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Inspiration as a Psychological Construct

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Inspiration has received little theoretical or empirical attention within psychology. Inspiration is conceptualized herein as a general construct characterized by evocation, motivation, and transcendence. In Studies 1a and 1b, a trait measure of inspiration was developed and was found to have strong psychometric properties. Studies 2a–2c documented a nomological network consistent with the present conceptualization. Study 3 related inspiration to the holding of U.S. patents. Study 4 linked trait inspiration to daily experiences of inspiration, extended the nomological network to the state level, documented antecedents and consequences, and established incremental validity. This research provides a foundation for further study of inspiration, both as a general construct and in specific content domains (e.g., religion, creativity, interpersonal relations).

Inspiration is an experience with which we are all familiar. We are inspired when insights or ideas imbue a task with a sense of necessity and excitement. We are inspired when a mentor or role model reveals new possibilities that we would not have recognized on our own. We are inspired when a sense of beauty, truth, or the divine moves us to pursue a goal more important than the mundane concerns that often occupy our minds.

Although such experiences of inspiration are no doubt familiar to the psychologist, the topic has received little sustained attention within psychology and has been virtually ignored within personality and motivational psychology. Furthermore, inspiration has typically been conceptualized narrowly within particular content domains (e.g., religious, creative, interpersonal) or theoretical frameworks. We advocate a phenomenon-based approach (Sternberg & Grigorenko, 2001) to inspiration that both embraces the breadth of the inspiration concept understood by the layperson and is informed by diverse theoretical perspectives. Our aims in the present research are to offer a conceptualization of inspiration, to validate the inspiration construct, and to establish its importance in mainstream empirical psychology.

INSPIRATION CONCEPTUALIZED

In its literal sense, inspiration refers to the process of breathing in or inhaling, but it is the figurative sense that is relevant to psychology. The first figurative, general definition listed in the *Oxford English Dictionary* (*OED*; Simpson & Weiner, 1989) is the following: "A breathing in or infusion of some idea, purpose, etc. into the mind; the suggestion, awakening, or creation of some feeling or impulse, especially of an exalted kind" (p. 1036). The concept of inspiration is used in many disciplines, including psychology (Hart, 1998; Kris, 1952; Lockwood & Kunda, 1997; Taylor & Lobel, 1989), anthropology (Leavitt, 1997), theology (Canale, 1994a, 1994b), education (Tjas, Nelsen, & Taylor, 1997), art and literature (Bowra, 1955; Harvey, 1999), management (Bass & Avolio, 1994; Dess & Picken, 2000), and engineering (Beer, Quinn, Chiel, & Ritzmann, 1997).

Our reading of the various literatures on inspiration points to several striking commonalities, thus permitting a general conceptualization of the construct: Inspiration implies *motivation*, which is to say that it involves the energization and direction of behavior (Elliot, 1997); inspiration is *evoked* rather than initiated directly through an act of will or arising without apparent cause; and inspiration involves *transcendence* of the ordinary preoccupations or limitations of human agency. These characteristics are suggested in the *OED* definition and have been identified explicitly or implicitly by theorists across disciplines (Bowra, 1955; Bradley, 1929; Carpenter, 1987; Hart, 1998). We use the term *trigger* to refer to the stimulus object that evokes inspiration (e.g., a person or idea) and *target* to refer to the object toward which the resulting motivation is directed (e.g., a possible self, personal goal, or creative product). In the following, we overview the major approaches to inspiration and argue that they are compatible with our conceptualization.

INSPIRATION FROM ABOVE: SUPERNATURAL SOURCES

In its original usage, *inspiration* referred to an influence by a supernatural being in which the individual is used as an instrument for the delivery of divine truths. Although most modern psychologists reject the notion of supernatural influence, this account should be appreciated for what it reveals about inspiration. A well-known example from ancient Greece is the ascription of artistic gifts to the influence of a Muse. By whispering into the poet's ear, the Muse delivered both divine knowledge and the ability to communicate it (Leavitt, 1997). It remains common in modern times for artists, scientists, and other creative individuals to attribute their best ideas and creative impulses to supernatural, transcendent, or unknown forces (Ghiselin, 1952; Harding, 1948).

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A related concept of inspiration is found in Judeo-Christian accounts of the writing of scripture. From this perspective, inspiration is a God-given capacity to transmit the word of God, whether directly (Aquinas, 1950) or as mediated by the writer's experience or interpretation of a divine encounter (Schleiermacher, 1963). In theology, the term *revelation* refers to the disclosure of divine knowledge to the individual, whereas *inspiration* typically refers to the transmission or translation of the revelation into written form. A connection between revelation-like experiences and inspiration has also been emphasized in the area of transpersonal psychology (Hart, 2000).

The account of inspiration as supernatural influence provides a paradigmatic illustration of the characteristics of motivation, evocation, and transcendence. We may regard inspiration from above as a motivational state evoked by a revelation (trigger) and directed toward the conversion of transcendent, revealed knowledge into a work of art, a text, or some other concrete form (target).

INSPIRATION FROM WITHIN: INTRAPSYCHIC SOURCES

With the emergence of the field of psychology toward the end of the 19th century, theorists sought a scientific account of inspiration in terms of intrapsychic processes (Preminger, 1965). Some theorists (e.g., Raymond, 1907) aimed to reconcile theology with the emerging science, but the emphasis in psychology was on replacing supernatural with deterministic explanation (e.g., Kris, 1952; Ribot, 1906). The majority of work on intrapsychic sources of inspiration has focused on the creative rather than the religious domain (for exceptions, see Batson, Schoenrade, & Ventis, 1993; Fauteux, 1994), and divine revelation has been replaced by illumination (i.e., the insight or eureka experience) from within the human psyche.

Early approaches in psychology attributed inspiration to the unconscious (Ribot, 1906; von Hartmann, 1884; Wallas, 1926). According to von Hartmann (1884), the unconscious produces ideas that are more organic and elegant than those manufactured by the will. Wallas (1926) suggested that the creative process consists of four stages: preparation, incubation, illumination, and verification. The conscious will dominates during preparation and verification, whereas unconscious, unwilled processes are responsible for incubation and for producing illumination.

A second source posited to produce inspiration is the preconscious (Kris, 1952; Martindale, 1981; Rothenberg, 1990), from which ideas are more readily accessible. Building on Freudian concepts, Kris (1952) explained creative inspiration in terms of a regression in the service of the ego. In the inspiration stage, the individual permits himself or herself to regress to primary processes that involve flexible thinking, thus making novel associations more likely. Once a promising idea emerges, the elaboration phase begins—the individual reinstates ego boundaries and uses secondary processes for reality testing and revision. Empirical research has confirmed a link between controlled regression and creativity (for a review, see Suler, 1980).

Finally, some theorists have pointed to the willful, though typically indirect, generation of novel ideas (Osborn, 1957; Ward, Finke, & Smith, 1995). Creative cognition researchers have found that intentionally merging unrelated images may yield preinventive forms that have appealing emergent properties that may be extended to a new invention (Finke, 1995). Although ideas may be generated willfully, inspiration tends to be associated less with the generation of ideas than with their perception post hoc.

These accounts illustrate the characteristics of inspiration that we posited above. Although the sources of inspiration are intrapsychic, inspiration is nevertheless evoked in that ideas impinge on consciousness from the unconscious, the preconscious, or the perceptual field. Transcendence is illustrated by the fact that the individual gains access to and uses ideas that are felt to be more elegant or novel than those generated willfully. These approaches imply the importance of motivation, focusing on the direction of motivation by pointing to the ideas or illuminations that guide creative behavior. Energization has been neglected, perhaps because of the lasting influence of stage theories (Kris, 1952; Wallas, 1926), which treat illumination as the culmination of unwilled processes, followed by the labor of verification. Autobiographical accounts of creators, however, suggest that good ideas may strongly energize subsequent work (Gnezda-Smith, 1994; Harding, 1948). To illustrate, Donaldson (quoted in Ward, 2001) stated, "As soon as those two ideas came together, my brain took fire . . . I spent the next three months feverishly taking notes, drawing maps, envisioning characters, studying the implications" (pp. 350, 353). Inspiration from within may thus be conceptualized as a motivational state that is triggered by a compelling idea or illumination (including nonverbal ideas; Sadoski & Paivio, 2001) and that is targeted toward the actualization or realization of the idea.

INSPIRATION FROM WITHOUT: ENVIRONMENTAL SOURCES

Recent writings have emphasized sources of inspiration in the external environment (e.g., people, nature), although external sources were recognized as early as in ancient Greece. Plato suggested that poets may inspire their readers, thus transmitting the Muse's influence (Rothenberg & Hausman, 1976). Christians see Christ as a human source of divine inspiration (Schwöbel, 1987). Gilson (1953) pointed to the Muse-like women who inspired various writers. Composers interviewed by McCutchan (1999) found inspiration in music, nature, poetry, and other sources. Others have pointed to the capacity for inspiration from managers, mentors, role models, and heroes (Dess & Picken, 2000; Jung, 1986; Pleiss & Feldhusen, 1995; Tjas et al., 1997). Animals and even insects have inspired recent work in robotics (Beer et al., 1997).

Existential and humanistic approaches to inspiration and related phenomena have emphasized the importance of openness, variously conceptualized as allocentric perception (Schachtel, 1959), B-cognition (Maslow, 1968), encounter (May, 1975), I–thou relation (Buber, 1996), and openness to experience (Rogers, 1961; see also McCrae & Costa, 1997). These approaches suggest that objects in the world are capable of evoking inspiration, if only one may put aside one's tendency to perceive them narrowly as objects of desire, habit, or comparison.

Emotion researchers have begun to examine self-transcendent emotions (Haidt, 2000, 2003; Haidt & Keltner, in press; Keltner & Haidt, in press). Haidt (2000, 2003) has provided evidence for the experience of elevation, a positive emotion that is elicited when one witnesses virtue and that produces a desire to be virtuous in turn. Whereas elevation is elicited by virtue, awe is elicited by

vastness, and admiration is elicited by skill (Keltner & Haidt, in press). These eliciting qualities are reminiscent of the Greek transcendentals of truth, beauty, and goodness, all of which might be regarded as qualities that inspire.

Several theorists have implicated implicit motives in inspiration (McAdams, 1982; McClelland & Kirshnit, 1988; Steele, 1977). McClelland and Kirshnit (1988) found that viewing a film about Mother Teresa produced a positive immunological response. Individuals who were dispositionally high in the relaxed affiliative syndrome (i.e., higher in need for affiliation than in need for power and low in activity inhibition) were most responsive. Steele (1977) found that viewing inspirational speeches by Winston Churchill and others led to increased power motivation and general activation. Individuals who were dispositionally high in need for power were most responsive. Thus, different motives may play a role in different types of inspiration, just as emotion researchers have identified several inspiration-relevant emotions.

