as "real" dimensions in the sense that people can consensually agree on them. Moreover,

Table 10

DIAMONDS Versus Big Five: Dominant and Unique Predictive Power

										Beh	avior									
		Neuro	oticism	ı	E	Extrav	versio	n	Op	ennes	s/Intel	lect	I	Agreea	ablenes	ss	Co	nscier	ntiousr	ness
Predictors	β	r	Dom.	Uniq.	β	r	Dom.	Uniq.	β	r	Dom.	Uniq.	β	r	Dom.	Uniq.	β	r	Dom.	Uniq.
Sample H (Austria)																				
DIAMONDS																				
Duty	16	.22	.02	.02	.08	.08	.01	.00	.08	.23	.02	.01	.06	.07	.00	.00	.31	.50	.12	.06
Intellect	.17	.43	.07	.02	.07	.43	.06	.00	.41	.66	.21	.10	.06	.44	.07	.00	.24	.40	.07	.03
Adversity	.32	.57	.14	.06	.13	.15	.02	.01	.16	.30	.04	.01	.02	.08	.00	.00	.31	.48	.10	.05
Mating	09	.15	.01	.01	02	.33	.03	.00	02	.34	.03	.00	.02	.44	.06	.00	01	.15	.00	.00
pOsitivity	20	10	.02	.02	.39	.65	.20	.08	.11	.47	.08	.01	.07	.55	.11	.00	07	03	.00	.00
Negativity	.19	.52	.09	.01	13 -	16	.03	.01	08	.06	.01	.00	14	16	.03	.01	07	.40	.05	.00
Deception	.17	.54	.10	.01	.07	.16	.01	.00	01	.31	.03	.00	.04	.16	.01	.00	.12	.46	.06	.01
Sociality	.31	.24	.05	.04	.35	.68	.20	.05	.32	.64	.17	.04	.72	.85	.42	.23	03	.17	.01	.00
Big Five traits																				
Neuroticism	.16	.27	.04	.02	.02 -	19	.01	.00	09	16	.01	.01	.05	10	.00	.00	08	06	.01	.01
Extraversion	08	12	.01	.00	.18	.31	.05	.03	.09	.24	.03	.01	.10	.24	.02	.01	02	.08	.00	.00
Opennness	06	04	.00	.00	03	.09	.00	.00	.05	.19	.01	.00	02	.10	.00	.00	06	.02	.00	.00
Agreeableness	06	13	.01	.00	.05	.10	.01	.00	05	02	.00	.00	.03	.09	.00	.00	08	11	.01	.01
Conscientiousness	.02	15	.01	.00	.07	.17	.01	.00	.09	.13	.01	.01	.05	.21	.02	.00	.21	.08	.03	.03
Sample I (United States)	)																			
DIAMONDS																				
Duty	10	.13	.01	.01	.04 -	17	.01	.00	.00	.10	.00	.00	.06	08	.00	.00	.13	.31	.04	.01
Intellect	20	20	.03	.03	01 -	06	.00	.00	.41	.54	.21	.13	.10	.15	.01	.01	.06	.12	.01	.00
Adversity	.01	.25	.02	.00	.03 -	05	.00	.00	06	21	.02	.00	.06	11	.00	.00	15	12	.02	.02
Mating	08	16	.01	.01	.01	.08	.00	.00	19	23	.04	.03	09	04	.01	.01	07	16	.01	.00
pOsitivity	29	52	.13	.05	.48	.47	.17	.14	.04	.07	.00	.00	.12	.28	.03	.01	18	31	.05	.02
Negativity	.33	.57	.17	.07	.06 -	24	.02	.00	07	09	.01	.00	18	35	.06	.02	.05	.24	.02	.00
Deception	.07	.27	.02	.00	.07 -	10	.00	.00	14	20	.02	.02	01	18	.01	.00	09	02	.01	.01
Sociality	10	36	.05	.01	.21	.32	.06	.03	10	02	.01	.01	.34	.44	.12	.08	22	30	.06	.04
Big Five traits																				
Neuroticism	.22	.33	.06	.04	05 -	17	.01	.00	13	19	.02	.01	05	12	.01	.00	04	.01	.00	.00
Extraversion	05	09	.00	.00	.28	.27	.07	.07	09	03	.01	.01	05	.00	.00	.00	11	16	.02	.01
Opennness	.05	11	.00	.00	13 -	02	.01	.01	.17	.30	.05	.02	.10	.13	.01	.01	13	14	.02	.01
Agreeableness	.07	.04	.01	.00	.06	.02	.00	.00	.00	.11	.00	.00	.18	.13	.02	.03	04	.09	.00	.00
Conscientiousness	05	06	.00	.00	.06	.03	.00	.00	.18	.26	.04	.03	14	11	.02	.02	.24	.30	.07	.05

*Note.* The most dominant predictors are in bold.  $\beta$  = standardized regression coefficient; r = (zero-order) bivariate Pearson product–moment correlation; Dom. = general dominance; Uniq. = unique effect; DIAMONDS = Duty, Intellect, Adversity, Mating, positivity, Negativity, Deception, and Sociality.

these findings underscore the reliability of the DIAMONDS dimensions (as measured with the RSQ-8) because interrater agreement is a necessary condition for reliable assessment. In Studies 3 and 4, we tied the DIAMONDS dimensions to situation cues and affordances to explore their "ingredients" and which goal and trait topics they cover. The DIAMONDS dimensions were conceptually plausibly related to a host of cues and affordances, being embedded into rich nomological networks. In Study 5, we demonstrated that the DIAMONDS dimensions were associated with a variety of different behaviors. The meaningful relations with behavior indicate the usefulness of the DIAMONDS dimensions as situational taxonomies must be able to predict real-life outcomes (e.g., behavioral sequelae). Additionally, we demonstrated in Study 6 that the DIAMONDS dimensions even outperformed other measures (i.e., Big Five traits and Van Heck's situation dimensions) in the prediction of Big Five relevant behavior. Specifically, the DIAMONDS dimensions harbored incremental, dominant, and unique predictive abilities. These findings underscore the relative predictive power of the DIAMONDS dimensions vis-àvis Big Five traits and Van Heck's situation dimensions. Taken together, we could provide extensive and replicable evidence for the meaningfulness, importance, and usefulness of the DIAMONDS dimensions across diverse samples, designs, and methodologies.<sup>16</sup>

#### The Situational Eight DIAMONDS Dimensions

**Duty.** *Duty* (e.g., "A job needs to be done") describes to what extent people perceive a situation to contain work, fulfilling duties, attending to tasks, helping people with things, solving problems, and making decisions. It can thus be captured by the question: *Does something need to be done?* As can be seen in Table 15, several similar dimensions have previously been identified in extant literature. In its content, Duty may be tied particularly to the personality dimension of Conscientiousness. In many respects, Duty seemed less com-

<sup>&</sup>lt;sup>16</sup> The patterns of findings were relatively replicable (for quantifications of this replicability, see OSM E). Nonetheless, some differences emerged between Samples H and I. In most cases, effect sizes were more pronounced in Sample H than in Sample I. Apart from cultural differences (Austria vs. United States), this may also be partly traced back to the use of a Likert-type version of the RSQ in Sample H and a Q-sort version in Sample I.

