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Are Traits Useful? Explaining Trait Manifestations as Tools in the Pursuit of Goals

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Abstract

Traits and motivation mainly have been treated separately for almost a century. The purpose of these studies is to test the proposal that traits and motivation are intricately linked. Specifically, that one explanation for traits, at least in terms of their descriptiveness of what people actually do, is the goals people pursue. Study 1 used experience-sampling methodology to show that almost half the variance in extraversion and conscientiousness manifestation was explained by goal pursuit differences. Both why people enacted more of extraversion and/or conscientiousness than others, and why people enacted extraversion and/or conscientiousness at any given moment were explained by the goals people were pursuing at those moments. Study 2 used experimental methodology to show that extraversion and conscientiousness enactment was in fact caused by the goal pursuit. Study 3 employed observer ratings to show that the goal-dependent enactments of traits were observer-verified actual behaviors. In all three studies, different goals affected different traits discriminatively. Thus, these findings provided strong evidence for one explanation of traits, that they are useful for accomplishing goals. These findings provided one answer to long-standing questions about the conceptual relations between traits and motivation. And these findings clarified the meaning and nature of extraversion and conscientiousness by revealing part of what these traits are for.

Keywords

traits; states; goals; motivation; Whole Trait Theory; behavior; observers; personality; agreement; causality

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Although traits and motivation are two important and large concepts dominant in personality psychology, they mainly are treated separately because it is still not clear how they are related to each other. The purpose of this paper is to test a novel proposal that traits and motivation are intricately linked; specifically, that one explanation for traits, at least in terms of their descriptiveness of what people actually do, is the goals people pursue. The enactment of traits is functional, in that trait manifestations are the concrete means by which people accomplish their goals. The reason people manifest different traits at different times

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and to different degrees is the goals they are pursuing. An experience-sampling study tests whether goal pursuit explains trait manifestation across ten days of everyday life. An experiment tests whether it is really the goals that are driving the trait enactments rather than vice-versa. An observer study tests whether these goal to trait manifestation relationships really are descriptive of what people are actually doing.

We believe this purpose may be interesting for at least three reasons. First, this study bridges the two historically divergent domains of traits and motivation. For decades, the study of motivation and traits has proceeded relatively independently, to such an extent that leading current broad models of personality place them as separate domains of personality (e.g., McAdams & Olson, 2010; Roberts & Wood, 2006). The connections between the two domains have remained unknown. This paper proposes a new suggestion, that the descriptive, actual manifestation of traits is proposed to be instrumentally in the service of goals. Motivation and traits are not only related, but are closely related, because one of them is the means for the other.

Second, this paper attempts to explain why people manifest the traits they do in their daily lives. The density distributions model of traits (Fleeson, 2001; Fleeson & Gallagher, 2009) has provided evidence that the description of individuals implicated by trait terms may be conceived of as density distributions of states. People act at most levels of most traits in a course of a few weeks, forming distributions. People also differ reliably in the location and size of these distributions. What is not known is why people enact different levels of traits at different times or why different people have different distributions. This paper attempts to explain why people manifest the traits they do at any given moment. This paper also attempts to explain why people manifest different traits from each other.

Third, this study clarifies and elaborates the meaning and nature of extraversion and conscientiousness. It does so by providing specific functions for each trait's manifestations, by distinguishing the functions between the two traits, and by showing that goals are not related to trait manifestations for method variance reasons but are discriminatively predictive of trait manifestations in accordance with the usefulness of the trait manifestations for the goals.

Bridging the Trait & Motivation Concepts

The trait concept (Allport, 1937) and the motive (or goal) concept (Murray, 1938) have a rich history in psychology, although the literatures of these concepts have remained largely distinct (Bleidorn, Kandler, Hülsheger, Riemann, Anglteitner, & Spinath, 2010; Winter, John, Stewart, Klohnen, & Duncan, 1998).

Trait Concept

Traits are often defined as "dimensions of individual differences in tendencies to show consistent patterns of thoughts, feelings, and actions" (McCrae and Costa, 2003, p. 25). Recently, researchers have rallied around one specific trait approach: the Big Five model of personality (Goldberg, 1981; McCrae & John, 1992). A core strength of this approach is that the Big Five model has a clear structure and organization. The results from factor analyses

extract the five fundamental personality traits, as well as any lower-order traits (i.e., facets or subcomponents). The fundamental weakness of the Big Five model is that it does not explain personality function—it only describes these individual differences (Fleeson, 2012; Hampson, 2012). In its current form, the five-factor model does not explain why people differ on traits or how traits become manifest in behavior.