Inspiration has also been investigated by social comparison theorists (Lockwood & Kunda, 1997, 1999; Taylor & Lobel, 1989; Wood, 1989). Taylor and Lobel (1989) reviewed evidence that cancer patients prefer contact with other patients who are doing better than they are, so that they can gain inspiration and coping information (see also Helgeson & Taylor, 1993). Lockwood and Kunda (1997, 1999) found that exposure to high-achieving role models led participants to adopt more positive self-conceptions and inspired them to set higher aspirations but that such effects occur only when the role model's successes are personally relevant and attainable.

In these approaches, inspiration is evoked by a person or object in the external environment. The individual is moved by what is good or beautiful (Haidt & Keltner, in press; May, 1975; McClelland & Kirshnit, 1988) or superior to the self in some way (Lockwood & Kunda, 1997), which illustrates transcendence. These approaches recognize the motivational nature of inspiration, although most have emphasized the energization component by focusing on responsiveness to inspiring trigger objects. Less attention has been given to target objects and, thus, to whether, and toward what, the motivation is directed. One exception is social comparison theory, which has specified not only a trigger object (a superior individual) but also a target object (a future self). This precision, however, limits the scope of social comparison theory. Exposed to a superior other, the aspiring achiever might envision a better future self (as posited by social comparison theory), but the writer may envision a protagonist, the artist may envision a new sculpture, and so on.

INSPIRATION AS A STATE AND TRAIT

In their classic compilation of 17,953 terms descriptive of personality, Allport and Odbert (1936) classified *inspirable* as a trait descriptor, *inspired* as a temporary state, and *inspirational* as a social evaluation. Several studies have examined the inspired state as it is understood by lay research participants. Davitz (1969) found that participants characterized inspiration as involving enhancement, activation, hyperactivation, comfort, and a feeling of being overtaken. In his semantic atlas of words connoting emotions, Averill (1975) reported that participants rated *inspired* above average in activation, positive evaluation, depth, and uncontrol. Dahl and Stengel (1978) found the inspired state to be characterized by positivity, activation, and attraction emanating from (rather than to) the object. On the basis of factor analysis, Watson, Clark, and Tellegen (1988) included "inspired" as an item on their measure of positive affect. Hart (1998) asked participants to recount experiences of inspiration. The inspired state was found to be characterized by feelings of connection, openness, clarity, and energy.

These findings regarding lay conceptions of the inspired state are consistent with our portrait of inspiration as involving motivation (e.g., activation, energy), evocation (e.g., feeling overtaken, uncontrol, attraction from the object, openness), and transcendence (e.g., positivity, enhancement, clarity). Although Allport and Odbert's (1936) analysis suggests that inspiration may be viewed as a trait as well as a state, no research has directly examined inspiration as a trait.

INTEGRATION AND PRESENT RESEARCH

As the above review illustrates, the literature on inspiration has been fragmented in several respects. First, inspiration has been studied most often in its specific manifestations—for instance, as a religious, creative, or interpersonal phenomenon. Such conceptual fragmentation is at odds with the folk concept of inspiration (and the historical tradition from which it emerged), which is readily applied to phenomena across domains. Second, the various manifestations of inspiration have been closely associated with particular theoretical frameworks or disciplines. To understand the inspiring influence of a person, one might consult social comparison theory, but to understand the inspiring influence of an insight, one might consult a psychodynamic approach. Such theoretical fragmentation is at odds with the aim of parsimony.

In an effort to integrate the literature, we have shown that several themes pervade the various conceptualizations of inspiration. Inspiration is evoked by some trigger stimulus, be it a divine revelation, a creative illumination, or a person or object in the external environment. The inspired individual is moved by the truth, ingenuity, goodness, beauty, or superiority of the trigger object and is motivated to transmit, actualize, or emulate those transcendent qualities. Inspiration is thus conceptualized as a broad construct that spans multiple content domains (e.g., religious, creative), sources (e.g., intrapsychic, external), triggers (e.g., illumination, nature), transcendent qualities (e.g., beauty, goodness), and targets (e.g., products, possible selves).

In the present research, inspiration is conceptualized as both a trait and a state, because it is presumed to vary both between and within individuals. In Studies 1a and 1b, we develop a trait measure of inspiration and evaluate its psychometric properties. We then assess the measure's construct validity by examining its nomological network (Studies 2a, 2b, and 2c) and by conducting a known-groups analysis (Study 3). In Study 4, we use an experience-sampling methodology to examine predictive validity, within-person correlates, antecedents and consequences, and incremental validity.

STUDY 1: DEVELOPMENT OF THE INSPIRATION SCALE AND PSYCHOMETRIC PROPERTIES

The purpose of Study 1 is to develop a trait measure of inspiration and to evaluate its psychometric properties in two samples

(Studies 1a and 1b). Because we seek to understand a concept that is meaningful in individuals' lives (Hart, 1998) but underappreciated by psychologists, we aim to develop a measure that is straightforward and face valid. Research attests to the utility of such measures in the study of important psychological constructs, such as life satisfaction (Andrews & Withey, 1976), self-esteem (Robins, Hendin, & Trzesniewski, 2001), and gratitude (McCullough, Emmons, & Tsang, 2002).

Study 1a

Method

Preliminary Instrument Development

In pilot research, we drafted 19 inspiration items, with response options ranging from 1 (*strongly disagree*) to 7 (*strongly agree*), and we administered the items to a sample of 181 undergraduates. A promising set of 4 items was selected on the basis of item content (e.g., balance regarding references to triggers and targets, and inclusion of only domain-general items) and on the basis of psychometric criteria (internal consistency and unifactorial structure in an exploratory factor analysis [EFA]). To better capture the dynamic nature of inspiration, we adapted these items to consist of four statements, each of which is rated in terms of both frequency and intensity (see the Appendix). Frequency items are rated on a scale from 1 (*never*) to 7 (*very often*), and intensity items are rated from 1 (*not at all*) to 7 (*very deeply or strongly*).[1]

Participants and Procedure

A total of 333 (119 male and 214 female) undergraduates completed the inspiration measure in small-group sessions in return for extra credit in a psychology course.

Results and Discussion

Factor Structure

We examined the factor structure of the measure using confirmatory factor analysis (CFA).[2] Analysis of the covariance matrix was conducted using Amos 4.01 (Arbuckle, 1999) with maximum likelihood estimation. The four Frequency and four Intensity items were specified to be indicators of frequency and intensity latent variables, respectively. The uniquenesses of paired items (e.g., Items 1f and 1i in the Appendix) were permitted to covary. We identified the model by constraining latent variable variances to 1. This model was found to have an acceptable fit (see Model 1 in Table 1). All parameters were significant, and all standardized loadings exceeded .80. The two latent variables were strongly correlated ($r = .81$, $p < .0001$); nevertheless, the two-factor model fit better than a one-factor model, $\Delta\chi^2(1, N = 333) = 355.93$, $p < .001$.

Internal Consistency

We formed inspiration frequency and intensity indices by summing the respective sets of four items, and we formed an overall index by summing all eight items. All three indices were found to be internally consistent (see Table 2 for reliabilities and descriptive statistics).

These results indicate that the new measure, hereafter called the Inspiration Scale (IS), is internally consistent and consists of distinguishable and internally consistent Frequency and Intensity subscales. In Study 1b, we aim to replicate these results and demonstrate temporal stability.

Study 1b

Method

A total of 220 (86 male and 134 female) undergraduates participated in the study in return for extra credit in a psychology course. All participants completed the IS at Time 1, and 212 (81 male and 131 female) participants completed the measure again 7.5 weeks later. Participants received questionnaires in class and completed them outside of class. An overall inspiration index and frequency and intensity indices were formed as in Study 1a.

Results and Discussion

Factor Structure

We tested a CFA model identical to that examined in Study 1a using the Time 1 data. The model was found to have an acceptable fit (see Model 2 in Table 1). All parameters were significant, and all loadings exceeded .70. The frequency and intensity latent variables were highly correlated ($r = .60$, $p < .001$). These results replicate the structure documented in Study 1a.

Internal Consistency

As in Study 1a, the IS and its Frequency and Intensity subscales were each found to be internally consistent (see Table 2).

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[1] The four statements that we selected are sufficiently general to span the various manifestations of inspiration (i.e., all combinations of domains, sources, triggers, targets, transcendent qualities, etc.). Alternatively, we could have attempted to include separate, specific items for all possible manifestations of the construct. We opted against this latter approach for two reasons. First, as was apparent during our initial generation of items, the nascent state of the literature precluded the possibility of evenly and nonarbitrarily sampling items across the content universe of the construct. Second, we presumed that what is most important is the extent to which individuals experience inspiration, not their mean level of inspiration across all of its conceivable phenotypic manifestations. We would not suggest, for instance, that a religious saint is low in inspiration because he or she has never been inspired to paint or has few role models. Our approach is akin to the assessment of motives, genotypic constructs that are manifest in diverse ways in the lives of individuals (Thrash & Elliot, 2001). Our approach also resembles the assessment of global self-esteem (Robins et al., 2001; Rosenberg, 1965), an important construct that is not equivalent to mean esteem across specific content domains (Harter, 1993; Marsh, 1986).

[2] In establishing the factor structure of a scale, researchers often conduct an EFA in an initial sample, followed by a CFA in an independent sample. We did not use EFA to examine the new eight-item measure, because EFA assumes that uniquenesses are uncorrelated, an assumption that is not tenable in the present context (see the model specification). Hoyle (1991) discussed the advantages of CFA over EFA for a model identical in structure to ours. For the sake of demonstrating replicability, a second CFA with an independent sample is conducted in Study 1b.

Table 1
Study 1: Fit Indices for CFAs and Tests of Stability Across Time

Model	χ^2	*df*	CFI	TLI	RMSEA	$\Delta\chi^2$	Δdf	ΔCFI
Two-factor CFAs								
1. Study 1a	38.12**	15	.99	.98	.07			
2. Study 1b, Time 1	33.91**	15	.99	.97	.08			
Tests of measurement invariance (Study 1b)								
3. Baseline four-factor model	141.64***	82	.98	.97	.06			
4. Invariant loadings	145.58***	88	.98	.97	.06			
Model *4* vs. 3						3.94	6	.00
5. Invariant intercepts	148.48***	94	.98	.98	.05			
Model *5* vs. 4						2.90	6	.00
Tests of stability of construct parameters (Study 1b)								
6. Invariant latent variances	153.27***	96	.98	.98	.05			
Model *6* vs. 5						4.79	2	.00
7. Invariant latent covariance	153.56***	97	.98	.98	.05			
Model *7* vs. 6						.29	1	.00
8. Invariant latent means	158.23***	99	.98	.98	.05			
Model *8* vs. 7						4.67	2	.00

Note. Constraints were added cumulatively to previously accepted models. The accepted model in each model comparison is indicated with italics. For the chi-square in Model 1, $N = 333$; for Models 2–8, $N = 220$. CFA = confirmatory factor analysis; CFI = comparative fit index; TLI = Tucker–Lewis index; RMSEA = root-mean-square error of approximation.
** $p < .01$. *** $p < .001$.