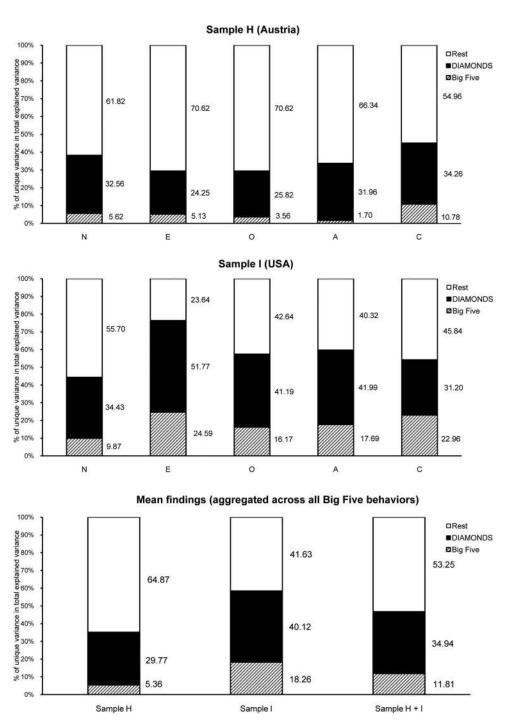


Figure 4. DIAMONDS (Duty, Intellect, Adversity, Mating, pOsitivity, Negativity, Deception, and Sociality) versus Big Five: Percentages of unique variance explained in behavior. Big Five = summed unique percentages of variance accounted by each Big Five dimension in the totally explained variance; DIAMONDS = summed unique percentages of variance accounted by each DIAMONDS dimension (in situ rated) in the totally explained variance; Rest = all multi-way sharings (a) among the Big Five, (b) among DIAMONDS, and (c) between Big Five and DIAMONDS. "Rest" thus captures any common variance accounted in the totally explained variance that is due to two or more dimensions. The total amount of variance explained was denoted as 100% so that relative comparisons can be made. N = Neuroticism; E = Extraversion; O = Openness; A = Agreeableness; C = Conscientiousness. Top panel: Sample H (Austria); middle panel: Sample I (United States); bottom panel: Mean findings (aggregated across the Big Five behaviors and/or samples).

Table 11
Associations Between the DIAMONDS Dimensions and Ratings of Van Heck's Situation Dimensions

Van Heck's	Descr	iptives		Corre	elations with t	he DIAMO	NDS dimensio	ons (raters in s	itu)	
dimensions (raters ex situ)	M	SD	D	I	A	M	О	N	D	S
Conflict	0.12	0.40	.07	.02	.22*	.00	04	.12*	.14*	.14*
Joint working	1.50	1.44	.32*	.03	.17*	.07	.12*	.01	.09	.26*
Intimacy/relationships	2.61	1.71	$16^{*}$	.14*	.04	.37*	.40*	31*	.01	.57*
Recreation	4.51	1.68	$47^{*}$	.00	03	.13*	.49*	34*	10*	.21*
Traveling	0.49	0.89	$10^{*}$	02	01	.02	03	.01	01	.05
Rituals	1.55	0.72	13*	01	04	.08	.18*	$19^{*}$	05	.19*
Sport	0.50	1.14	.04	13*	.07	.05	.11*	.05	.01	.03
Excesses	0.84	1.18	18*	.18*	.06	.20*	.28*	$19^{*}$	.08	.33*
Serving	0.43	0.63	_	_	_	_	_	_	_	_
Trading	0.41	0.65	05	09	07	.06	.03	$10^{*}$	01	.05

Note. N = 174-178. Meta-analytically combined and sample-weighted Pearson's product-moment correlation coefficients (zero-order) are presented. Randomized p values were used to judge statistical significance. DIAMONDS = Duty, Intellect, Adversity, Mating, positivity, Negativity, Deception, and Sociality. Dashes indicate that correlations could not be computed (due to too little variance).

\* p < .05.

patible with positive, sexual, and social situations, suggesting that situations perceived high on Duty are rather task-oriented than socioemotional. Moreover, this task-orientation seemed to often carry a negative flavor probably because of the imposition that something *has to be* done that may require resources such as time, energy, and effort. This does not mean that dutiful situations are asocial in nature; rather, they tend to be perceived as restrictive to positive socialization. Dutiful situations were further relatively common, which can be expected in populations in which culturally valued tasks such as working are demanded in some form (e.g., "going to school" or "going to work").

**Intellect.** *Intellect* (e.g., "Situation affords an opportunity to demonstrate intellectual capacity") describes to what extent people perceive a situation to contain intellectual engagement, cognitive demands, deep reflection, daydreaming and rumination, and the display of intellectual prowess. It can thus be captured by the question: *Is deep thinking required?* As can be seen in Table 15, no clear dimension pertaining to Intellect has been identified so far in extant literature. As such, Intellect may represent a novel and interesting addition to previous taxonomies. In its content, Intellect may be tied particularly to the personality dimension of Openness/

Intellect/Culture. Interestingly, we found that Intellect was subject to the strongest cross-cultural differences, although we did not investigate these in detail. European (but not so much U.S.) data suggested a strong social aspect of Intellect: Intellectual situations did not just require covert deep, reflective processing, but also the overt display of such processing in social groups. Accordingly, Intellect was strongly linked to social constructs and indicators in some of our samples. The perception of Intellect in social situations may serve adaptive purposes as intellectual abilities and their display constitute important fitness indicators (Miller, 2007).

Adversity. Adversity (e.g., "Being blamed for something") describes to what extent people perceive a situation to contain threats, problems, conflict, competition, blaming, criticism, and victimization. It can thus be captured by the question: *Is someone threatened?* As can be seen in Table 15, several similar dimensions have previously been identified. In its content, Adversity cannot be tied to one particular dimension within extant personality taxonomies, but it could be tied most closely to Neuroticism and (Dis-)Agreeableness. Study 2 indicated that Adversity was the dimension characterized by the lowest agreement. This finding may be explained in several ways. For example, adverse situations

Table 12
DIAMONDS Versus Van Heck's Dimensions: Incremental Predictive Power

							Predic	tor sets					
	D	IAMONDS togeth		DIA	MONDS on	ly (as Set 1)	1	V.H. only (a	as Set 1)		AMONDS ove V.H.		H. above
Outcome	$R^2$	Adj. R <sup>2</sup>	F(18, 161)	$R^2$	Adj. R <sup>2</sup>	F(8, 171)	$R^2$	Adj. R <sup>2</sup>	F(10, 169)	$\Delta R^2$	$\Delta F(8, 161)$	$\Delta R^2$	$\Delta F(18, 161)$
N	.54	.49	10.54***	.51	.49	22.11***	.07	.01	1.25	.47	20.69***	.03	1.14
E	.65	.61	16.47***	.59	.57	30.88***	.33	.29	8.23***	.32	18.32***	.06	2.61**
O	.64	.60	15.97***	.60	.58	32.27***	.23	.18	4.92***	.43	23.28***	.04	1.77
A	.77	.75	30.52***	.74	.72	59.83***	.39	.35	10.65***	.39	34.36***	.04	2.60**
C	.43	.36	6.70***	.39	.37	13.92***	.10	.04	1.83	.33	11.64***	.03	0.96

Note. Sample H data were used. Hierarchical multiple linear regressions (with two blocks) were performed. DIAMONDS = Duty, Intellect, Adversity, Mating, pOsitivity, Negativity, Deception, and Sociality (from raters in situ); V.H. = van Heck's situation dimensions (from raters ex situ); N = Neuroticism; E = Extraversion; O = Openness/Intellect; A = Agreeableness; C = Conscientiousness; Outcome = dependent variable of Big Five behavioral enactment (Riverside Behavioral Q-Sort aggregate score); Adj. = Adjusted.

p < .01. \*\*\* p < .001.