Goal Concept

We deal with a subset of motivational concepts – goals – in this paper, because we believe goals provide a trailhead for linking traits to motivation. A goal can be defined as "a cognitive representation of a future object that the organism is committed to approach or avoid" (Elliot & Fryer, 2008). Unlike the Big Five model, goals have a clear function and process. People pursue goals though strategy development (cognitive representation), commitment to action (goal commitment), and attainment of an end-point (future object). However, it is not clear how best to describe people in terms of goals, nor how individual differences in goals are structured and organized. Despite several excellent offered structures, there is still not consensus (Austin & Vancouver, 1996; Ford & Nichols, 1987; Kuhl, 1994, Read et al., 2010; Sheldon, Elliot, Kim, & Kasser, 2001).

Two Distinct Traditions

Traits and goals thus appear to be at least somewhat conceptually distinct entities. Traits are descriptive of how people are acting, thinking, and feeling in the present, whereas goals refer to unrealized end-points in the future. Traits may not have a direction of movement, whereas goals direct a person in a trajectory to reach the desired end-point. Traits have no comparative component, whereas goals involve comparing the present to the desired end-point with the intent to reduce any discrepancies. Trait theory has yet to provide accounts of traits processes, whereas goals are inherently process-based concepts. Perhaps as a result of their conceptual differences, these constructs are explored in divergent traditions in psychology. The origin of this split dates back at least as far as Allport (1937) and Murray (1938).

Traits and Goals: Separate but Related?

Several proposals have allowed for some connection between the two constructs. These proposals usually maintain a clear distinction between the two constructs as being from different domains of psychological functioning (Bleidorn et al., 2010). McAdams and Olson (2010) suggested that traits and goals make up different levels of analysis, although they allowed the possibility of a still unspecified connection across the levels. Roberts and Wood (2006) kept traits and goals as at the same level of analysis, but maintained traits and goals as distinct domains of functioning, and also suggested that traits and goals are associated with each other. Five Factor Theory proposed that traits are the basic tendencies, and that traits cause characteristic adaptations to the environment, which include motivation (McCrae & Costa, 1999). Winter and colleagues (1998) suggested that traits and motives do two different jobs: Motives provide the direction of behavior whereas traits provide the style of behavior.

Empirical work has demonstrated concurrent associations between major life goals and Big Five traits, such that extraversion predicted interpersonal, hedonistic, growth and political goals, agreeableness predicted interpersonal goals, conscientiousness predicted health, academic, and career goals, neuroticism predicted image goals, and openness predicted growth goals (Bleidorn et al., 2010; Reisz, Boudreaux, & Ozer, 2013; Roberts & Robins, 2000; Roberts, O'Donnell, & Robins, 2004). Little, Lecci, & Watkinson (1992) showed that traits predicted appraisals of goals. Ludtke, Trautwein, and Husemann (2009) also reported longitudinal evidence showing a causal direction from traits to life goals (but rarely the reverse direction).

Two exceptions have proposed closer connections between traits and motivation. In the first exception, Carver, Sutton, and Scheier (2000), Elliot and Thrash (2002), Gray (1987), and Read, Monroe, Brownstein, Yang, Chopra, & Miller (2010) identified two traits -- extraversion and neuroticism -- with two motivational systems -- approach and withdrawal, respectively. In these systems, the behaviors, affects, cognitions, and motivations of extraversion and neuroticism work together closely to facilitate approaches and avoidances. Denissen and Penke (2008) and DeYoung (in press) broadened this perspective to identify each Big Five trait with a motivational system or parameter. The other exception comes from a group of recent researchers proposing the reverse causal direction and trying to predict momentary states rather than traits (Bleidorn, 2009; Heller, Komar, & Lee, 2007; Heller, Perunovic, & Reich, 2009; Hennecke, Bleidorn, Denissen, & Wood, 2014; McCabe & Fleeson, 2012). This paper proposes a conception in line with this recent direction of research.

Although these proposals suggest that integrating traits and goals promises to be a fruitful endeavor and may be compatible with many theories of traits and goals, most of the work of integration remains to be done (Wilt, Condon, Brown-Riddell, & Revelle, 2012). Are traits and motivational constructs separate and related, integrated, or identical? Is there a causal connection between traits and motivation, and in which direction or directions does it flow? What is the mechanism that connects motivations to traits? What type of motivational units (e.g. motives, life goals, or motivational systems) are related to traits? Which motives or goals distinguish between the traits?