Stability Across Time

The concept of stability may be applied to (a) measurement properties of an instrument (e.g., model structure, loadings), (b) construct parameters (e.g., means, variances), and (c) the relative ordering of individuals (test–retest correlations). These aspects of stability were examined using means-and-covariance-structure (MACS) analysis (Vandenberg & Lance, 2000).

Measurement invariance. We examined stability of the model structure by specifying a four-factor model that incorporated Time 1 and Time 2 models simultaneously. The Time 1 and Time 2 portions of the model were both identical to the two-factor model examined above. Covariances were specified among all four latent variables and between uniquenesses of identical items at Times 1 and 2. We identified the model by constraining one loading on each latent variable to 1 and the corresponding intercepts to 0. This model was found to have an acceptable fit (see Model 3 in Table 1). All latent variable variances/covariances and factor loadings were significant, and all loadings exceeded .70 (see Figure 1). Having established stability of the model structure, we cumulatively imposed equality constraints that forced corresponding parameters at Times 1 and 2 to be equal and assessed whether the constraints produced decrements in fit. As shown in Table 1, constraining factor loadings (Model 4) and intercepts (Model 5) to be invariant produced no decrement in fit. The IS thus demonstrated stable measurement properties across time.

Stability of construct parameters. Further constraining the latent frequency and intensity variances (Model 6), covariance (Model 7), and means (Model 8) to be invariant across time produced no decrement in model fit. These results establish stability of the construct-level parameters of the frequency–intensity model.

Stability of individual differences. Test–retest correlations for latent frequency and intensity in Model 8 were both .77, indicating that individual differences were quite stable.

In sum, Study 1 finds, first, that the IS consists of two internally consistent factors, justifying the use of separate four-item frequency and intensity indices. Second, the factors were strongly correlated, and the overall scale was internally consistent, thus also justifying use of the overall eight-item index. Third, the measurement properties of the IS were invariant across time, the construct parameters were stable, and individual differences were also stable, indicating that the IS is suitable as a trait measure. The strong psychometric properties of the IS permit a shift in Studies 2 and 3 to the substantive issue of construct validity. In Study 2, we examine the nomological network of inspiration in three samples (Studies 2a, 2b, and 2c).

Table 2
Study 1: Descriptive Statistics and Reliabilities of the Inspiration Scale

Variable	*M*	*SD*	Range	Cronbach's α
Study 1a				
Overall index[a]	35.29	10.05	8–56	.95
Frequency[a]	17.39	5.46	4–28	.93
Intensity[a]	17.90	5.21	4–28	.92
Study 1b, Time 1				
Overall index[b]	38.38	8.14	8–56	.91
Frequency[c]	18.61	4.50	4–28	.90
Intensity[b]	19.75	4.69	4–28	.92
Study 1b, Time 2				
Overall index[d]	38.94	7.55	10–56	.90
Frequency[d]	19.08	4.33	5–28	.90
Intensity[d]	19.86	4.31	5–28	.91

[a] $n = 333$. [b] $n = 219$. [c] $n = 220$. [d] $n = 212$.

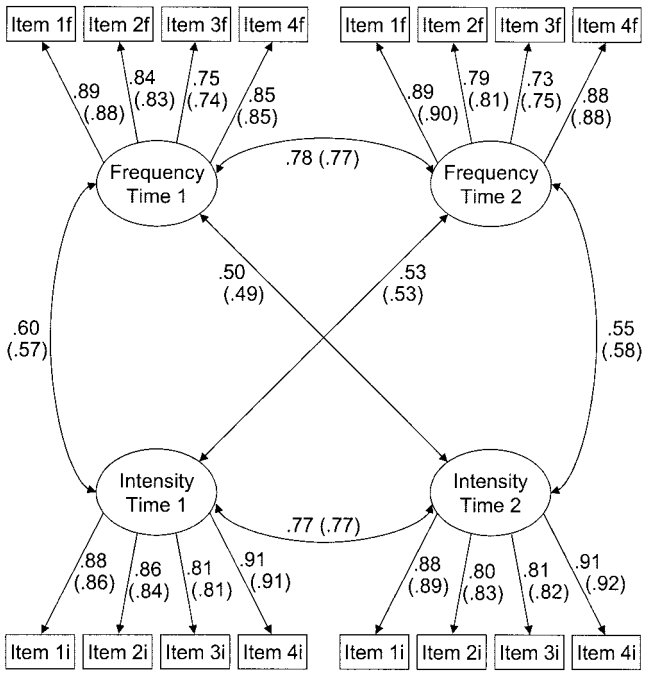

Figure 1. Study 1b: Longitudinal model illustrating the frequency–intensity structure of the Inspiration Scale at Times 1 and 2. For clarity of presentation, uniquenesses and uniqueness covariances are not illustrated. Coefficients not enclosed in parentheses are from the baseline model (Model 3), and coefficients in parentheses are from the final model (Model 8). Parameters are presented in standardized form and are highly significant. Standardized parameters for Model 8 are not necessarily equal at Times 1 and 2, because invariance tests are conducted on unstandardized parameters. Items may be found in the Appendix.

STUDY 2: NOMOLOGICAL NETWORK OF INSPIRATION

Study 2a

In Study 2a, we examine the relationship between inspiration and variables representing three major theoretical frameworks in personality and motivational psychology: approach–avoidance motivation (e.g., Elliot & Thrash, 2002), intrinsic–extrinsic motivation (e.g., Deci & Ryan, 1985), and the Big Five traits (e.g., McCrae & Costa, 1987). Given that inspiration has been conceptualized in terms of positive qualities to be approached, it was hypothesized to be positively related to the behavioral activation system (BAS), an approach system, and unrelated to the behavioral inhibition system (BIS), an avoidance system (Gray, 1987). Inspiration was expected to be positively related to intrinsic motivation, because both are focused on incentives inherent to a task, and unrelated or negatively related to extrinsic motivation. Regarding the Big Five, inspiration was hypothesized to be positively related to Openness to Experience, which may facilitate receptiveness to evocative stimuli. Inspiration was also expected to be positively related to Extraversion but unrelated to Neuroticism, given evidence that the core of these traits represent approach and avoidance dispositions, respectively (Elliot & Thrash, 2002; Lucas, Diener, Grob, Suh, & Shao, 2000). Inspiration was not expected to relate to Agreeableness or Conscientiousness. We additionally examined relationships with sex, grade point average (GPA), and students' university majors. All hypotheses were undifferentiated with respect to the frequency and intensity dimensions of inspiration.

Method

Participants and Procedure

A total of 152 (51 male and 101 female) undergraduates completed questionnaire packets in small-group sessions in return for extra credit in a psychology course.

Measures

Inspiration. The IS was used to assess inspiration frequency and intensity and overall inspiration.

BAS and BIS. Carver and White's (1994) measure was used to assess BAS (13 items) and BIS (7 items). Items were rated on a scale from 1 (*strongly disagree*) to 4 (*strongly agree*).

Intrinsic and extrinsic motivation. Amabile, Hill, Hennessey, and Tighe's (1994) Work Preference Inventory was used to assess individual differences in intrinsic motivation (15 items) and extrinsic motivation (15 items). Items were rated on a scale from 1 (*never or almost never true of me*) to 4 (*always or almost always true of me*).

Big Five traits. Costa and McCrae's (1992) NEO Five Factor Inventory was used to assess Openness to Experience, Extraversion, Neuroticism, Agreeableness, and Conscientiousness (12 items per trait). Items were rated on a scale from 1 (*strongly disagree*) to 5 (*strongly agree*).

Sex, GPA, and majors. Participants recorded their sex (coded male = 1, female = 2), GPA, and majors. The number of majors listed formed a number-of-majors variable (undecided = 0, single major = 1, double major = 2). For individuals with at least one major, three dummy-coded variables were used to represent whether or not (1 or 0) the individual was pursuing a major within the humanities, social sciences, or natural sciences.

Results and Discussion

Descriptive statistics for each variable may be found in Table 3, and correlations between inspiration and other variables may be found in Table 4. As expected, the overall inspiration index correlated positively with BAS (but not BIS), intrinsic motivation (but not extrinsic motivation), and Openness to Experience and Extraversion (but not Neuroticism, Agreeableness, or Conscientiousness). Inspiration thus converged with several measures of motivation, but only with those that are appetitive or task focused. The fact that inspiration correlated with Openness to Experience but not Conscientiousness is consistent with our conceptualization of inspiration as evoked and unwilled. The overall inspiration index was positively related to the number of majors pursued. This relationship reflects both low inspiration among individuals who were undecided about a major and high inspiration among double majors (undecided, $M = 32.9$; single major, $M = 36.9$; double major, $M = 39.4$) and suggests that inspired individuals are more engaged with their environment. Individuals high in inspiration were most likely to be pursuing majors within the humanities, which include the disciplines most often associated with inspiration (e.g., art, religion). The overall inspiration index was unrelated to sex and GPA. Although the frequency and intensity dimensions demonstrated slightly different patterns of significant correlations, the differences in magnitude were negligible in most cases.

Table 3
Study 2: Descriptive Statistics and Reliabilities

Variable	*M*	*SD*	Range	Cronbach's α
Study 2a[a]				
Inspiration (overall)	36.89	8.01	8–56	.92
Inspiration frequency	18.32	4.54	4–28	.91
Inspiration intensity	18.57	4.30	4–28	.89
BAS	42.41	4.69	27–51	.79
BIS	21.18	4.02	9–28	.79
Intrinsic motivation	46.14	5.76	22–57	.80
Extrinsic motivation	40.91	6.93	22–55	.82
Openness to Experience	42.61	6.50	23–57	.71
Extraversion	44.10	6.23	29–56	.79
Neuroticism	32.07	7.80	15–55	.83
Agreeableness	46.02	6.09	30–57	.76
Conscientiousness	44.52	7.63	20–58	.83
No. majors	1.07	0.51	0–2	
Major in humanities	0.15	0.36	0–1	
Major in social sciences	0.61	0.49	0–1	
Major in natural sciences	0.35	0.48	0–1	
Sex	1.66	0.47	1–2	
GPA	3.30	0.39	2.09–4.00	
Study 2b[b]				
Inspiration (overall)	38.35	9.26	8–56	.94
Inspiration frequency	19.04	5.08	4–28	.93
Inspiration intensity	19.31	4.89	4–28	.92
Absorption	55.93	7.06	36–68	.89
Experiential processing	73.18	10.56	47–98	.88
Rational processing	76.00	11.98	25–98	.90
Work mastery	52.24	6.90	30–68	.80
Competitiveness	16.02	4.52	6–25	.82
Fear of failure	22.76	6.75	9–45	.85
Creativity	30.07	5.04	14–40	.82
Study 2c[c]				
Inspiration (overall)	39.26	8.52	17–56	.93
Inspiration frequency	19.26	4.54	8–28	.92
Inspiration intensity	20.00	4.68	8–28	.92
Positive affect	36.30	5.72	24–49	.81
Positive affect without "inspired" item	32.93	5.21	20–44	.81
Negative affect	22.51	6.87	10–41	.89
Positive emotionality	20.83	3.52	11–25	.88
Negative emotionality	13.23	4.52	5–24	.85
Perceived competence	34.03	6.22	18–45	.89
Self-esteem	32.49	5.58	18–40	.87
Optimism	21.34	5.37	8–30	.89
Self-determination	64.04	13.61	32–90	.88
OED inspiration frequency	4.33	1.48	1–7	
OED inspiration intensity	4.47	1.55	1–7	
Social desirability	47.84	5.24	34–61	.77

Note. BAS = behavioral activation system; BIS = behavioral inhibition system; GPA = grade point average; *OED* = *Oxford English Dictionary.* [a] $n = 152$ except for the three major content area variables ($n = 136$). [b] $n = 161$. [c] $n = 99$.