Table 13

DIAMONDS Versus Van Heck's Dimensions: Dominant and Unique Predictive Power

										Beh	avior									
		Neuro	oticism	1		Extra	versior	ı	Op	ennes	s/Intel	lect	A	Agreea	ablenes	SS	Co	nscie	ntiousn	ess
Predictors	β	r	Dom.	Uniq.	β	r	Dom.	Uniq.	β	r	Dom.	Uniq.	β	r	Dom.	Uniq.	β	r	Dom.	Uniq.
DIAMONDS																				
Duty	15	.22	.02	.01	.04	.08	.01	.00	.14	.23	.03	.01	.08	.07	.01	.00	.32	.50	.11	.05
Intellect	.22	.43	.07	.02	.13	.43	.06	.01	.46	.66	.20	.10	.08	.44	.06	.00	.22	.40	.06	.02
Adversity	.26	.57	.12	.03	.12	.15	.01	.01	.09	.30	.03	.00	02	.08	.00	.00	.26	.48	.09	.03
Mating	14	.15	.01	.01	05	.33	.03	.00	.00	.34	.03	.00	.00	.44	.05	.00	02	.15	.00	.00
pOsitivity	22	10	.03	.02	.35	.65	.17	.06	.12	.47	.07	.01	.04	.55	.08	.00	10	03	.01	.00
Negativity	.29	.52	.11	.03	14	16	.02	.01	09	.06	.01	.00	13	16	.02	.01	05	.40	.04	.00
Deception	.19	.54	.10	.02	.02	.16	.01	.00	02	.31	.02	.00	.02	.16	.01	.00	.11	.46	.06	.01
Sociality	.21	.24	.03	.02	.32	.68	.17	.03	.21	.64	.14	.02	.68	.85	.34	.16	.01	.17	.01	.00
Van Heck's dimensions																				
Conflict	.05	.16	.01	.00	.01	.05	.00	.00	.10	.11	.01	.01	.01	.09	.00	.00	.01	.06	.00	.00
Collaboration	08	.07	.00	.01	.04	.30	.03	.00	.05	.26	.02	.00	.02	.27	.02	.00	06	.17	.01	.00
Relationships	.18	.12	.02	.02	.11	.43	.05	.01	.12	.38	.04	.01	.09	.54	.08	.00	.14	.04	.01	.01
Recreation	.04	02	.00	.00	07	.23	.01	.00	.04	.14	.01	.00	.01	.19	.01	.00	04	16	.01	.00
Traveling	09	.01	.00	.01	10	02	.00	.01	.02	.06	.00	.00	03	.04	.00	.00	01	02	.00	.00
Rituals	04	08	.00	.00	15	.00	.01	.02	09	02	.01	.01	11	.02	.01	.01		07	.00	.00
Sport	.03	07	.00	.00	.13	.10	.01	.01	.04	01	.00	.00	.02	03	.00	.00	.18	.12	.02	.02
Excesses	02	.08	.00	.00	.04	.32	.02	.00	04	.24	.01	.00	.06	.35	.03	.00	.02	.01	.00	.00
Serving	.09	.09	.01	.01	.15	.32	.04	.01	.12	.24	.02	.01	.13	.37	.04	.01	04	04	.00	.00
Trading	01	07	.00	.00	02	.04	.00	.00	.01	.00	.00	.00	08	.05	.00	.01	01	09	.00	.00

*Note.* Data from Sample H taken (aggregated across waves). The most dominant predictors are in bold. DIAMONDS = Duty, Intellect, Adversity, Mating, pOsitivity, Negativity, Deception, and Sociality;  $\beta$  = standardized regression coefficient; r = (zero-order) bivariate Pearson product–moment correlation; Dom. = general dominance; Uniq. = unique effect.

(a) have a low base rate (which impacts the familiarity of processing such situations), (b) may not be particularly salient with only few situation cues that reveal the adverse nature of the situation, (c) may be difficult to judge from thin slice information, and (d) may be subject to stronger idiosyncratic perceptions (e.g., what is

a harsh critique for one person, may be positively challenging feedback for another). These factors would all contribute to diminished agreement.

**Mating.** *Mating* (e.g., "Potential romantic partners are present") describes to what extent people perceive a situation as

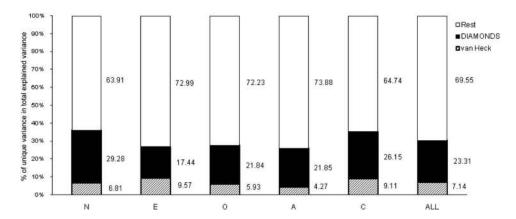


Figure 5. DIAMONDS (Duty, Intellect, Adversity, Mating, pOsitivity, Negativity, Deception, and Sociality) versus Van Heck's dimensions: Percentages of unique variance explained in behavior. Van Heck = summed unique percentages of variance accounted by each Van Heck situation dimension in the totally explained variance; DIAMONDS = summed unique percentages of variance accounted by each DIAMONDS dimension (in situ rated) in the totally explained variance; Rest = all multi-way sharings (a) among the Van Heck situation dimensions, (b) among DIAMONDS, and (c) between the Van Heck situation dimensions and DIAMONDS. "Rest" thus captures any common variance accounted in the totally explained variance that is due to two or more dimensions. The total amount of variance explained was denoted as 100% so that relative comparisons can be made. N = Neuroticism; E = Extraversion; O = Openness; A = Agreeableness; C = Conscientiousness; ALL = averaged across all Big Five behaviors.

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Grand Synopsis: All Findings at a Glance Table 14

					Agre	Agreement <sup>b</sup>		Defining associa	Defining associations with external variables <sup>g</sup>	
Dimension	RSQ items	Question	Topics	Prev. <sup>a</sup>	Ext.	Intext.	Cues <sup>c</sup>	Affordances <sup>d</sup>	Behaviors <sup>e</sup>	Personality <sup>f</sup>
Duty	03, 06, 11, 25	How work-related: Does something need to be done?	Work Tasks	+++	69.	.63	Working At university Exam	Achievement Career Order	Concentrating; working hard Displaying ambition	Conscientiousness
Intellect	12, 13, 41, 53	How intellectual: Is deep processing required?	Intellectuality Cognition Fantasy	+	.56	.52	Reading Communicating At university	Education Personal development	Interested in intellectual matters Exhibiting high degree of intelligence	Openness/Intellect
Adversity	15, 16, 17, 23	How conflictual: Is someone threatened?	Threats Critique Problems		.56	.26	Friends Colleagues Videogames	Social recognition Aggression	Blaming others Expressing criticism	Neuroticism (?) Disagreeableness (?)
Mating	31, 70, 73, 74	How sexual/romantic: Can others be attracted/charmed?	Attractiveness, attraction Sex, romance	+	.62	.50	Mate In bar	Love/sex Social recognition	Expressing sexual interest Making physical contact	Sociosexuality (?)
Positivity	01, 06, 18,	How enjoyable: Is the situation pleasant?	Joy, bliss, humor Excitement Relaxation	++	.56	.63	Friends In bar Eating	Fun Affiliation	Behaving in a cheerful manner Laughing frequently Initiating humor	Positive valence Extraversion
Negativity	30, 33, 48, 66	How unpleasant: Can negative feelings ensue?	Negative feelings Negative arousal	I	89.	.52	Alone Working At university	Neuroticism Achievement	Physical signs of tension/ anxiety Acting irritated Behaving in a fearful/timid manner	Negative valence Neuroticism
Deception	36, 37, 38, 39	How deceitful: Is someone deceptive?	Mis-/Distrust Inhonesty Hostility		.52	72.	Exam Online	Power Aggression	Trying to undermine/sabotage Expressing hostility Exhibiting condescending behavior	Disagreeableness Honesty/Humility (r)
Sociality	22, 51, 56, 63	How social: Is social interaction present or important?	Interaction, communication Relationships Intimacy, warmth	+ + +	.85	.61	Communicating Friends	Affiliation Social awareness Friendship	Exhibiting social skills Expressing warmth	Agreeableness Extraversion