Explaining the Traits People Actually Enact

Traits can be seen, at least in part, as descriptions of the traits people actually enact. This definition is in contrast to traits as latent potentials to act in certain ways. The two goals to this paper are to explain why people differ in the traits they actually enact and to identify one cause of the traits people actually enact.

Traits as Descriptions of How People Act in Daily Life

To find out which traits people are actually enacting in their everyday life, Fleeson (2001) proposed using the state concept. A state has the same content as the associated trait, but is enacted in the moment. For example, the extraverted state describes the degree to which the person is being extraverted in the moment, just as the extraversion trait describes the degree to which a person is extraverted in general. States are not just any behavior, and are not even

behaviors in the narrow sense, but rather are the same broad adjective descriptors that are used in the trait context.

The traits a person actually enacts in everyday life are then the distribution of frequencies of state levels over time. The distribution indicates the number of occasions on which the individual manifested the trait at each given level. Indeed, people differ in the frequencies with which they enact different levels of the traits, and these differing frequencies are very stable. For example, stabilities of mean levels of distributions approach .9 from one week to the next. Furthermore, the means of these distributions are related to scores on standard trait questionnaires (Fleeson & Gallagher, 2009; maximum levels of distributions were also independently associated to scores on standard questionnaires).

Interestingly, these distribution turn out to be wide, because the typical individual varies along an entire state dimension quite a bit. For example, people have the capacity to behave either extraverted or introverted in a given moment, even if they generally are introverts or extraverts (Fleeson & Gallagher, 2009).

The idea is that this distribution is the trait, and that one way to explain the trait would be to explain these distributions of states. Admittedly, this distribution is only one part of the trait – the description of the content the person actually enacts in everyday life. It is not the trait as the internal, causal, or physiological system. But to the extent that it is desirable to explain individual differences in traits as actually enacted, then the goal is to explain these distributions.

Trying to Explain the Traits People Actually Enact

Explaining density distributions of states involves explaining both the considerable within-person variation and the reliable between-person variation in states. Explaining the within-person variation is explaining how trait enactments come into being. In this way, explanations of within-person variability identify the constituent mechanisms of trait operations. Explaining the between-person variation is explaining why people differ from each other in the traits they actually enact. That is, it explains why people have different traits (at least descriptively).

One class of explanations is the direct, style, or traditional temperament class of explanations. In this class, traits directly cause people to be in corresponding states because those states are the direct expression of the trait. Because of habit, naturalness, ease of behavior, style preferences, hormonal predilections, or homeostatic principles, people are expected to enact certain traits because they have a disposition to do so (McGregor, McAdams, & Little, 2006; Zelenski et al., 2012; Zuckerman, 1991). For example, people with high levels of trait extraversion are expected to enact extraversion in their daily behavior because of habit, naturalness, ease, or style. The left side of Figure 1 depicts this view. It is not clear how strongly this view is held, but it is clear that the field has not identified many specific mechanisms beyond this direct model, meaning there is a need to discover such mechanisms.

In this research, we test an instrumental account of personality states to propose a specific mechanism. We start with an assumption that states are more than mere color or styles of acting, but are operations on the world with real consequences (Sadikaj, Moskowitz, Russell, Zuroff, & Paris, 2012). For example, being dominant for the moment might change how others act and feel. If the states have consequences, then perhaps these consequences might be useful. If the consequences can be useful, then perhaps people employ these states intentionally in order to obtain these consequences (McCabe & Fleeson, 2012; Paulhus & Martin, 1987). That is, trait content may be enacted when the states' consequences are needed for a particular goal.

Thus, we propose that goals causing states may be one of the constituent mechanisms of traits. This is depicted in the right side of Figure 1. Goals are not outside traits, but inside them as partially constituting them. In addition to the goal possibility, there may also be a direct pathway or other constituent mechanisms.

This proposal requires at least five pieces of evidence. First, variance in personality states must be explained by goal pursuit. Second, both within-person variance in states and between-person variance in states must be explained. Explaining within-person variance demonstrates that goals explain the states people actually enact. Explaining between-person variance demonstrates that it is indeed the traits of people that are being explained. Third, goals must explain traits discriminatively. This evidence is necessary because different states are proposed to have different consequences, so different states must be predicted by different goals. Fourth, the effect of goals on states must be causal, because we propose that the reason people enact different states is the goals. The goals come first, and the state follows. Fifth, the states have to be what people are actually doing in order for this to be an explanation of what people are actually doing.