Regressing the overall inspiration index simultaneously on the Big Five traits revealed that inspiration was uniquely related to Openness to Experience, $F(1, 146) = 30.64$, $p < .001$ ($\beta = .42$), and (marginally) to Extraversion, $F(1, 146) = 3.09$, $p < .10$ ($\beta = .15$). The multiple R^2 was .22, indicating that only about one fifth of the variance of the IS overlaps with the Big Five traits.

Study 2b

In Study 2b, we aim to extend inspiration's nomological network. Unlike states that lack object directedness or intentionality (e.g., moods; Frijda, 1994), inspiration has been conceptualized as focused on transcendent stimulus qualities. Accordingly, we expected inspiration to be positively related to trait absorption (Tellegen, 1981), a readiness to enter psychological states involving engrossed attention to stimulus qualities such as beauty. Epstein (1994) has described two modes of cognitive processing: experiential processing, which is intuitive and concrete, and rational processing, which is rational and abstract. Inspiration was expected to be positively related to experiential processing, given that inspiring stimuli tend to reach consciousness through experiential and perceptual processes (e.g., illumination). Inspiration was also expected to be positively related to rational processing, given that inspiring influences are not merely appreciated experientially; they exemplify abstract, transcendent values toward which the individual becomes oriented. We also expected inspiration to be positively related to the work-mastery component of need for

Table 4
Study 2: Correlates of the Inspiration Scale and Subscales

	Inspiration		
Individual-differences variable	Overall	Frequency	Intensity
Study 2a[a]			
BAS	.18*	.16*	.16
BIS	−.07	−.01	−.12
Intrinsic motivation	.43***	.43***	.35***
Extrinsic motivation	−.17*	−.15	−.16*
Openness to Experience	.43***	.36***	.42***
Extraversion	.20*	.24**	.12
Neuroticism	−.11	−.14	−.06
Agreeableness	.14	.15	.10
Conscientiousness	.02	.11	−.08
No. majors	.20*	.21**	.14
Major in humanities	.21*	.23**	.15
Major in social sciences	−.01	.04	−.05
Major in natural sciences	−.12	−.15	−.06
Sex	−.06	.03	−.13
GPA	.00	.00	.00
Study 2b[b]			
Absorption	.48***	.43***	.47***
Experiential processing	.24**	.18*	.27**
Rational processing	.22**	.22**	.18*
Work mastery	.33***	.33***	.28***
Competitiveness	−.17*	−.15	−.17*
Fear of failure	−.16*	−.20*	−.09
Creativity	.37***	.39***	.29***
Study 2c[c]			
Positive affect	.58***	.56***	.52***
Positive affect, without "inspired" item	.49***	.47***	.43***
Negative affect	.02	.02	.01
Positive emotionality	.26*	.30**	.18
Negative emotionality	−.03	−.01	−.03
Perceived competence	.38***	.34**	.36***
Self-esteem	.33**	.34**	.28**
Optimism	.35***	.36***	.28**
Self-determination	.34**	.30**	.33**
OED inspiration frequency	.59***	.57***	.53***
OED inspiration intensity	.50***	.33**	.60***
Social desirability	.16	.18	.12

Note. BAS = behavioral activation system; BIS = behavioral inhibition system; GPA = grade point average; *OED* = *Oxford English Dictionary.* [a] $n = 152$. [b] $n = 161$. [c] $n = 99$.
* $p < .05$. ** $p < .01$. *** $p < .001$.

achievement, with which it shares a task focus, but unrelated or negatively related to the competitiveness component and to the avoidance-based fear of failure. Finally, we expected that inspiration would relate to creativity, as has been posited since the time of Plato but has never been tested empirically.

Method

Participants and Procedure

A total of 161 (54 male and 107 female) undergraduates completed questionnaire packets in small-group sessions in return for extra credit in a psychology course.

Measures

Inspiration. The IS was used to assess inspiration.

Absorption. Absorption was assessed by the Absorption scale from Tellegen's (1982) Multidimensional Personality Questionnaire. This scale consists of 34 true–false statements.

Experiential and rational processing. Pacini and Epstein's (1999) Rational–Experiential Inventory was used to assess experiential (20 items) and rational (20 items) information processing styles. Items were rated from 1 (*definitely not true of myself*) to 5 (*definitely true of myself*).

Need for achievement. Spence and Helmreich's (1983) Work and Family Orientation Scale was used to assess the work-mastery (14 items) and competitiveness (5 items) components of the need for achievement. Items were rated from 1 (*strongly disagree*) to 5 (*strongly agree*).

Fear of failure. Fear of failure was assessed with the 9-item version of Herman's (1990) 27-item measure developed by Elliot and Church (2001). The short form correlates strongly with, covers the same content universe as, and displays internal consistency and predictive validity comparable to the full measure. Items were rated from 1 (*strongly disagree*) to 5 (*strongly agree*).

Creativity. Creativity was assessed with the Problem Solving/Creativity scale of Marsh and O'Neill's (1984) Self Description Questionnaire III. This scale consists of 10 items that are rated from 1 (*strongly disagree*) to 4 (*strongly agree*).

Results and Discussion

Descriptive statistics and correlates may be found in Tables 3 and 4, respectively. All hypotheses were supported. The overall inspiration index correlated positively with absorption, consistent with our conceptualization of inspiration as focused on transcendent qualities of objects. Inspiration correlated positively with both rational and experiential processing, suggesting that inspiration engages the head as well as the heart (Epstein, 1994). Inspiration correlated positively with work mastery but negatively (and more modestly) with competitiveness and fear of failure. Thus, within the achievement domain, inspiration converged only with the motive construct representing appetitive, task-focused engagement, consistent with the results of Study 2a. Inspiration also correlated positively with creativity, a capacity that has long been ascribed to inspiration rather than (or in conjunction with) personal initiative. As in Study 2a, the frequency and intensity indices related to the other variables in a similar manner.

Study 2c

Study 2c further examines the nomological network of inspiration. Given that studies have found inspiration to be characterized in part by positivity and arousal (see the introduction), we expected inspiration to be related to trait positive affect (of which positivity and arousal are core characteristics; Watson, Wiese, Vaidya, & Tellegen, 1999) but not trait negative affect. Regarding broader temperamental styles, inspiration was expected to be related to positive emotionality but not negative emotionality. Our conceptualization of inspiration as evoked, motivational, and transcendent suggests an influx or bolstering of psychological resources. We therefore expected inspiration to be positively related to perceived competence, self-esteem, and optimism. We also expected inspiration to be positively related to self-determination, because inspiring influences are likely to be regarded as self-congruent. In the absence of previous inspiration measures against which to validate the IS, we also aimed to demonstrate convergence with a measure based on the *OED* definition of inspiration. Finally, we examined whether the IS is related to social desirability.

Method

Participants and Procedure

A total of 99 (58 male and 41 female) undergraduates from various majors completed questionnaire packets at home in return for $2.

Measures

Inspiration. Inspiration was assessed with the IS and the following unlabeled definition of inspiration: "A breathing in or infusion of some idea, purpose, etc. into the mind; the suggestion, awakening, or creation of some feeling or impulse, especially of an exalted kind" (the first figurative, general definition of inspiration from the *OED*; Simpson & Weiner, 1989, p. 1036). This statement was followed by a frequency item, "How often do you experience this?" that was rated on a scale from 1 (*never*) to 7 (*very often*), and an intensity item, "How deeply or strongly do you experience this (in general)?" that was rated on a scale from 1 (*not at all*) to 7 (*very deeply or strongly*).

Positive and negative affect. The Positive and Negative Affect Schedule (PANAS; Watson et al., 1988) was used to assess positive affect (10 items) and negative affect (10 items). Participants rated each item on a scale from 1 (*very slightly or not at all*) to 5 (*extremely*) regarding how they generally feel.

Positive and negative emotionality. Wills, Windle, and Cleary's (1998) measures were used to assess positive emotionality (five items) and negative emotionality (five items). Items were rated on a scale from 1 (*not at all true*) to 5 (*very true*).

Perceived competence. Perceived competence was assessed with O'Brien and Epstein's (1988) Multidimensional Self-Esteem Inventory. This measure consists of three statements that are rated on a scale from 1 (*strongly disagree*) to 5 (*strongly agree*) and six questions that are rated on a scale from 1 (*very seldom*) to 5 (*very often*).

Self-esteem. Self-esteem was assessed using Rosenberg's (1965) 10-item Self-Esteem Scale. Items were rated on a scale from 1 (*strongly disagree*) to 4 (*strongly agree*).

Optimism. Optimism was assessed using Scheier, Carver, and Bridges's (1994) six-item Life Orientation Test—Revised. Items were rated from 1 (*strongly disagree*) to 5 (*strongly agree*).

Self-determination. Self-determination was assessed by Sheldon and Deci's (1996) 10-item Self-Determination Scale. For each item, participants rated which of two statements is more true for them. Items were rated from 1 (*only A feels true*) to 9 (*only B feels true*).

Social desirability. The Marlowe–Crowne Social Desirability Scale (Crowne & Marlowe, 1964) was used to assess social desirability. This scale consists of 33 true–false statements.