Sociality) dimensions, as judged from the means in Table 3 from Samples A-I (see Study 1); — = very uncommon; — = uncommon; + = common; + + = very common; + + + = extremely common; Ext. = mean level of external agreement among raters ex situ, as judged from bivariate zero-order Pearson's correlation coefficients among DIAMONDS ratings from raters ex situ (see Study 2, Table 4, Figure 3) from Sample H; Int.-ext. = Mean level of internal-external between raters in situ and ex situ, as judged from bivariate zero-order Pearson's correlation coefficients among DIAMONDS ratings from raters in situ and ex situ (see Study 2, Table 4, Figure 3) from Samples H and I; ? = tentative/speculative; r = reverse.

\*\*See Study 2. \*\*Coefficients among among samples H and I; \*\*Exemplary, positively keyed, and replicated across samples. Note. RSQ items = Items from the Riverside Situational Q-Sort (Version 3.15); Prev. = Prevalence of the DIAMONDS (Duty, Intellect, Adversity, Mating, positivity, Negativity, Deception, and

Table 15 DIAMONDS Dimensions in Extant Literature

DIAMONDS dimensions	Other labels	References
Duty	Behavioral conformity <sup>a</sup> Knowing how to behave <sup>c</sup> Work-oriented (vs. relaxation-oriented) <sup>c</sup> Work <sup>a</sup> Conduct <sup>a</sup> Joint working <sup>a</sup> Joint working <sup>a</sup> System maintenance/change dimensions <sup>c</sup>	Battistich & Thompson (1980) Forgas (1976) King & Sorrentino (1983) Pervin (1976) Ten Berge & de Raad (2001) Van Heck (1984, 1989) Krause (1970) Moos (1973)
Intellect		
Adversity	Competitive <sup>c</sup> Friendly vs. unfriendly <sup>c</sup> Adversity <sup>a</sup> Positioning <sup>a</sup> Individual adversity <sup>a</sup> Interpersonal conflict <sup>a</sup> Interpersonal conflict <sup>a</sup> Fresonal development dimensions <sup>c</sup> Fighting <sup>a</sup>	Eckes (1995) Pervin (1976) Ten Berge & de Raad (2001) Ten Berge & de Raad (2002) Van Heck (1984, 1989) Moos (1973) Krause (1970)
Mating	Family <sup>a</sup> Non-intimate <sup>c</sup> Non-intimate vs. intimate <sup>c</sup>	Forgas (1976) Eckes (1995) King & Sorrentino (1983)
pOsitivity	Relaxed <sup>c</sup> Favorable (vs. unfavorable) outcomes <sup>c</sup> Fostering (vs. hindering) of goal-pursuit <sup>c</sup> Pleasantness <sup>c</sup> Pleasant (vs. unpleasant) <sup>c</sup> Relaxation-oriented (vs. work-oriented) <sup>c</sup> Positive <sup>c</sup> Interesting vs. dull <sup>c</sup> Relaxation-recreation play <sup>a</sup> Amusement <sup>a</sup> Pleasure <sup>a</sup> Recreation <sup>a</sup> Excesses <sup>a</sup> Goal success (vs. goal failure) <sup>a,c</sup> Playing <sup>c</sup>	Eckes (1995) Edwards & Templeton (2005) Forgas (1976) King & Sorrentino (1983) King & Sorrentino (1983) Magnusson (1971) Pervin (1976)  Ten Berge & de Raad (2001) Ten Berge & de Raad (2002) Van Heck (1984, 1989)  Yang et al. (2006) Krause (1970)
Negativity	Frightening <sup>c</sup> Unfavorable (vs. favorable) outcomes <sup>c</sup> Hindering (vs. fostering) of goal-pursuit <sup>c</sup> Unpleasant (vs. pleasant) <sup>c</sup> Negative <sup>c</sup> Tense vs. calm <sup>c</sup> Goal failure (vs. goal success) <sup>a,c</sup>	Eckes (1995) Edwards & Templeton (2005) King & Sorrentino (1983) Magnusson (1971) Pervin (1976) Yang et al. (2006)
Deception		
Sociality	Interpersonal intimacy <sup>a</sup> Group vs. individual activity <sup>a</sup> Social isolation <sup>a</sup> Non-intimate <sup>c</sup> Social <sup>c</sup> Familiar social <sup>c</sup> Perceived intimacy <sup>c</sup> Social <sup>a,b</sup>	Battistich & Thompson (1980 Eckes (1995) Forgas (1976)
	Socially oriented <sup>c</sup> Non-intimate vs. intimate <sup>c</sup> Social <sup>c</sup> Home–family <sup>a</sup> Friends–peers <sup>a</sup> Alone <sup>a</sup> Social demand <sup>a</sup> Intimacy and interpersonal relations <sup>a</sup> Relationship dimensions <sup>c</sup>	King & Sorrentino (1983)  Magnusson (1971) Pervin (1976)  Ten Berge & de Raad (2002) Van Heck (1984, 1989) Moos (1973)

Note. DIAMONDS = Duty, Intellect, Adversity, Mating, positivity, Negativity, Deception, and Sociality.

a Dimensions that pertain to situation classes. b Dimensions that pertain to situation cues. C Dimensions that pertain to situation characteristics.

conducive to sex, love, and romance (including making a good impression, being accepted by potential mates, and maintaining current mates). It can thus be captured by the question: Is the situation sexually or romantically charged? As can be seen in Table 15, no clear dimensions pertaining to Mating have been identified so far in extant literature to the best of our knowledge. However, dimensions pertaining to intimate relationships or family ties may be indirectly relevant (via trajectories of mating: e.g., mate guarding, parental care, etc.). In its content, Mating cannot be tied to one particular dimension within extant personality taxonomies, but it could be tied most closely to Extraversion and Agreeableness, which have been found to pertain to mating (e.g., Nettle, 2006) or sociosexuality (Penke & Asendorpf, 2008). Perceptions of Mating may be particularly consequential on the individual level, as they will determine how accurately sexual/romantic chances with others and advances by others are gauged (Place, Todd, Penke, & Asendorpf, 2009; Place, Todd, Zhuang, Penke, & Asendorpf, 2012). This, in turn, may increase or decrease individual levels of fitness as defined by reproduction (e.g., if reproductive chances are missed because Mating was not detected).

pOsitivity. pOsitivity (e.g., "Situation is potentially enjoyable") describes to what extent people perceive a situation as pleasant, fun, enjoyable, playful, simple, clear, and easy-tonavigate. It can thus be captured by the question: Is the situation (or aspects of it) pleasant? As can be seen in Table 15, several similar dimensions pertaining to recreation, favorable outcomes, and pleasure have previously been identified. In its content, pOsitivity can be tied particularly to the personality dimensions of Positive Valence and Extraversion as trait Positive Affect. Along with Negativity, pOsitivity belongs to the two "valence" factors in the DIAMONDS dimensions. This means that it does not represent concrete content per se, but rather positive affective evaluations of situations. As could be expected, this dimension is thus particularly salient to perceivers, embedded into a rich nomological network with many situational and behavioral correlates. Moreover, people strongly agree on pOsitivity, probably because of culturally shared meaning systems of what is "pleasant" and what can be approached (e.g., Murray, 1938).