McCabe and Fleeson (2012) provided preliminary evidence testing the first two of these requirements. This is the first study to test all five requirements together, with two traits. Such evidence would support the conclusion that traits (at least as descriptions of people) are explained at least in part by goals.

Specific States and Functions Hypothesis: Searching for the Goals Facilitating States

The hard part is identifying the goals that the states are useful for. That is, if the trait is manifested as a tool, what is it a tool for? We believe identifying the goals at the broad level, for the trait as a whole, may be too difficult. For example, trying to identify the goals of broad extraversion as a whole is so daunting that many theorists have concluded that traits do not have a purpose (Pervin, 1994). The Specific States and Functions Hypothesis (SSFH) offers the proposal that attending to the more specific subcomponents of traits and to very specific goals will lead to identifying the purposes of traits.

The reason that attending to the specific level is important is that it makes it easier to see the operations on the world constituting the specific subcomponents. This makes it easier to discover the goals potentially served by those specific operations. For example, the usefulness of being talkative or assertive is clearer than is the usefulness of being extraverted as a whole. Just as a hammer's shape, composition, and consequences make it

better for some purposes and worse for others, the content, operations, and consequences of states are better for some purposes and worse for others.

SSFH also proposes attending to specific short-term goals rather than large-scale life goals. Doing so makes it easier to see the connections to the specific consequences and operations needed to accomplish the goal. For example, it is easier to see what specific operations are needed for the specific goal of conveying information than it is to see the operations needed for the broad life goal of becoming a teacher.

Although the procedure makes it easier, it is still hard. For example, to generate goals for the subcomponent assertiveness, we tried to consider the consequences of assertiveness on the world and the sorts of goals a person might have that being assertive would facilitate. Note that being assertive itself is not the goal for the individual – being assertive is the means for some other goal, which we had to generate. What sorts of goals would a person have that would be aided by assertiveness?

This hypothesis is tentatively inclusive of approach and avoidance goals and of goals for the high end and for the low end of the state dimension. Since goals can include moving toward or moving away from an object, both approach and avoidance goals are possibly causal of states (Elliot & Fryer, 2008). Because it is possible that the high end and low ends of traits represent different operations on the world, it is possible that they are tools for distinct goals.

Extraversion and Conscientiousness

We tested the specific state and function hypothesis by identifying goals for two traits—extraversion and conscientiousness.

Extraversion

Generally, extraversion is a quality that describes active people who are sociable, talkative, and assertive. The specific subcomponents of extraversion are a debated issue. For example, McCrae and Costa (2003, p. 47) assert six facets of extraversion: gregariousness, assertiveness, warmth, activity, excitement-seeking, and positive emotions. In this research, we focused on three primary subcomponents of extraversion—sociability (Study 1 and study 2), assertiveness (Study 1 and study 3), and talkativeness (Study 2 and Study 3)—based on previous work and past research (Saucier & Ostendorf, 1999). In our scheme, these subcomponents represent operations on the world (actions, cognitions, feelings) that may be intended to change the world in goal-facilitating ways.

Conscientiousness

Conscientiousness can be described as the tendency to follow the rules, to be goal-directed, and to delay gratification (John & Strivastava, 1999). There are several theorized structures of conscientiousness subcomponents, ranging from four subcomponents (Peabody and DeRaad, 2002), six subcomponents (McCrae and Costa, 2003), to seven subcomponents (Roberts et al., 2004). In this study, we focused on two primary subcomponents of conscientiousness—organization and industriousness—based on past research (Roberts et al., 2004; Saucier & Ostendorf, 1999).

Study 1

Method

Participants—Forty-four undergraduate students participated in the fulfillment of an introductory psychology course requirement (two additional subjects enrolled but withdrew).

Experience sampling methodology—Participants attended a forty-five minute information session and completed a questionnaire. Participants then carried personal digital assistants (PDAs) for ten days. The participants answered questions 5 times each day, every three hours (noon, 3pm, 6pm, 9pm, and midnight). All questions asked participants to reflect on their goals and behavior within the last half-hour. The questions were in the same order for every report. Participants answered questions about their personality states then their momentary goal pursuit. We asked participants to come to the lab two times to download data, and after ten days, participants completed a final questionnaire.