Results and Discussion

Descriptive statistics and correlates may be found in Tables 3 and 4, respectively. All hypotheses were supported. The overall inspiration index correlated positively with positive affect and positive emotionality and was unrelated to negative affect and negative emotionality, consistent with our conceptualization of inspiration as appetitive. Inspiration was also positively related to perceived competence, self-esteem, and optimism, variables that represent psychological resources. Inspiration was positively related to self-determination, which suggests that inspiration is compatible with the self, even if it is not directly self-instigated. The IS correlated strongly with the *OED* measure, which thus grounds the IS in a culturally shared conception of inspiration and rules out the possibility that each respondent interprets the IS items in an idiosyncratic way. Finally, inspiration was unrelated to social desirability. As in Studies 2a and 2b, inspiration frequency and intensity had essentially identical nomological networks.

CFA was used to determine whether the IS and *OED* items converge as indicators of inspiration and whether inspiration may be discriminated from positive affect, the strongest correlate of the IS aside from the *OED*. The inspiration portion of the model was identical to the model in Study 1a, except that the *OED* frequency and intensity items were included as indicators of the corresponding latent variables (with correlated uniquenesses). The PANAS Positive Affect items were specified to load on a positive affect latent variable. The PANAS item "inspired" was also permitted to load on the inspiration factors. This three-factor model was found to have acceptable fit, $\chi^2(160, N = 99) = 261.54$ (comparative fit index [CFI] = .92, Tucker–Lewis index [TLI] = .90, root-mean-square error of approximation [RMSEA] = .08). All IS and *OED* items had loadings of at least .60, and all PANAS items except "inspired" had loadings of at least .40. "Inspired" loaded on both inspiration frequency (.53) and intensity (.33) but not on positive affect (.00). We trimmed this item's loading on positive affect, which resulted in no loss of fit. (Dropping this item from the observed positive affect variable resulted in a more moderate correlation with the IS; see Table 4.) This three-factor model fit better than the two-factor models that we formed by collapsing latent positive affect with latent inspiration frequency, $\Delta\chi^2(1, N = 99) = 98.25$, $p < .001$, or with latent inspiration intensity, $\Delta\chi^2(1, N = 99) = 108.03$, $p < .001$. The data thus support the convergence of the IS and *OED* measure of inspiration as well as the discrimination of inspiration from positive affect.

In sum, Study 2 demonstrates that the IS relates to other measures in a way that is meaningful, differentiated, and consistent with our conceptualization. The Frequency and Intensity subscales were found to have similar patterns of correlations with other variables, at least within the domain of personality examined herein.

STUDY 3: KNOWN-GROUPS ANALYSIS

The purpose of Study 3 is to further establish construct validity by conducting a known-groups analysis. A group that is likely to be highly inspired is U.S. patent holders; these individuals are moved by novel ideas and are motivated to translate their ideas into reality. We hypothesized that patent holders would be inspired more frequently and intensely than would a sample of university alumni, a comparison group that has also demonstrated career-oriented competence yet that we have no reason to believe is particularly inspired.

Most U.S. patents fall into one of two categories. A *utility patent* may be granted to an individual who "invents or discovers any new and useful process, machine, article of manufacture, or compositions of matter, or any new useful improvement thereof," whereas a *design patent* may be granted to an individual who "invents a new, original, and ornamental design for an article of manufacture" (United States Patent and Trademark Office [USPTO], 1999, p. 2). Although utility and design patentees were not expected to differ in inspiration, we included separate utility and design samples for exploratory purposes.

It cannot be taken for granted that a measure assesses comparable constructs across populations (Bollen, 1989; Little, 1997). If, for instance, the IS items are better indicators of inspiration for patentees than for alumni, then group differences might reflect differential validity rather than true mean differences. Accordingly, we examined measurement invariance across groups prior to examining means.

A secondary purpose of this study is to test the hypothesis that, among patent holders, the number of patents held relates to the frequency but not the intensity of inspiration.

Method

Participants and Procedure

The USPTO's CD-ROM-based patentee-assignee database was used to generate a list of patent holders who received patents in the fourth quarter of 1999 (1 year prior to data collection), who resided in the United States, and who were classified as independent inventors. From this list, 150 utility patentees and 150 design patentees were selected randomly. The University of Rochester alumni office provided a list of 150 alumni that was generated randomly, except that it was matched to the patentee list in gender composition and was limited to individuals residing in the United States. Questionnaires were mailed to all 450 individuals. Three weeks later, a second mailing was sent to individuals who had not responded. A reminder postcard was sent 4 weeks after the initial mailing, followed by a final mailing (by certified mail) after 7 weeks.

Sixty-two of the individuals (61 patentees, 1 alumnus) to whom we mailed materials were unavailable because their addresses were no longer valid, and we were informed by family members that 4 others were deceased or out of the country. Additionally, 19 of the final certified mailings were returned as unclaimed. The final sample of participants who returned the questionnaire consisted of 51 (47 male, 4 female) utility patentees, 55 (42 male, 13 female) design patentees, and 93 (84 male, 9 female) alumni, representing 55% of the available sample.

Measures

Inspiration

Inspiration was assessed by the IS.

Number of Patents

The Web-based USPTO database was used to determine the number of patents held by each patentee. The number of patents ranged from 1 to 93, with a mean of 6.14 ($SD = 12.50$). The distribution was severely skewed ($z = 19.24$, $p < .0001$), such that the minimum value (1 patent) was the modal value ($n = 47$). An inverse transformation was used, as recom-

mended by Tabachnick and Fidell (2001) for L-shaped distributions. This transformation eliminated skewness ($z = 0.29$, *ns*).

Demographic Variables

Participants were asked to report their sex (coded male = 1, female = 2), age, and education level. Education level was assessed in terms of the highest degree attained, and responses were coded on a scale from 1 (*none*) to 7 (*doctorate*).

Results and Discussion

Measurement Invariance Across Groups

Table 5 displays group means and descriptive statistics. A two-factor model identical to that examined in Study 1a was specified in a three-group MACS analysis. We identified the model by constraining the first loading on each latent variable to be equal across groups, constraining the corresponding intercepts to be equal across groups, and standardizing both latent variables in the alumni group. As shown in Table 6, this baseline model (Model 1) was found to have an acceptable fit. All latent variable variances/covariances and factor loadings were significant, and all loadings exceeded .70 in each group. Constraining loadings (Model 2) and intercepts (Model 3) to be invariant across groups produced no decrement in fit. These results establish measurement invariance and, thus, construct comparability across groups.

Group Differences in Inspiration

Further constraining the latent frequency and intensity variances (Model 4) and covariance (Model 5) to be invariant produced no decrement in fit. Such invariance is not necessary for examining means but is considered elegant nonetheless (Widaman & Reise, 1997).

Constraining latent means to be equal across the utility patent and design patent groups (Model 6) produced no decrement in fit. However, as expected, constraining the alumni means to equal the patentee means (Model 7) produced a decrement in fit due to sizable group differences in the expected direction for both latent inspiration frequency ($z = 4.97$, $p < .000001$) and intensity ($z = 4.81$, $p < .00001$).

Number of Patents Held and Ancillary Analyses

Among patent holders, the number of patents held was related to inspiration frequency ($r = .21$, $p < .05$) and unrelated to inspiration intensity ($r = .07$, *ns*). Results were similar when group status (utility vs. design) was controlled (partial $r = .22$, $p < .05$, and partial $r = .08$, *ns*, respectively).

We conducted ancillary regression analyses to determine whether the findings of this study remained robust when we controlled for sex, age, and education level. The ancillary analyses yielded results that were essentially identical to those reported above.

In sum, patent holders were found to be inspired more frequently and more intensely than was a comparison group, which supports the construct validity of the IS. Among patent holders, the number of patents held was related to the frequency but not the intensity of inspiration, thus providing a meaningful discrimination of these dimensions.

Table 5
Study 3: Descriptive Statistics and Reliabilities

Group/variable	*M*	*SD*	Range	Cronbach's α
Utility patentees[a]				
Inspiration (overall)	43.92	9.39	15–56	.93
Inspiration frequency	21.71	5.39	8–28	.94
Inspiration intensity	22.22	4.98	7–28	.92
Patents held (transformed)	0.38	0.40	0–.97	
Sex	1.08	0.27	1–2	
Age	50.53	12.41	27–87	
Education level	4.57	1.90	1–7	
Design patentees[b]				
Inspiration (overall)	41.05	11.53	8–56	.94
Inspiration frequency	20.11	6.44	4–28	.93
Inspiration intensity	20.95	5.73	4–28	.91
Patents held (transformed)	0.45	0.39	0–.99	
Sex	1.24	0.43	1–2	
Age	49.65	12.47	24–80	
Education level	4.23	1.50	1–7	
Alumni[c]				
Inspiration (overall)	34.07	11.49	8–56	.96
Inspiration frequency	16.49	6.21	4–28	.95
Inspiration intensity	17.58	5.88	4–28	.94
Sex	1.10	0.30	1–2	
Age	49.97	15.30	22–82	
Education level	5.95	0.84	5–7	

[a] $n = 51$. [b] $n = 55$. [c] $n = 93$.

STUDY 4: INSPIRATION IN DAILY EXPERIENCE

In Studies 1–3, we sought to understand the nature of the inspiration construct by examining trait inspiration. In Study 4, we assess inspiration and other constructs both as traits and as daily states using an experience sampling methodology. Our aims are as follows: to demonstrate that IS trait reports predict individuals' daily experiences of inspiration, to replicate central components of the nomological network and to extend this network from the trait (between-persons) level to the state (within-person) level, to document antecedents and consequences across time, and to examine whether our results are attributable to the variance that inspiration shares with positive affect.

Method

Participants and Procedure

A total of 171 (58 male and 113 female) undergraduates in an introductory psychology class completed trait measures at home for extra credit. Three weeks later, 156 of the individuals participated in a 2-week daily diary procedure. Six participants were excluded from the diary analyses—5 who dropped out (each by Day 5), and 1 who failed to follow directions—which resulted in a sample of 150 (48 male and 102 female) in the diary portion of the study.

The diary consisted of a set of questions that was E-mailed to participants each day at 5:00 PM for 14 consecutive days. Participants were asked to reply each night by 2:00 AM or as soon as possible thereafter. Timely responses earned entries into a lottery for prizes. Items concerned participants' experiences in the roughly 24-hr period since their previous report.