Negativity. Negativity (e.g., Situation is potentially anxietyinducing) describes to what extent a situation may elicit any sort of negative feeling (e.g., frustration, anxiety, tension, guilt, anger, etc.). It can thus be captured by the question: Can negative feelings ensue? As can be seen in Table 15, several similar dimensions pertaining to negative emotions or aspects of a situation have previously been identified. In its content, Negativity can be tied particularly to the personality dimensions of Negative Valence and Neuroticism as trait Negative Affect. Along with pOsitivity, Negativity belongs to the two "valence" factors in the DIAMONDS dimensions. It captures negative affective evaluations of a situation. As such, this dimension is salient to perceivers and possesses strong levels of internal consistency and agreement, alluding to culturally shared meaning systems of what is "unpleasant" (in spite of the fact that negative situations were not particularly common). Negativity was also a relatively strong predictor of behavior. These findings are in line with the principle that "organisms that were better attuned to bad things would have been more likely to survive threats [which] would have increased [the] probability of passing along their genes" (Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001, p. 325). It may thus be evolutionarily adaptive to attend

(particularly) to negative characteristics in situations, which would explain the saliency and relatively high amounts of agreement observed for Negativity.

**Deception.** Deception (e.g., It is possible to deceive someone) describes to what extent people perceive a situation to contain mistrust, deception, lying, betrayal, and hostility. It can thus be captured by the question: Are there issues of (mis-)trust? As can be seen in Table 15, no dimensions pertaining to Deception have been identified so far in extant literature so that Deception may represent a novel and interesting addition to previous taxonomies. In its content, Deception could be tied particularly to the personality dimensions of Agreeableness and Honesty/Humility or to the Dark Triad (i.e., sub-clinical narcissism, Machiavellianism, psychopathy; Paulhus & Williams, 2002). Hence, Deception may be fruitful particularly for research on "darker" aspects of social dilemma games and interpersonal trust. The lower agreement in Deception found in Study 2 may be explained by (a) a relatively low base rate of deceptive situations (i.e., unfamiliarity with such situations), (b) less "visibility" of such situations (as they should not be apparent to others), and (c) the operation of individual moral systems (e.g., what may constitute moral "gray area" for one person, may be immoral to another).

Sociality. Sociality (e.g., Social interaction is possible) describes to what extent people perceive a situation to contain socializing, communicating, (pleasant) interaction, relationship formation, interpersonal warmth, and reassurance. It can thus be captured by the question: Is social interaction present or important? As can be seen in Table 15, several similar dimensions have been previously identified. Indeed, there is hardly any taxonomy that misses to address or incorporate social information. In its content, Sociality may be tied particularly to the personality dimensions of Extraversion, Agreeableness, and Communion. Social-interpersonal situations occupy the majority of situations encountered in everyday lives (Kelley et al., 2003; Reis, 2008). In line with this, situations perceived as social were the most common and judged with the highest amounts of agreement. This suggests that there are strong, culturally shared meaning systems for Sociality, which eases the processing of this dimension. Moreover, it is embedded into a wildly rich nomological network with strong ties to other situational variables and behavior. As such, perceptions of Sociality can be very consequential, as they may determine to what extent and how social behaviors are expressed and interpersonal relations formed.

# **Similarities and Differences Among the DIAMONDS Dimensions**

Which DIAMONDS dimensions are similar to one another? We examined with vector correlations to what extent the DIAMONDS dimensions shared similar situation cues (across 31 correlations), affordances (across 41 correlations, including Van Heck's dimensions), and behaviors (across 67 correlations). Vector correlations are displayed in the online supplemental materials, Section H (OSM H). For *situation cues*, similar patterns were shared by (a) Duty and Negativity and (b) Mating, pOsitivity, and Sociality. For *affordances*, similar patterns were shared by (a) Duty and Negativity, (b) Adversity and Deception, and (c) Mating, pOsitivity, and Sociality. For *behaviors*, similar patterns were shared by (a) Duty, Adversity, Negativity, and Deception and (b) Mating, pOsitivity,

and Sociality. All vector intercorrelation matrices were additionally meta-analytically pooled with the statsBy function in the R package "psych" (Revelle, 2013) to gain a better picture of which DIAMONDS dimensions showed similar patterns. Findings are graphically presented in the online supplemental materials, Section I (OSM I). Sociality, pOsitivity, and Mating formed one cluster ("approach characteristics"), while Duty, Adversity, and Deception formed another cluster ("avoidance characteristics"). Negativity loaded negatively onto approach and positively into avoidance characteristics. Intellect did not show a clear loading. Generally, approach and avoidance characteristics showed dissimilar patterns to each other. Thus, situations with pleasant characteristics differed markedly from situations with unpleasant characteristics in their situational and behavioral correlates.

#### The Inclusiveness of the DIAMONDS Dimensions

How representative are the DIAMONDS dimensions of the universe of major dimensions of situation characteristics? For the DIA-MONDS taxonomy to be useful for further research, it should at least subsume if not extend most content identified in previous situational taxonomies. Table 15 synoptically lists how content from different situation dimensions identified in previous literature (pertaining to classes, characteristics, and cues) correspond to the DIAMONDS dimensions. As can be seen, the DIAMONDS dimensions are fairly inclusive and subsume most previously identified situation dimensions. Specifically, Duty, Adversity, pOsitivity, Negativity, and Sociality have already been described in one way or the other. In contrast, Intellect, Mating, and Deception have only few if any counterparts in extant taxonomies. Indeed, from our literature review on situational taxonomies (see Introduction and Background of Study 1), these dimensions would not have been expected. Previous taxonomies may have missed or at least underrepresented content of these dimensions so that they could not be clearly extracted. As such, the DIA-MONDS taxonomy represents an advance in content coverage.

Do the DIAMONDS dimensions exhaustively cover the domain of psychologically important situation characteristics? For example, dimensions such as constrained versus unconstrained (Hacker, 1981; Pervin, 1976; Nascimento-Schulze, 1981), involvement versus uninvolvement (e.g., Eckes, 1995; Forgas, 1976; King & Sorrentino, 1983), active/control versus passive/affectedness (e.g., Magnusson, 1971; Saucier et al., 2007), formal versus informal (e.g., Eckes, 1995), familiar versus unfamiliar (e.g., Eckes, 1995), (daily) routine versus uncommonness (e.g., Ten Berge & de Raad, 2001), or short versus long durated (e.g., King & Sorrentino, 1983) have repeatedly been identified. Block and Block (1981) additionally list different parameters such as structure, convergency, divergency, evaluation, feedback, constraint, impedance, malleability, galvanization, familiarity, and differentiation/complexity. None of these dimensions are represented in our DIAMONDS taxonomy. This absence can be explained by the fact that the DIAMONDS dimensions capture content dimensions, while the other dimensions (e.g., involvement) concern style dimensions. Style dimensions may be best seen as abstract "modifiers" of more concrete content dimensions. This is analogous to how behavior can be described in terms of abstract content (e.g., "socializing" = extraverted behavior), but also in terms of style or how the behavior is executed (e.g., "intense" or "awkward" socializing). Thus, each DIAMONDS dimension can be modified by additionally

attending to one or more style dimensions. Such modifications can concretize the DIAMONDS dimensions. For example, Adversity and Deception can be concretized with the style of *activity-passivity*: Am I the "sender" of Adversity/Deception (Active) or am I the "receiver" (Passive)? Particularly Adversity (Am I being threatened by someone? Am I threatening someone? Am I watching someone being threatened by someone else?) and Deception (Am I deceiving someone? Am I being deceived by someone? Am I watching someone being deceived by someone else?) may profit from these concretizations which could enhance people's agreement on these dimensions (see Study 2).