We excluded reports from analyses if they did not meet specific criteria (McCabe, Mack, & Fleeson, 2011). These criteria include: a) reports outside the fixed schedule, b) individual questions completed too quickly (less than 5/10s of a second), and c) reports as wholes completed too quickly. After excluding the reports that did not meet this criteria, participants on average completed 36 reports (72% response rate), with a range of 10 to 47 reports. 181 reports (10.2 percent of the data) were excluded, leaving 1,591 valid reports.

Materials

State extraversion and conscientiousness—Extraversion and conscientiousness were assessed with adjectives (Roberts et al., 2004; Saucier & Goldberg, 1996; Saucier & Ostendorf, 1999). These adjectives were used in question form (e.g., “How assertive were you in the last 30 minutes?”), with response options on a six-point scale (1 = Not at all; 6 = Very, with 7 = Not Applicable). Three extraversion adjectives were selected for each of the two subcomponents (sociability: sociable, outgoing, unsociable; assertiveness: assertive, bold, unassertive). Three conscientiousness adjectives were selected for each of the two subcomponents (organization: organized, systematic, disorganized; industriousness: persistent, purposeful, lazy). Reliability for the states and subcomponents were acceptable (Extraversion: Cronbach’s $\alpha = .82$; Conscientiousness: $\alpha = .82$; Assertive: $\alpha = .70$, Sociable: $\alpha = .88$; Organized: $\alpha = .72$; Industrious: $\alpha = .70$).

Goal pursuit—Following the SSFH, we identified goals relevant to state extraversion and state conscientiousness. More formally, we used a template to generate goals: “A person would be intentionally < *subcomponent means*> in order to <*goal end*> in a given moment”. A team of researchers met several times to generate goals. For example, we speculated that being assertive might facilitate the goals of trying to be the center of attention or to avoid being ignored.

For each subcomponent, two approach goals and two avoidance goals were selected, as well as two goals pulling for the high end of the state (e.g., assertive, organized) and two goals pulling for the low end of the state (e.g., unassertive, disorganized). Approach goals were

always worded with “trying to…” (e.g., for sociable, “How much were you trying to have fun”), whereas avoidance goals were worded with “trying to avoid…” (e.g., for sociable, “How much were you trying to avoid missing an opportunity”). On the questionnaire, the goals were asked without any reference to the state. A list of all goals with their hypothesized subcomponent relationships and valences can be found in the Results tables. During the experience-sampling portion of the study, participants indicated the degree to which they were pursuing each goal (e.g., how much were you trying to have fun in the last 30 minutes?). Responses were on a 6-point scale (1 = Never; 6 = All the Time, with 7 = Not Applicable). We also had additional goal measures before and after the experience-sampling period, but they were not used in these analyses.

Traditional global extraversion and conscientiousness assessment—In the initial questionnaire, participants were also asked how much each of the 12 adjectives described the way they are in general.

Results

Descriptive statistics—Table 1 shows the means and standard deviations for the personality states. Table 2 shows the means and standard deviations for all sixteen momentary goals. The results show that the goals differed in frequency, with trying to be the center of attention pursued the least and trying to direct energy where it is needed most pursued the most. Standard deviations indicate that goal pursuit varied from moment to moment.

Partitioning variance in state extraversion and state conscientiousness— Because reports were nested within participants, we used multilevel modeling to analyze these data. Multilevel modeling does not provide a direct calculation of the overall variance explained by the predictors (e.g., ΔR^2 in hierarchical regression). Therefore, we used a series of equations to determine the variance in the personality states that was explained by the goals.

Total between- and within-person variance in state extraversion and state conscientiousness: First, we ran an unconditioned model of state extraversion, which revealed the total amount of variance in state extraversion without any predictors. This analysis reveals how much variance in extraversion is due to differences between people (between-person variance) or to an individual’s changes from moment to moment (within-person variance). By using the residual and intercept estimates from the random effects calculations, the between-person variance for the unconditioned model, which we called Model 0 (M0), can be calculated as follows:

$$\%\,\text{Between Person Variance}_{M0} = \frac{\text{Intercept Variance}_{M0}}{\text{Intercept Variance}_{M0} + \text{Residual Variance}_{M0}} \quad (1)$$

Similarly, the within-person variance for the unconditioned model can be calculated as follows:

$$\%\ \text{Within Person Variance}_{M0} = \frac{\text{Residual Variance}_{M0}}{\text{Intercept Variance}_{M0} + \text{Residual Variance}_{M0}} \quad (2)$$

Table 3 shows the all the results of partitioning the variance in state extraversion using this procedure. In the unconditioned model, most of the variance can be attributed to within-person fluctuations, meaning that most of the changes in extraversion manifestation involve people changing their level of extraversion from moment to moment (Fleeson, 2001).