E-mail messages include date and time stamps, permitting an objective assessment of participants' compliance with the instructions to complete a

Table 6
Study 3: Fit Indices for Tests of Differences Across Groups

Model	χ^2	*df*	CFI	TLI	RMSEA	$\Delta\chi^2$	Δdf	ΔCFI
Tests of measurement invariance across groups								
1. Baseline model: U = D = A	98.19***	45	.97	.94	.08			
2. Invariant loadings: U = D = A	108.33***	57	.97	.96	.07			
Model *2* vs. 1						10.13	12	.00
3. Invariant intercepts: U = D = A	119.01***	69	.97	.96	.06			
Model *3* vs. 2						10.68	12	.00
Tests of differences in construct parameters								
4. Invariant latent variances: U = D = A	123.21***	73	.97	.97	.06			
Model *4* vs. 3						4.20	4	.00
5. Invariant latent covariance: U = D = A	126.19***	75	.97	.97	.06			
Model *5* vs. 4						2.98	2	.00
6. Invariant latent means: U = D	127.88***	77	.97	.97	.06			
Model *6* vs. 5						1.69	2	.00
7. Invariant latent means: U = D = A	154.90***	79	.95	.95	.07			
Model 7 vs. *6*						27.02***	2	−.02

Note. The groups to which equality constraints were applied are indicated after each model description, where U = utility patentees, D = design patentees, and A = alumni. Constraints were added cumulatively to previously accepted models. The accepted model in each model comparison is indicated with italics. For all chi-squares, $N = 199$. CFI = comparative fit index; TLI = Tucker–Lewis index; RMSEA = root-mean-square error of approximation.
*** $p < .001$.

diary each night.[3] On the basis of the distribution of time stamps, 5:00 AM was identified as a natural cut-off between days. E-mails received after 5:00 AM were considered late. Of the 2,100 possible daily diaries (i.e., 150 participants × 14 days), 2,079 (99%) were returned, and 1,816 (86%) were returned on time. Given the high percentage of diaries returned on time, late data were excluded from the analyses.

Measures

Inspiration

Trait inspiration was assessed with the IS.

Other Trait Measures

All 10 variables (excluding the *OED* measures) that correlated above .30 with the overall inspiration index in Study 2 (i.e., intrinsic motivation, Openness to Experience, absorption, work mastery, creativity, positive affect, perceived competence, self-esteem, optimism, self-determination) were assessed again in this study by the instruments used previously. Given that the PANAS item "inspired" loaded significantly on the inspiration factors but not on positive affect in Study 2c, we used a nine-item measure of positive affect that excluded this item.

Daily Measures

Each of the above variables was also assessed daily by single items. Inspiration was assessed by the item "a feeling of inspiration," intrinsic motivation was assessed by "enjoyment," Openness to Experience by "openness to a new idea, behavior, feeling, etc.," absorption by "absorption in something I sensed or imagined," work mastery by "a desire to master something," creativity by "creativity," positive affect by "positive emotion," perceived competence by "competence/ability," self-esteem by "a positive view of myself," optimism by "optimism," and self-determination by "freedom/choicefulness." Participants rated each item using the following scale: N = *I did not experience this* (coded as 0); 1 = *I did experience this, very mildly*; 2 = *I did experience this, somewhat mildly*; 3 = *I did experience this, moderately*; 4 = *I did experience this, somewhat intensely;* 5 = *I did experience this, very intensely*. Analyses used both unaggregated and aggregated data. Three types of aggregates were computed for each variable. *Overall* daily aggregates were computed as the individual's mean for the variable across days. Following Schimmack and Diener (1997), *frequency* aggregates were computed as the proportion of the individual's responses indicating that the experience was present (i.e., 1 or greater) rather than absent (i.e., 0), and *intensity* aggregates were computed as the mean response on those days in which the experience was present.

Results and Discussion

Predictive Validity

Zero-Order Predictive Validity

Descriptive statistics may be found in Table 7. The overall IS index positively predicted the overall daily inspiration aggregate ($r = .38$, $p < .001$). IS frequency positively predicted the inspiration frequency aggregate ($r = .31$, $p < .001$) as well as the inspiration intensity aggregate ($r = .20$, $p < .05$). IS intensity positively predicted the inspiration intensity aggregate ($r = .31$, $p < .001$) as well as the inspiration frequency aggregate ($r = .33$, $p < .001$).

Discriminant Validity of Frequency and Intensity Dimensions

We used a two-step procedure to examine the relations among the unique components of the inspiration frequency and intensity variables. First, we created two residualized variables, consisting of the unique portions of the inspiration frequency and intensity

[3] To protect against the possibility that participants might attempt to falsify date and time stamps, we did not use the standard stamps that appear in an E-mail header. Instead, we used the hidden (by default) time stamps that were added to the message by the first server to receive it.

Table 7
Study 4: Descriptive Statistics and Reliabilities

Variable	*M*	*SD*	Range	Cronbach's α
Trait measures[a]				
Inspiration (overall)	38.51	7.87	8–56	.93
Inspiration frequency	19.17	4.43	4–28	.94
Inspiration intensity	19.35	4.28	4–28	.91
Intrinsic motivation	45.39	4.77	31–57	.71
Openness to Experience	41.73	5.96	25–55	.67
Absorption	53.79	7.40	34–68	.89
Work mastery	51.37	6.18	33–64	.75
Creativity	28.92	4.61	16–40	.79
Positive affect	33.27	4.42	18–45	.76
Perceived competence	32.60	5.53	15–45	.84
Self-esteem	32.01	5.69	12–40	.89
Optimism	21.21	4.05	10–29	.82
Self-determination	64.97	12.17	32–90	.86
Aggregated daily indices (overall)[b]				
Inspiration	2.26	0.94	0.00–4.00	.86
Intrinsic motivation	3.57	0.82	1.00–5.00	.88
Openness to Experience	2.53	0.99	0.00–5.00	.88
Absorption	2.33	1.09	0.00–4.86	.91
Work mastery	2.90	1.11	0.00–5.00	.91
Creativity	2.07	1.08	0.00–5.00	.89
Positive affect	3.52	0.78	0.00–5.00	.86
Perceived competence	3.04	0.77	1.00–4.64	.89
Self-esteem	3.07	0.89	0.00–4.62	.89
Optimism	3.16	0.90	0.00–5.00	.85
Self-determination	2.83	0.96	0.00–5.00	.92
Aggregated daily frequencies[b]				
Inspiration	0.78	0.24	0.00–1.00	.83
Intrinsic motivation	0.97	0.09	0.43–1.00	.85
Openness to Experience	0.83	0.21	0.00–1.00	.85
Absorption	0.78	0.27	0.00–1.00	.89
Work mastery	0.84	0.23	0.00–1.00	.88
Creativity	0.76	0.27	0.00–1.00	.86
Positive affect	0.96	0.12	0.00–1.00	.76
Perceived competence	0.95	0.11	0.55–1.00	.80
Self-esteem	0.93	0.15	0.00–1.00	.73
Optimism	0.93	0.15	0.00–1.00	.77
Self-determination	0.90	0.18	0.00–1.00	.91
Aggregated daily intensities[c]				
Inspiration	2.83	0.63	1.00–4.00	.74
Intrinsic motivation	3.68	0.70	1.00–5.00	.81
Openness to Experience	3.00	0.76	1.00–5.00	.92
Absorption	2.93	0.78	1.00–4.86	.95
Work mastery	3.41	0.79	1.00–5.00	.90
Creativity	2.64	0.77	1.00–5.00	.93
Positive affect	3.64	0.63	1.50–5.00	.84
Perceived competence	3.19	0.64	1.00–4.64	.84
Self-esteem	3.23	0.71	1.00–4.62	.77
Optimism	3.37	0.69	1.50–5.00	.84
Self-determination	3.13	0.74	1.00–5.00	.92

[a] $n = 171$. [b] $n = 150$. [c] $n = 148$ to 150.

daily aggregates; second, we regressed these residuals on both IS frequency and IS intensity. In these analyses, the inspiration frequency residual was positively predicted (marginally) by IS frequency, $F(1, 145) = 2.84$, $p < .10$ ($\beta = .17$), but not by IS intensity ($\beta = .06$). The intensity residual was positively predicted by IS intensity, $F(1, 145) = 6.36$, $p < .05$ ($\beta = .26$), but not by IS frequency ($\beta = -.06$).

Predictive Validity Controlling Measures of Other Constructs

Three sets of analyses examined whether the IS indices predict their corresponding daily aggregates while controlling correlates of (a) the predictor, (b) the criterion, or (c) both the predictor and the criterion. In the first set of analyses, overall daily inspiration, daily frequency, or daily intensity was regressed on the corresponding IS index and a trait correlate; 30 such analyses were conducted (i.e., 3 inspiration indices $\times$ 10 correlates). In the second set of analyses, the criterion was a daily inspiration variable (overall inspiration, frequency, or intensity) from which the corresponding dimension of a daily correlate had been partialed; each criterion variable was regressed on the corresponding IS subscale (e.g., daily frequency of positive affect was partialed out of daily frequency of inspiration, and the residual was regressed on IS frequency). The third set of analyses controlled trait and daily correlates simultaneously (e.g., daily frequency of positive affect was partialed out of daily frequency of inspiration, and the residual was regressed on IS frequency and trait positive affect). As shown in Table 8, the IS indices predicted their corresponding daily dimensions in each analysis.

Nomological Network (Revisited)

Inspiration's nomological network (see Study 2) was reexamined in several ways. Because the 10 correlate variables included in this study had all correlated with both IS frequency and IS intensity in Study 2, we focus here on overall inspiration for the sake of parsimony and presentation clarity. As shown in the left column of Table 9, the IS was positively related to all 10 of the other trait measures, which thus replicates the results of Study 2. To rule out the possibility that the obtained relationships were artifacts of the trait-report methodology, we also computed correlations using the aggregated daily measures of inspiration and other constructs. As shown in the middle column of Table 9, these analyses fully replicated the nomological network.

Both of the preceding analyses address the question of whether individuals who experience high levels of inspiration are also high on other constructs. Next we aim to extend the nomological network to the state (within-person) level. In other words, across days, do individuals' departures from their own baseline in inspiration covary with departures from baseline on other variables? We computed within-person correlations separately for each individual and combined them meta-analytically (see Reis, Sheldon, Gable, Roscoe, & Ryan, 2000). As shown in the right column of Table 9, inspiration was found to correlate with all 10 variables across days.