#### Measuring the DIAMONDS Dimensions: The RSQ-8

In establishing the DIAMONDS dimensions, we have also formed the RSQ-8 as a streamlined version of the RSQ specifically tapping the DIAMONDS dimensions. It samples each DIAMONDS dimension with four items and thus contains 32 items instead of the original 89-item version. Indeed, each study we presented provided also evidence for the sound psychometric functioning of the RSQ-8 (i.e., factorial structure, reliability, construct validity, criterion validity). As the RSQ-8 showed good psychometric properties in our studies, the DIAMONDS dimensions can be sampled in a sound, yet economic way. The final RSQ-8 can be found in the Appendix. A 7- or 9-point Likert-type scale or Q-sorting bin ranging from extremely uncharacteristic of the situation to extremely characteristic of the situation should work best with these items.

There are several future directions we foresee for the RSQ-8. First, the items of the RSQ-8 may be further refined and honed to optimally capture the DIAMONDS dimensions. The trade-off between internal consistency and breadth of content coverage will be crucial in this endeavor. Second, the 32-item RSQ-8 measure may be further shortened. Particularly for studies seeking to evaluate the perception of stimuli (e.g., for manipulation check reasons) or using an experience sampling design for the ambulatory assessment of situation characteristics, shorter versions of the RSQ-8 may be desirable. Lastly, the RSQ-8 can be used to validate different and more refined measures of the DIAMONDS dimensions to be constructed in the future (e.g., based on lexical analyses or lay people's free-word associations). As such, it can function as a "benchmark" measure in terms of construct and criterion validity.

#### Merits and Usefulness of the DIAMONDS Taxonomy

Why is the DIAMONDS taxonomy useful? We conducted an informal survey with scholars (n=8) with a firm background/ training in personality/social psychology specifically selected for their expertise in situations and/or person  $\times$  situation interactions. We asked them to think about a basic study where they would want to assess characteristics of persons (i.e., traits) and

<sup>&</sup>lt;sup>17</sup> We advise using the slightly revised phrasing of the items presented in the Appendix rather than the actual RSQ items presented in Table 2.

 $<sup>^{18}</sup>$  Twelve scholars were asked in total, of which eight responded. Six respondents participated in the expert meeting of "Situations and Person  $\times$  Situation Interactions," funded by the European Association of Personality Psychology (EAPP) and organized by the first and last author of this work. Authors of this work who also participated in this expert meeting were excluded *a priori* from the survey.

situations. Specifically, they were to name three measures to assess personality (along with their constructs) and three measures to assess situations (along with their constructs). The results were striking. First, all experts could readily name three personality measures along with their specific personality constructs (usually the Big Five). Second, the experts could neither name a concrete situation measure (except for the RSQ) nor situation dimensions to be captured in them. Third, some experts indicated that they would have to use ad hoc constructed instruments specifically tailored for their research needs. These results underscore a very real and dire problem: There does not seem to be any standard and economical psychometrically validated measure of situation characteristics or any specific dimensions one would compare situations on (at least none anyone knows of-not even experts). Almost any researcher would resort to the Big Five if he/she wanted to sample personality. But what would one resort to when wanting to assess the psychological situation economically?

This is where the DIAMONDS taxonomy harbors several advantages that make it practically useful for research on situations and their characteristics. First, we believe that the most relevant gist of broad psychological situation characteristics is covered. Same as researchers using the Big Five, we do not contend that the DIAMONDS dimensions exhaustively cover all characteristics there may be. However, they are inclusive enough to cover the most salient and important ones in everyday lives and laboratory studies. Organizing previous situation dimensions into the DIAMONDS taxonomy (see Table 15) supports our notion.

Second, we have given the uncovered dimensions clear labels, which in their entirety form the easily memorable acronym DIAMONDS (see OCEAN's Big Five). We wanted to enable researchers to easily name specific dimensions/constructs to assess the psychological situations of their participants. This has the added effect of cutting through the jingle-jangle jungle of situation terms and thereby facilitating the communication among and between research teams—which has so far not been possible. Eventually, the DIAMONDS taxonomy may also provide a useful framework within which to locate scattered, previously identified dimensions (see Table 15) and thus guide future research in a more systematic way (same as the Big Five have started to guide personality trait research).

Third, we have provided a psychometrically sound measure to assess the DIAMONDS dimensions, the RSQ-8. This should greatly aid researchers who want to assess the psychological situation(s) of their participants. To the best of our (and the experts') knowledge, no other taxonomy has produced reliable and valid scales that could be used for research.

Lastly, the current string of research can be considered unique in several ways that distinguish the DIAMONDS taxonomy from previous situational taxonomies and make it uniquely helpful:

- This work focused solely on a taxonomy of psychological characteristics and not of classes (taxonomizing situations per se into categories) or of cues (taxonomizing concrete elements within situations). As outlined in the Introduction, most extant situational taxonomies did not specifically target situation characteristics.
- A fairly inclusive sampling of situation characteristics was achieved by using the RSQ, whereas previous research has restricted characteristics to only a few in

relatively narrow domains (see Yang et al., 2009). The RSQ, however, encompasses broad content (Sherman et al., 2010; Wagerman & Funder, 2009; see OSM A).

- The, as of yet, broadest range of real, naturally occurred situations in the daily lives of large samples were gathered, whereas previous research has sampled far less situations and/or restricted situations to circumscribed domains (see Yang et al., 2009).
- 4. Different samples (with sufficiently large sample sizes) and different methodologies in a set of six studies were utilized. In doing so, the patterns of findings (see OSM E) could be replicated to show that they were robust across different samples and methods.
- The predictive power of the DIAMONDS dimensions (and the scales measuring them) was empirically demonstrated. Such demonstrations have not been reported for any other taxonomy so far (mainly because they did not produce any assessment methods).

# Implications of and Future Directions With the DIAMONDS Taxonomy

This work represents a *first step* toward a common framework within which to capture major dimensions of situation characteristics. We foresee following eight lines of research that will profit from the DIAMONDS dimensions: uniform communication in research on situation characteristics, compatibility with personality taxonomies, description of momentary situations and enduring life spaces, situational similarity, situation classification, individual differences in situation perception, situation change, and validity checks.

Uniform communication in research on situation characteristics. The DIAMONDS taxonomy may integrate and reconcile previous taxonomies within a common language (see Table 15). This should help enhance uniform communication within and beyond situation research as past and future taxonomies of situation characteristics can be located within the DIAMONDS language. The DIAMONDS dimensions may help us knowing what it is that we are looking for in future dimensional analyses of situation characteristics, which has not been possible so far.