Variance in state extraversion and state conscientiousness explained by goals: Second, we ran the key multilevel models with predictors. In Model 1 ("M1"), we added the eight hypothesized goals as Level 1 predictors of the state. The residual variance in these models indicates the remaining within-person variance in extraversion and conscientiousness unexplained by goals ("residual"), and the intercept variance indicates the remaining between-person variance in extraversion and conscientiousness unexplained by goals ("intercept"). The amount of variance explained by goals is simply the difference between the variance originally unexplained and the variance remaining unexplained after the goals were added as predictors. The within-person variance explained by goals was the original unexplained within-person variance in goals minus the remaining unexplained within-person variance. The between-person variance explained by goals was the original unexplained between-person variance in goals minus the remaining unexplained between-person variance. To convert these into percentages, we divided the remaining unexplained variance by the original unexplained variance, and then subtracted these totals from 1.00.

The middle panels of Table 3 shows the amount of variance explained in each state by the corresponding eight hypothesized goals. For extraversion, the corresponding goals predicted 46% of the within-person variation in state extraversion. The large portion of within-person variance explained is important because it means that goals are a major mechanism explaining why and when extraverted states become enacted in actual behavior. The eight goals explained 30% of the between-person variance in extraverted states. The large portion of between-person variance explained is important because it means that these eight goals make up about one-third of the reason people differ from each other in how extraverted they are. A similar set of calculations revealed that goals explained 43% of the total variance (both between and within) in state extraversion.

For conscientiousness, the corresponding goals predicted 51% of the within-person variation in state conscientiousness. Goals constitute a major mechanism underlying the enactment of conscientiousness in actual behavior. The eight goals explained 39% of the between-person variance in state conscientiousness. These eight goals make up over one-third of the reason people differ from each other in how conscientious they are. The eight goals explained 48% of the total variance in conscientiousness. Thus, this result shows that substantial amounts of variance in trait enactment is predicted by goals for multiple traits.

Associations of states to traditional questionnaire assessments of global traits—The above results showed that differences between people in density distributions of states were predicted by differences between people in goal pursuit. This is consistent

with the notion in Figure 1 that goals are part of the mechanism behind the enactment of states. Thus, associations of traditional questionnaire assessments of traits to density distributions of states should be partially accounted for by goals.

Questionnaire extraversion had a weaker relationship to aggregated state extraversion in this study than is usual (e.g., see Fleeson & Gallagher, 2009), and it wasn't always present in differing approaches to the analyses. To the extent it was present, however, goals generally accounted for about half of it. For example, in a regression predicting mean state extraversion, questionnaire extraversion predicted 6.6% of the variance in mean state extraversion, $p = .09$, $df = 42$. When the eight hypothesized extraversion goals were already in the model, questionnaire extraversion predicted only an additional 2.6% of the variance, $p = .19$, $df = 35$, a reduction of over 60%.[1]

Questionnaire conscientiousness predicted 29.6% of the between-person variance in state conscientiousness $p < .001$, $df = 42$. However, when the eight hypothesized conscientiousness goals were already in the model, questionnaire conscientiousness explained only an additional 13.5% of the variance $p = .001$, $df = 35$. Thus, individual differences in goals explained over 60% of the association between questionnaire conscientiousness and mean state conscientiousness. People with different questionnaire scores on traits enact differing levels of traits, and half of the reason is that they pursue different goals. Thus, goals are a large constituent mechanism in the production of individual differences in traited behavior.

Bivariate and distinctive predictions of all goals and all states—For determining the bivariate associations, we ran a series of multilevel models with one goal predicting one personality state. Table 4 shows the unstandardized beta weights of all these analyses, showing the degree to which the goals predict changes in the personality state for the average participant.

Hypothesized extraversion functions—All eight hypothesized extraversion functions were significantly related to state extraversion. The results were consistent across both approach and avoidance goals, all of which significantly predicted state extraversion. The strongest relationship was for the goal of trying to be the center of attention ($b = .47$, $p < .01$). The four goals pulling for the high end had significant, positive relationships. However, only one of the four goals pulling for the low end of extraversion had a significant, negative relationship with extraversion (to regain energy/to recharge batteries: $b = -.11$, $p < .01$). The results at the subcomponent level reflected the trait level pattern with all eight goals relating to both talkative and assertive subcomponents.