Antecedents and Consequences

Our next step was to determine whether the variables that make up inspiration's nomological network also function as antecedents or consequences and whether they do so in a meaningful way (e.g., we expected evocation-relevant variables to function as antecedents and motivation variables as consequences). Using multilevel modeling, we examined all 10 correlate variables as possible antecedents and consequences at multiple levels of analysis. In all models, day-level variables were centered around individuals'

Table 8
Study 4: Prediction of Daily Inspiration From Trait Inspiration With Covariates Controlled

Control variable	Beta coefficient: Overall inspiration	Frequency	Intensity
Trait variable controlled			
Intrinsic motivation	.39***	.29**	.35***
Openness to Experience	.40***	.34***	.31***
Absorption	.35***	.29**	.29***
Work mastery	.33***	.28**	.27**
Creativity	.36***	.29***	.30***
Positive affect	.33***	.26**	.29**
Perceived competence	.37***	.31***	.32***
Self-esteem	.38***	.31***	.31***
Optimism	.35***	.30***	.27**
Self-determination	.38***	.32***	.32***
Daily aggregate controlled			
Intrinsic motivation	.36***	.29***	.29***
Openness to Experience	.36***	.31***	.27**
Absorption	.31***	.27**	.26**
Work mastery	.30***	.28***	.23**
Creativity	.28***	.25**	.24**
Positive affect	.35***	.30***	.29***
Perceived competence	.27**	.23**	.24**
Self-esteem	.32***	.29***	.24**
Optimism	.31***	.30***	.22**
Self-determination	.30***	.27**	.19*
Trait and daily variables controlled simultaneously			
Intrinsic motivation	.37***	.27**	.33***
Openness to Experience	.37***	.32***	.27**
Absorption	.32***	.28**	.26**
Work mastery	.27**	.28**	.18*
Creativity	.30***	.25**	.24**
Positive affect	.35***	.27**	.30***
Perceived competence	.29***	.22**	.26**
Self-esteem	.33***	.29***	.26**
Optimism	.33***	.30***	.24**
Self-determination	.32***	.28**	.20*

* $p < .05$. ** $p < .01$. *** $p < .001$.

means, and person-level variables were centered around sample means (Raudenbush & Bryk, 2002). The state–trait model examining antecedents was as follows (each candidate antecedent was examined in a separate analysis):

$$I_{S(j)} = \beta_0 + \beta_1 (I_{S(j-1)}) + \beta_2 (A_{S(j-1)}) + r \quad (1a)$$

$$\beta_0 = \gamma_{00} + \gamma_{01} (I_T) + \gamma_{02} (A_T) + u_0 \quad (1b)$$

$$\beta_1 = \gamma_{10} + u_1 \quad (1c)$$

$$\beta_2 = \gamma_{20} + u_2. \quad (1d)$$

The dependent variable in Equation 1a, $I_{S(j)}$, represents state inspiration for a particular individual on a particular day j of the diary, where j ranges from 2 to 14. Equation 1a specifies that state inspiration varies as a function of two within-person variables—the previous day's state inspiration, $I_{S(j-1)}$, and the previous day's state antecedent, $A_{S(j-1)}$—as well as intercepts and slopes (β_0, β_1, and β_2) for each individual and a random error term (r). The intercepts β_0 represent individuals' mean levels of inspiration across the 2 weeks of the diary. Equation 1b models each individual's mean level of inspiration as a function of two between-persons variables—trait inspiration as assessed by the IS (I_T) and the trait antecedent variable (A_T)—as well as intercepts and slopes (β_{00}, β_{01}, and β_{02}) for the sample as a whole and a random error term (u_0). Equations 1c and 1d model the within-person slopes as unconditional. In this model, a significant γ_{02} indicates that a trait antecedent predicts individuals' mean levels of inspiration across the 2-week diary when trait inspiration is controlled. A significant β_2 indicates that individuals' departures from their own inspiration mean are predicted by the state antecedent variable on the previous day when the previous day's state inspiration is controlled.

If traits and states are viewed as extremes of a continuum, it is possible that the antecedents emerge most clearly at some intermediate level of analysis. Accordingly, we also examined the following between-weeks antecedents model:

$$I_{S(j)} = \beta_0 + r \quad (2a)$$

$$\beta_0 = \gamma_{00} + \gamma_{01} (I_{W1}) + \gamma_{02} (A_{W1}) + u_0. \quad (2b)$$

where $I_{S(j)}$ represents inspiration for a particular individual on a particular day j of the diary such that j ranges from 8 to 14 (i.e., Week 2), I_{W1} represents an aggregate of Week 1 inspiration scores (i.e., mean of Days 1–7), and A_{W1} represents an aggregate of Week 1 antecedent scores. In this model, a significant γ_{02} indicates that the Week 1 antecedent predicts individuals' mean levels of inspiration during the second week when Week 1 levels of inspiration are controlled.

The state–trait model examining consequences was as follows:

$$C_{S(j)} = \beta_0 + \beta_1 (I_{S(j-1)}) + \beta_2 (C_{S(j-1)}) + r \quad (3a)$$

$$\beta_0 = \gamma_{00} + \gamma_{01} (I_T) + \gamma_{02} (C_T) + u_0 \quad (3b)$$

$$\beta_1 = \gamma_{10} + u_1 \quad (3c)$$

$$\beta_2 = \gamma_{20} + u_2. \quad (3d)$$

This model is identical in form to the state–trait antecedents model, but the dependent variable in Equation 3a is a candidate

Table 9
Study 4: Nomological Network of Inspiration (Between- and Within-Person Correlations)

Variable	Between-persons: Trait report[a]	Between-persons: Aggregated daily report[b]	Within-person: Unaggregated daily report[b]
Intrinsic motivation	.36***	.35***	.28***
Openness to Experience	.30***	.54***	.26***
Absorption	.34***	.49***	.31***
Work mastery	.36***	.50***	.22***
Creativity	.33***	.58***	.34***
Positive affect	.42***	.44***	.31***
Perceived competence	.17*	.60***	.32***
Self-esteem	.17*	.49***	.31***
Optimism	.26**	.56***	.39***
Self-determination	.16*	.49***	.38***

[a] $n = 171$. [b] $n = 150$.
* $p < .05$. ** $p < .01$. *** $p < .001$.

consequence variable for a particular individual on a particular day. A significant γ_{01} indicates that trait inspiration predicts individuals' mean levels of the consequence variable across the 2-week diary when trait levels of the consequence variable are controlled. A significant β_1 indicates that individuals' departures from their own mean on the consequence variable are predicted by the previous day's inspiration when the previous day's level of the consequence variable is controlled.

Finally, we examined the following between-weeks consequences model:

$$C_{S(j)} = \beta_0 + r \quad (4a)$$

$$\beta_0 = \gamma_{00} + \gamma_{01}\,(I_{W1}) + \gamma_{02}\,(C_{W1}) + u_0. \quad (4b)$$

In this model, a significant γ_{01} indicates that Week 1 inspiration predicts individuals' mean levels of the consequence variable in Week 2 when the consequence variable at Week 1 is controlled.

We examined these models using HLM 5.04 (Raudenbush, Bryk, & Congdon, 2000). Random error terms were retained when significant (Kenny, Kashy, & Bolger, 1998). The relevant between-persons and within-person (between-days) parameters from the state–trait analyses are shown in the left and right columns of Table 10, respectively, and the relevant parameters from the between-weeks analyses are shown in the center column. In the following, a variable is described as an antecedent or consequence if it functioned in that way in at least one level of analysis. We then discuss differences across the three levels of analysis.

The antecedent findings are consistent with our conceptualization. Most notable is that Openness to Experience emerged as an antecedent, whereas self-determination did not. These findings suggest that inspiration is facilitated by receptiveness and that it does not represent the active assertion of the self. Other antecedents included positive affect and two of the resource variables, optimism and self-esteem. It is likely that the positivity of these variables facilitates breadth of attention and thinking (Fredrickson, 1998) and, thus, exposure to evocative influences. Finally, work mastery and creativity also emerged as antecedents, which suggests that inspiration tends not to involve pure passivity; rather, an active engagement with the world of objects or ideas may facilitate exposure to evocative influences (see also von Hartmann, 1884; Wallas, 1926).

The consequence findings are also consistent with our conceptualization. Work mastery emerged as a consequence, which indicates that inspiration has an enduring motivational impact. Absorption also emerged as a consequence, which suggests that inspiration focuses attention on object qualities such as beauty rather than promoting diffuse or unfocused arousal. Inspiration was also found to lead to creativity and to enhanced levels of all three resource variables (perceived competence, self-esteem, and optimism), which suggests that inspiration facilitates transcendence of constraints and enhances the self. Inspiration also led to increased self-determination; thus, inspiration appears to involve discovery rather than assertion of the self. Finally, Openness to Experience also emerged as a consequence. Even though inspiration involves a focusing of attention, it appears not to involve the rigidity of focus that might be expected in the pursuit of lower gratifications.

Results differed somewhat across the three levels of analysis. Most notable is that the between-persons level revealed primarily

Table 10
Study 4: Time-Lagged Antecedents and Consequences of Inspiration at Three Levels of Analysis

Antecedents/consequences	Between persons (traits predicting 2-week diary)	Between weeks (Week 1 diary predicting Week 2)	Between days (Day j − 1 predicting Day j)
Antecedents of inspiration			
Intrinsic motivation	−.011	.150	.020
Openness to Experience	−.007	.240*	.022
Absorption	.016	.090	.036†
Work mastery	.021*	.188**	−.010
Creativity	.016	.193*	.042
Positive affect	.024	.181†	.055*
Perceived competence	.011	.172	.003
Self-esteem	.009	.221**	.071*
Optimism	.034*	.191†	.080**
Self-determination	−.003	.117	.047†
Consequences of inspiration			
Intrinsic motivation	.015†	.072	−.014
Openness to Experience	.030**	.170*	.014
Absorption	.018	.201**	−.003
Work mastery	.031*	.161*	.011
Creativity	.029**	.141*	.002
Positive affect	.004	.075	−.004
Perceived competence	.024**	.129*	.009
Self-esteem	.022**	.041	−.010
Optimism	.015*	.086	.016
Self-determination	.028**	.067	.020

Note. All parameters are unstandardized coefficients. $N = 148$.
† $p < .10$. * $p < .05$. ** $p < .01$.

consequences, the between-weeks level revealed approximately equal numbers of antecedents and consequences, and the between-days level revealed only antecedents. Inspiration appears to be more causally efficacious as a trait or chronic tendency than as a state. However, state inspiration is likely to have consequences on the day it occurs (rather than the next day), a hypothesis that must await further research involving multiple assessments per day.

Nomological Network and Consequences Controlling Positive Affect

One may wonder whether our results are attributable solely to the variance that inspiration shares with positive affect. Thus, it was important to demonstrate that inspiration's nomological network, or a portion of it, is related to inspiration independently of positive affect. Similarly, the practical utility of the new construct rests on its ability to predict outcomes beyond variance shared with positive affect. We therefore reexamined inspiration's nomological network and consequences while controlling positive affect.

Nomological Network Controlling Positive Affect

Each correlation in Table 9 (excluding correlations with positive affect) was recomputed as a partial correlation with positive affect controlled. When we used trait report data, all but four correlates remained significant with trait positive affect controlled: perceived competence, self-esteem, optimism, and self-determination. When we used aggregated daily data, only intrinsic motivation became nonsignificant with aggregated positive affect controlled. When we used within-person unaggregated daily data, all nine within-person correlates remained significant with within-person positive affect controlled. Overall, the correlates were quite robust when positive affect was controlled. The correlates that were least independent of positive affect (perceived competence, self-esteem, optimism, self-determination, and intrinsic motivation) were those that involve agency or enhancement of the self's resources.