Compatibility with personality taxonomies. The DIAMONDS dimensions are compatible in content with major dimensions of personality (see Study 1). This squares with Johnson's (1999, pp. 450-451) critique that "one of the problems is researchers' failure to use the same kind of descriptive unit for traits and situations." In other words, situational taxonomies ought to bear some content resemblance to personality taxonomies to make them most useful for personality research (see also Ten Berge & de Raad, 1999, 2001, 2002). Using the DIAMONDS dimensions, situation and personality taxonomies can speak a common language, which will eventually aid in exploring the full Personality Triad of persons, situations, and behavior. For example, person-environment fit research questions command that characteristics of persons and situations/environments be conceptually commensurate (Rauthmann, 2013; Kristof-Brown & Guay, 2011): persons and situations should be sampled on the same or conceptually similar content dimensions. Thus, the DIAMONDS dimensions could be usefully applied to person-environment fit research in conjunction with Big Five/Six/Seven assessments of people's traits.

Description of momentary situations and enduring life **spaces.** The DIAMONDS dimensions can be used to characterize momentary situations (e.g., "Being at a party at 10 p.m.") or enduring life spaces (e.g., "Being in the middle of a divorce"). The former represent snapshots or glimpses in people's lives, whereas the latter represent chronic constellations (e.g., work, marriage, etc.) that constitute a person's habitual environment or socioecological niche with distinctive goal, rule, and role structures (Argyle et al., 1981). Life spaces may also be characterized in terms of the DIAMONDS dimensions to study their effects on intrapersonal (e.g., physical and mental health, affect, self-esteem, stress, strain, trauma, etc.) and interpersonal adjustment (e.g., popularity, social support). Moreover, small effects of concurrent situation perception on behavior and health may accumulate over time to produce strongly consequential effects (Serfass & Sherman, 2013; Sherman et al., 2013). This may be tested with the DIAMONDS dimensions.

**Situational similarity.** The DIAMONDS dimensions can be used to compare different situations with each other (Funder, 2001; Mischel & Peake, 1983; Reis, 2008) to aid a "differential psychology of situations" (Endler, 1981; Magnusson, 1978, 1981). Until now, situations could not be compared sufficiently in between-situations analyses on a few dimensions in the same manner as persons can be compared on the Big Five, for example. Thus, investigations of situational similarity (e.g., Champagne & Pervin, 1987; Furr & Funder, 2004; Sherman et al., 2010) can benefit from the DIAMONDS taxonomy. Situational similarity may then be used to predict consistent or coherent behavior (because people should behave more consistently when situations are similar; see Sherman et al., 2010) or to examine which situations may cluster together because they share common characteristics (see next point below).

**Situation classification.** According to Magnusson (1981c, p. 24), situations can be classified according to how they are perceived. Classes, types, or groups of similar situations could be distinguished based on profile constellations of the DIAMONDS dimensions. This is analogous to type-research with personality traits: There are distinct trait profiles that mark different types of people. In the same vein, there could be distinct DIAMONDS profiles that mark different types of situations. The number and make-up of these profiles (e.g., extracted by latent class/dimension analyses) would determine the quantity and nature of situation classes. Thus, the DIAMONDS dimensions may also help develop a taxonomy of situation classes.

Individual differences in situation perception. Individual differences in situation perception have been described as "potentially one of the most meaningful and fruitful bases we have for characterizing individuals" (Magnusson, 1981c, p. 28; see also Magnusson, 1971, 1974, 1976, 1981a; Forgas, 1976). However, it has so far not been possible to perform between-person analyses on state and habitual situation perception because it has not been clear on which situational dimensions to compare people. People may vary in their selective attention to, familiarity with, and processing of each DIAMONDS dimension. As such, DIAMONDS perceptions may vary across persons for one situation (interindividual differences) and across different situations for one person (intraindividual differences). Knowledge on how indi-

viduals momentarily and chronically perceive situations can particularly benefit applied issues (Magnusson, 1981c, p. 30) such as clinical diagnoses (e.g., misperceptions due to dysfunctional schemata) or the estimation of treatment and intervention effects in therapy (e.g., whether situation evaluations have changed). For example, it would be desirable to protocol after prolonged therapy that perceptions of situations' Adversity, Negativity, and Deception have been reduced in narcissistic patients.

Situation change. The DIAMONDS dimensions may help elucidate a traditionally daunting problem in situation research: the demarcations of situations and how they change or flow into one another. The DIAMONDS dimensions can be used to "segment" situations into distinct psychologically relevant phases or cycles as situations may "change in significant ways despite the fact that their characters, location, and basic content [i.e., situation cues] remain the same" (Pervin, 1981, p. 359). Since the DIAMONDS dimensions capture perceived situation characteristics that are partly based on situation cues (see Study 3) but may also operate independently from them (i.e., they contain surplus meaning beyond situation cues due to people's construal process of the psychological situation), they are uniquely equipped to understand situation change. Hence, the DIAMONDS dimensions may be used to examine how, when, and why situations change in their characteristics as well as how the "flow" of situations in the stream of a person's daily life unfolds (Rauthmann & Sherman, 2014).

Validity checks. The DIAMONDS dimensions can be used to examine/validate stimulus material. For example, automated protocols and computerized text analyses (e.g., Tausczik & Pennebaker, 2010) can be fine-tuned to extract verbally encoded DIAMONDS content, such as from transcripted everyday conversations, Internet writings (in blogs, memes, forums etc.), the Bible, dreams, or stories prompted by Rorschach or TAT cards. Moreover, experimental stimuli and conditions can be optimized for desired effects ("Do participants really interpret the stimulus or the situation the way they should?"). As a further consequence, the DIAMONDS dimensions may also be used for manipulation checks in experiments ("Did the manipulation of a stimulus result in a within- or between-subjects change of the perceived characteristics of the experimental situation?"). It is important to assess whether perceptions of experimental situations vary as a function of the manipulation of objective cues. Only then can we assert that (consciously represented) situations differed between experimental groups or measurement points. DIAMONDS perceptions can thus function as the mediating variables between experimentally manipulated objective situation cues and contingent behavioral outcomes (see Magnusson, 1981b, p. 24).

#### Desiderata

Future research should seek to replicate, corroborate, and extend the findings presented in this work. First, the DIAMONDS dimensions should be extracted from different data sources and situation pools than the RSQ to demonstrate their universality. For example, situational idioms from different cultures (Yang et al., 2006), adjectives (Edwards & Templeton, 2005), free associations of situation characteristics (e.g., by asking laypersons about the salient characteristics of situations with an open answering format), or goal-formulations of situations (Yang et al., 2009) may be used

as "input" to derive the DIAMONDS dimensions. <sup>19</sup> Ideally, these replication efforts would also entail cross-cultural comparisons (which we explicitly eschewed as we did not have enough cultures and enough situation ratings within each culture). To the extent that the DIAMONDS dimensions can be consistently recovered across different samples, cultures, (methods of deriving) situation pools, measurement methods, and data-analytical procedures, they may eventually develop into the "Situational Big Eight."

Second, we examined factor structures with situations freely varying across persons. While this approach ensures a sufficiently broad coverage of real, naturalistic situations, different sources of variance are confounded in situation ratings. As explained in Rauthmann (2012), any situation rating is necessarily a function at least of variance due to the perceiver, the situation, the perceiver × situation interaction, and random error. A variance decomposition approach, however, presupposes that multiple perceivers rate the same standardized set of situation stimuli (e.g., vignettes, pictures, video clips, etc.). Thus, ideally, a large and population-representative sample of perceivers would rate each situation from a representative sample of situations<sup>20</sup> on a comprehensive set of situation characteristics. These data would need to be analyzed with multi-mode factor analysis (Gorsuch, 1983/2008; Kiers & van Mechelen, 2001) as they contain the modes of person, situation, and characteristics. While such data would enable disentangling sources of variance, realizing such designs may be extremely time-consuming and impractical.