Hypothesized conscientiousness functions—Six of the eight hypothesized goals were significantly related to state conscientiousness. The results were consistent across both approach and avoidance goals. The goal with the strongest relationship to state

[1]Because the questionnaire assessment prediction of extraverted states was weaker than usual, we also analyzed data from a previously published study (McCabe & Fleeson, 2012), and found supporting results. In a regression, questionnaire extraversion predicted 9.2% of the variance in mean state extraversion, $p < .05$, $df = 43$. When 16 goals were already in the model, questionnaire extraversion predicted only an additional 0.8% of the variance, $p = .15$, $df = 26$, a reduction of over 85%

conscientiousness was to direct energy where it was needed most (b = .40, p < .01). The four goals pulling for the high end had significant, positive relationships to state conscientiousness. Of the four pulling for the low end, two had the hypothesized negative direction, and one of these was significant (avoid a challenge). The results at the subcomponent level reflected the trait level with all eight goals relating to both organization and industriousness subcomponents.

Goal distinctiveness—A central part of the SSFH is that different traits have different functions. Because the different traits' manifestations perform different operations on the world, goals that predict one trait's manifestations should not predict other traits' manifestations. We tested this by examining cross-associations from one trait's goal to the other trait's manifestations. Table 4 shows that almost all goals hypothesized to be conscientiousness functions had nearly zero predictive relationship to extraversion states -- only two goals hypothesized as conscientiousness functions had significant relationships with state extraversion. Furthermore, these relationships were weaker than most of the hypothesized extraversion functions. Likewise, only two hypothesized extraversion functions had significant relationships with state conscientiousness, whereas the majority of them had close to zero predictive relationship with state conscientiousness.

To further test the distinctiveness of the goals, we ran models testing for additional variance explained by the cross-traits' goals (bottom panel of Table 3). These additional goals explained an additional 1% of the within-person variance and an additional 4% of the between-person variance in extraversion states. When predicting conscientiousness states, the additional goals explained an additional 5% of within-person variance and an additional 11% of the between-person variance.

Study 2

The purpose of Study 2 is to clarify the results of Study 1. The hypothesis that personality states are tools for the accomplishment of goals requires that the relationship be a causal one, flowing from goals to states. If people enact extraversion and conscientiousness as a response to pursuing certain goals, then it must be shown that these particular states are caused by the goals. Study 1 showed that about half the variance in extraversion and conscientiousness states can be predicted from the goals people are pursuing. However, this link can only be claimed to be a mechanism underlying traits if the relationships has been demonstrated to be causal. However, the typical assumption is that the causal flow is the *opposite*, from traits (or states) to goals (Corker, Oswald, & Donnellan, 2012; Lischetzke, Pfeifer, Crayen, & Eid, 2012; Lüdtke et al., 2009). Thus, the purpose of Study 2 is to test whether the goal to personality state association survives the causality test.

We wanted to test the naturalistic effect of goals on behavior, using real goals and real behavior, but we also wanted to have the control and random assignment characteristic of an experiment. Therefore, we found a way to conduct an experiment but have the behaviors occur in a natural context. Participants came to the lab to get the manipulation, returned to the campus or went off-campus to enact the manipulation, and finally finished the experiment back in the lab an hour later. By having participants pursue a goal in a task they

would normally do in their daily lives, we combined the strengths of laboratory assignment and manipulation with the strengths of an ecologically-valid study.

We chose goals that had powerful effects in Study 1 or in McCabe and Fleeson (2012). Specifically, we expect that the goals of trying to connect with people and trying to make others laugh would cause extraversion states to be enacted, and that the goals of trying to get a task done and trying to use time effectively would cause conscientiousness states to be enacted.

Although these predictions are reasonable, instructing people to pursue goals may not result in actual changes to personality states. For example, although some minimal talking might be necessary to connect with others, not much talking may be required, and people may differ in how talkative they are when connecting with others. Some people may try to connect with relatively few words. Some may attempt to connect in less sociable ways. For example, an introverted individual may try to connect with others by posting pictures on someone's facebook page. He or she might sit quietly with a friend while fishing. A quarrelsome person might attempt to connect with others by aggressively and unsociably teasing them. A person might intend to be sociable but perceive the groups they approach as too impenetrable, so continues in his or her traited quiet and unsocial ways.

When pursuing the goal of getting things done, a person low in conscientiousness might join a large group of friends at a loud coffee shop for a study group, believing that all the cross-talk will energize him or her. Another person low in conscientiousness might get distracted by social media, feel tired when starting to work, or have some other reason to continue his or her habitual, traited behavior. Thus, it is not at all necessary that the simple act of assigning a goal to participants will lead to actual content-associated change in their specifically trait-enacting behaviors.