Consequences Controlling Positive Affect

Each consequence analysis reported in Table 10 was repeated with initial positive affect as an additional simultaneous predictor. Regarding between-persons consequences of IS trait inspiration, five of the seven significant consequences remained significant with trait positive affect controlled: Openness to Experience, work mastery, creativity, perceived competence, and self-determination. By comparison, positive affect predicted only two consequences in this analysis: intrinsic motivation and perceived competence. Regarding between-weeks consequences, three of five remained significant: Openness to Experience, absorption, and perceived competence. Positive affect also predicted three consequences: absorption, work mastery, and perceived competence. Regarding between-days consequences, inspiration still did not predict any variables. Positive affect significantly predicted one variable, self-determination, but it was a negative predictor. Most of inspiration's positive consequences were thus robust when positive affect was controlled, and, in fact, inspiration fared better than did positive affect in accounting for these important outcomes.

In sum, Study 4 finds that (a) trait reports of inspiration predict individuals' daily experiences of inspiration, (b) the nomological network holds both at the between-persons and at the within-person levels, (c) inspiration has a meaningful pattern of antecedents and consequences, and (d) the correlates and consequences of inspiration are quite robust when positive affect is controlled.

GENERAL DISCUSSION

We have argued that the field of psychology has not given adequate attention to inspiration. To facilitate research, we offered a conceptualization of inspiration and conducted a series of studies aimed at validating the construct and establishing its place in empirical psychology. According to our conceptualization, inspiration is characterized by evocation, motivation, and transcendence. As a first step in our research, we developed the IS, a trait measure. The IS was found to have strong psychometric properties: It was internally consistent (Studies 1a, 1b), it consisted of distinguishable and internally consistent Frequency and Intensity subscales (Studies 1a, 1b), it demonstrated measurement invariance across time and populations (Studies 1b, 3), and it demonstrated test–retest stability (Study 1b).

We established construct validity, in part, by documenting a nomological network that is consistent with our conceptualization (Studies 2a–2c). The IS was found to converge with a number of motivation constructs, but only with those that are compatible with evocation and transcendence. For instance, inspiration's transcendent quality implies approach rather than avoidance motivation. As expected, the IS was found to correlate positively with BAS (but not BIS), Extraversion (but not Neuroticism), and positive emotionality (but not negative emotionality), variables that reflect an underlying approach (vs. avoidance) temperament (Elliot & Thrash, 2002). Positive affect, which has been widely posited to play a role in approach motivation, was inspiration's strongest correlate; negative affect, in contrast, was unrelated to inspiration. If one considers differentiated forms of approach motivation, one would expect only some to be compatible with inspiration. Indeed, inspiration was found to correlate positively with the work-mastery component of need for achievement but negatively with the competitiveness component, which reflects the typically mundane (nontranscendent) desire to outperform others. Similarly, inspiration was found to correlate positively with intrinsic motivation but negatively with extrinsic motivation.

Nonmotivational components of the nomological network provide additional evidence for the evoked and transcendent nature of inspiration. For instance, inspiration correlated positively with Openness to Experience, which implies receptiveness to evocative influences, but was unrelated to Conscientiousness, which implies willfulness. Inspiration correlated positively with absorption, in which attention is directed toward beauty or other object qualities, and creativity, which represents transcendence of constraints in one's thinking and behavior. Inspiration was also found to correlate positively with perceived competence, self-esteem, and optimism, consistent with our proposal that evocation, motivation, and transcendence imply an influx or bolstering of psychological resources.

Additional support for construct validity came from relationships to variables outside the traditional trait domain. First, the IS was found to converge with an unlabeled definition of inspiration from the *OED*, which thus grounds the IS in a culturally shared conception of inspiration that explicitly refers to evocation (e.g.,

infusion), motivation (e.g., *impulse*), and transcendence (e.g., *exalted*). Second, inspiration was found to be unrelated to social desirability, indicating that our results are not attributable to response bias. Third, inspiration was positively related to the number of majors that students were pursuing, suggesting that inspired individuals are more engaged with their environment. Regarding the content of students' majors, inspiration was highest among students majoring in the humanities. The humanities includes disciplines such as art, religion, and philosophy, areas that are often associated with inspiration and that are directly concerned with transcendent values such as beauty, goodness, and truth. Fourth, we documented a link between inspiration and an important real-world criterion: U.S. patents. Patent holders were found to experience considerably more inspiration than a comparison sample, and the frequency of their inspiration was related to the number of patents held (Study 3). Finally, IS scores predicted individuals' ongoing, daily experiences of inspiration, even when trait and daily covariates were controlled (Study 4).

Because we were interested in the inspiration construct per se and not only in trait inspiration, we also examined the state of inspiration (Study 4). Ten central components of inspiration's nomological network were found to extend from the trait (between-persons) level to the state (within-person) level. In other words, not only do individuals who differ in inspiration also differ in their levels of the other constructs, but particular individuals' day-to-day fluctuations in inspiration are related to their day-to-day fluctuations in the other constructs. This finding links inspiration in a dynamic way to the components of its nomological network.

Next we conducted time-lagged antecedent and consequence analyses to examine directional relationships between inspiration and the components of its nomological network (Study 4). Analyses were stringent in that initial levels of the dependent variables were controlled in each analysis. Results were consistent with our conceptualization. For instance, Openness to Experience functioned as an antecedent, suggesting that Openness not only covaries with inspiration but facilitates it. Work mastery and absorption were documented as consequences, suggesting that inspiration has an enduring impact on motivation and focus. Creativity and all three resource variables (perceived competence, self-esteem, and optimism) emerged as consequences, indicating that inspiration facilitates transcendence of constraints and enhances the self. Two other findings are particularly noteworthy. First, work mastery was documented as an antecedent, supporting the conventional wisdom (e.g., Wallas, 1926) that inspiration, although evoked, does not involve pure passivity; rather, it favors the prepared mind. Second, self-determination emerged as a consequence but not an antecedent of inspiration, suggesting that the self cannot take credit for inspiration; the self is discovered, not asserted.

Finally, we provided evidence that inspiration is not merely an established construct repackaged. Study 2a found that inspiration shares only 22% of its variance with the Big Five traits. In Study 2c, CFA indicated that trait inspiration is factorially distinct from positive affect, its strongest correlate. In Study 4, most correlates and consequences were found to be robust when variance associated with positive affect was controlled. In fact, trait inspiration predicted 5 of 10 possible outcome variables (Openness to Experience, work mastery, creativity, perceived competence, and self-determination) when both trait positive affect and trait measures of the dependent measures were controlled, with a period of 3 weeks between the trait assessments and the first outcome assessment. Inspiration thus stands as an important empirical construct in its own right, worthy of serious attention within mainstream psychology. It is interesting that the components of inspiration's nomological network that were least independent of positive affect were those that involve agency or enhancement of resources. Positive affect may contribute to the motivational aspect of inspiration, providing sustenance and giving inspiration its dynamic character.

It is important to acknowledge a limitation of how we have operationalized inspiration: In relying on the word *inspiration* and its various forms, we have assumed that the lay public understands the concept. The term *inspiration* has many shades of meaning, and there was likely some variance in participants' understanding of the concept. However, this limitation may be more apparent than real, for the following reasons. First, interview research by Hart (1993, 1998) found that participants across populations have fundamentally similar conceptions of inspiration: "Despite the great many shades of meaning the term has in common usage it appears to represent a clear and consistent event" (Hart, 1993, p. 144). Second, previous research relying on lay conceptions of inspiration has yielded findings that are quite consistent with our conceptualization (see the introduction). Third, we demonstrated that the IS measure converges strongly with an unlabeled definition of inspiration from the *OED*. Fourth, we demonstrated a stringent degree of measurement invariance across both time and populations, tests that are sensitive to variance in how items are interpreted (Little, 1997). Fifth, any variance in participants' conceptions of inspiration appears to have been inconsequential from a practical perspective, in that our findings were consistent across studies and highly supportive of our conceptualization. Finally, we reiterate that our purpose is to learn about inspiration from the participants who experience it. At this early stage of research, there is much value in embracing lay conceptions as the gold standard for empirical research, limitations notwithstanding.

A second limitation is that we have not examined what we might call the internal structure of inspiration—for instance, how best to categorize specific types of inspiration, whether they tend to cooccur in the same individuals, and so on. As we demonstrated in the introduction, the various types of inspiration share a common set of core or genotypic features (evocation, motivation, and transcendence), but there are, of course, differences across types. We recommend that future research focus on both the general inspiration construct and its specific manifestations, complementary approaches that maximize bandwidth and fidelity, respectively. Although the IS was developed as a general measure, researchers could include directions that ask participants to answer with respect to a particular content domain or type of inspiration.

In our research, we have linked inspiration to a number of theoretical frameworks in personality and social psychology, such as approach–avoidance motivation and the Big Five traits. In closing, we place inspiration in the broader context of the field of psychology. In the characteristics of evocation, motivation, and transcendence, we see the contributions of Skinner, Freud, and Maslow, respectively. Skinner taught psychologists to appreciate the capacity of stimuli to evoke behavior. Freud revealed that dynamic and compelling motivations may impinge on the ego. Maslow showed how one may rise above ordinary desires and participate in the transcendent. When one views the world through

the lens of behaviorism, psychoanalysis, or humanism in isolation, the topic of inspiration fails to present itself as relevant: Skinner ruled out nonbehavioral constructs as unscientific, Freud failed to acknowledge the positive aspects of human motivation, and Maslow viewed transcendence as a quiescent state of being rather than as motivational. However, when one views the world through the lens of behaviorism, psychoanalysis, and humanism simultaneously, the inspiration construct comes into focus: The heights of human motivation spring from the beauty and goodness that precede us and awaken us to better possibilities (see also Bradley, 1929; Dubay, 1999). Inspiration thus falls squarely within the purview of psychology, and we hope that our research will serve as an impetus for further study of this important and neglected topic.

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Appendix

Inspiration Scale

Statement/item no.	Statements and items	Subscale
Statement 1	I experience inspiration.	
Item 1f	How often does this happen?	Frequency
Item 1i	How deeply or strongly (in general)?	Intensity
Statement 2	Something I encounter or experience inspires me.	
Item 2f	How often does this happen?	Frequency
Item 2i	How deeply or strongly (in general)?	Intensity
Statement 3	I am inspired to do something.	
Item 3f	How often does this happen?	Frequency
Item 3i	How deeply or strongly (in general)?	Intensity
Statement 4	I feel inspired.	
Item 4f	How often does this happen?	Frequency
Item 4i	How deeply or strongly (in general)?	Intensity

Note. The four Frequency items are rated on a scale from 1 (*never*) to 7 (*very often*). The four Intensity items are rated on a scale from 1 (*not at all*) to 7 (*very deeply or strongly*). An *f* in item numbers indicates that the item belongs to the Frequency subscale; an *i* indicates that it belongs to the Intensity subscale.

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