Third, it would be desirable to have situation ratings made truly *in situ* with ambulatory assessment or experience sampling methodology (ESM; see Shiffman, Stone, & Hufford, 2008; see also Footnote 8 in the present article). ESM was unfeasible for this research, which was concerned with establishing major dimensions from a relatively large set of items. ESM data on DIAMONDS perceptions can offer rich time-series information on within- and between-person as well as within- and between-situation structures and processes.

Lastly, this work did not provide a concrete theory around the DIAMONDS dimensions, much like early research on personality trait taxonomies. However, first demonstrations of new concepts are often more exploratory and descriptive. In the process of establishing, replicating, corroborating, and refining the DIAMONDS dimensions, we expect that theory will be fleshed out gradually. We could not conduct top-down research simply because there is no integrated theory on situations and their classes, cues, and characteristics yet. Rather, we had to rely on a bottom-up approach for the current research. However, theoretical bolstering of the DIAMONDS dimensions will be an important task for the future. First, the perceptual, cognitive, affective, motivational, and regulatory processes (e.g., Endsley, 1995a, 1995b) underlying DIAMONDS perceptions can be fleshed out (see the box with the dotted lines in Figure 1): How do we recognize situation cues? How do we synthesize perceptions into an interpreted situation gestalt? How do we extrapolate consequences situations based on their characteristics? Second, the momentary significance of the DIAMONDS dimensions in terms of their actual genesis (How do we come to perceive DIAMONDS characteristics in momentary instances?), ontogenesis (How do we acquire perceptual modules attuned to the DIAMONDS characteristics in our development across the life span?), and phylogenesis (Which ancestral affordances or presses led to the evolution of perceptual modules attuned to the DIAMONDS characteristics in humans?) should be addressed. Taken together, an integrated DIAMONDS Theory would ideally tackle (a) proximate and ultimate functions, (b) within- and betweenperson *and* situation structures and processes, and (c) short-term and long-term consequences and trajectories.

#### Conclusion

The present research aimed to tackle three problems that plague situation research: the definition, taxonomization, and measurement of situations. For the definition problem, we proposed a simple working model of situation perception that allowed us to investigate psychological characteristics of situations. For the taxonomization problem, we established and described the Situational Eight DIA-MONDS dimensions Duty, Intellect, Adversity, Mating, pOsitivity, Negativity, and Sociality. For the measurement problem, we provided a psychometric tool for measuring these DIAMONDS dimensions with the newly developed RSQ-8.

Uncertainties and inconsistencies in the situation literature may lead to researchers (a) abstaining from assessing psychological situations or (b) using self-constructed and unvalidated measures that are barely comparable. Both outcomes are problematic and will not lead to fruitful contributions to personality psychology (and person X situation interaction research in particular). This problem motivated the DIAMONDS taxonomy: We wanted a taxonomy of psychologically meaningful characteristics that (a) can describe most if not all situations on only a few major dimensions (see Study 1); (b) is broadly associated with other phenomena (see Studies 3-5); (c) possesses strong predictive powers (see Study 6); (d) is in principle compatible with personality taxonomies, especially in content (see Table 14); (e) is embedded into previous literature and will hence facilitate a common language (see Table 15); and (c) can be assessed with a psychometrically sound, yet economic measure (see the RSQ-8 in the Appendix). Taken together, our objective was to provide a taxonomy and measure that can be practically used and spur further research. At www.bigeightdiamonds.com interested researchers can find more information on the DIAMONDS dimensions, interact and discuss with each other, and collaborate on projects and share find-

<sup>&</sup>lt;sup>19</sup> We did not use these approaches for different reasons. First, situations are often not characterized by only one adjective (cf. Edwards & Templeton, 2005), but rather by more complex linguistic/syntactic relations (see Saucier et al., 2007, pp. 496/497). Second, we did not resort to free associations from participants as these often involve descriptions of situation cues rather than psychologically important characteristics (see, e.g., Saucier et al., 2007). Lastly, we did not employ a goal-oriented frame onto our research (but see Study 4) although situations have been frequently understood in terms of goal processes and content (e.g., Murray, 1938; Yang et al., 2006, 2009). Conceptually, we wanted to make a strict distinction between person and situation aspects. Conceptualizing situations primarily in terms of psychologically important perceptions of situations (as we did) already brings situations partly into the realm of the person. However, going yet another step further and defining situations in terms of (what happens to) what kinds of goals people pursue almost entirely cancels out the situation in favor of the person. Although we conceptualize chronic and momentarily activated affect, goals, motives, needs, intentions, and internal regulatory processes as accompanying person-bound elements of situations, we do not see them as constituents (for similar arguments, see Saucier et al., 2007, pp. 498/499). At best, these processes may function as moderating variables (see Figure 1).

<sup>&</sup>lt;sup>20</sup> There are several problems with such research. First, there is no consensus or list on a representative set of situations. Indeed, it may be questionable if something like this can exist at all (see Mischel, 1977, pp. 337–338). Second, a list would probably just consist of situation vignettes so that ecologically valid experiences in real, natural situations could not be sampled. Third, gathering the proposed data would be utterly laborious.

ings. Ultimately, we hope that the Situational Eight DIAMONDS dimensions can serve as a useful first step toward a common framework for research on psychological situations, their characteristics, and person  $\times$  situation interactions.

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# **Appendix**

# Items of the RSQ-8

RSQ-Number	Items
Duty	
003	A job needs to be done.
006	Being counted on to do something.
011	Minor details are important.
025	Task-oriented thinking is called for.
Intellect	
053	Situation includes intellectual or cognitive stimuli.
013	Situation affords an opportunity to demonstrate intellectual capacity.
041	Situation affords an opportunity to express unusual ideas or points of view
012	Situation evokes values concerning lifestyles or politics.
Adversity	g, r
016	Being criticized.
023	Being blamed for something.
015	Being under threat.
017	Being dominated or bossed around.
Mating	. 8
074	Potential sexual or romantic partners are present.
070	Situation includes stimuli that could be construed sexually.
031	Physical attractiveness is relevant.
073 <sup>a</sup>	Members of the opposite sex are present.
pOsitivity	11 1
001	Situation is enjoyable.
018	Situation is playful.
057	Situation is humorous.
076	Situation is simple and clear-cut.
Negativity	1
066	Situation is anxiety-inducing.
048	Situation could entail stress or trauma.
033	Situation would make some people tense and upset.
030	Situation entails frustration.
Deception	
037	It is possible to deceive someone.
036	A person or activity could be undermined or sabotaged.
039	Situation may cause feelings of hostility.
038	Someone in this situation might be deceitful.
Sociality	Č
056	Social interaction is possible.
051	Close personal relationships are present or could develop.
063	Behavior of others presents a wide range of interpersonal cues.
022	A reassuring other person is present.

*Note.* RSQ = Riverside Situational Q-Sort. Items have been slightly rephrased from the original Riverside Situational Q-Sort Version 3.15.

<sup>&</sup>lt;sup>a</sup> We advise *not* to use this item because it only pertains to heterosexual individuals. We would recommend using a substitute item here: "Situation is sexually charged" or "There is sexual tension in this situation."