Method

Participants—Ninety undergraduate students participated in this study in the fulfillment of an introductory psychology course requirement.

Procedure

Goal assignment—When participants signed up for the study, they were all instructed to bring homework assignments with them. Participants were randomly assigned into one of two conditions. In the extraversion condition, participants were informed "Your goal for the next 45 minutes: to connect with people and to make others laugh." In the conscientiousness condition, participants were informed "Your goal for the next 45 minutes: to get a task done & to use your time effectively." After goal assignment, we included goal elaboration and goal commitment measures that applied principles from Locke & Latham (2002) to increase goal commitment. After finishing these measures, participants left the laboratory to pursue their goal for forty-five minutes.

Post-goal assessment—After forty-five minutes, participants returned to the laboratory. They described what they did during the forty-five minutes, answered questions about their goal pursuit, state personality, and state affect.

Design—The experimental design consisted of a single two-level between-subjects factor (extraversion goal versus conscientiousness goal), and two dependent variables (level of enacted extraversion state and level of enacted conscientiousness state).

Materials

Goal commitment—Goal commitment measures were completed by participants to enhance their commitment to enacting the manipulations (Locke & Latham, 2002), by ensuring that participants had clear, specific tasks during the 45 minutes and personal reasons to commit. In each condition, participants were asked to list three things that they could do in the next 45 minutes to pursue their goal, to write down a reason why pursing this goal would be a good thing for them to do, and to write down what they planned to do in the next 45 minutes. Finally, participants were asked "How committed are you to pursuing this goal?" answering on a 6-point scale, from 1 "Not at all committed" to 6 "Very committed."

Post-goal pursuit manipulation checks—After the 45 minutes, participants completed several measures of goal pursuit. They answered a recall manipulation check of their assigned goal, and reported a) effort into the goal, b) time spent on the goal, c) commitment to the goal, and d) success of the goal. All four questions were on a 6-point scale, from 1, "Not at all" or "None", to 6 "All the Time" or "Very". Participants were excluded from the analyses if they failed to recall their goal, if they responded as "Not at All" to goal commitment or to time on the goal, or failed to complete the state measures (2 from the extraversion condition, 4 from the conscientiousness condition).

State Big Five measures—We used the items from Study 1 to measure state conscientiousness and state extraversion with one exception. Because assertiveness had a high correlation with state conscientiousness in Study 1, we replaced it with the talkative subcomponent adjectives (talkative, verbal, and quiet). Six additional adjectives related to the other traits of the Big Five (warm, relaxed, and imaginative) were added as distracter items. These adjectives were used in question form (e.g., "How verbal were you in the last 45 minutes?"), with response options on a 6-point scale (1 = Not at all; 6 = Very). The reliabilities were in an acceptable range (Extraversion: Cronbach's α = .97; Conscientiousness: α = .78; Talkative Subcomponent: α = .94, Sociable Subcomponent: α = .95; Organized Subcomponent: α = .71; Industrious Subcomponent: α = .65).

Results

The point of Study 2 is to test whether the association revealed in Study 1 is a causal one, by testing whether assigned goals caused changes in personality states. We believe these goals are best served by manifesting the corresponding trait, but the findings could also go otherwise. It is possible to connect with others and make them laugh without being talkative, verbal, sociable, or outgoing. For example, it may be possible to connect with others by sitting quietly with them, or by writing poems or letters to them, or by doing something for them. Participants might also try to connect with others in a very organized and industrious way. Similarly, simply having the goal of trying to get something done and use time effectively might lead to less organized behavior in an attempt to rush to the goal or might have no effect on how industrious a person is, because industry is a habitual feature.

Independent samples t-tests revealed a significant difference between the groups on state extraversion $t(82) = 14.69$, $p < .001$, $d = 3.24$ and on state conscientiousness $t(82) = 3.32$, $p = .001$, $d = 0.73$. Figure 2 shows the means of both personality states for both conditions. Participants were substantially more extraverted when pursuing the goals of connecting with people and making others' laugh than when pursuing the goals of getting tasks done and using time effectively.[2] Similarly, participants were more conscientiousness when pursuing the goals of getting tasks done and using time effectively than participants pursuing the goals of connecting with people and making others laugh.

We also conducted within-person t-tests to check the differences within each goal condition on levels of state conscientiousness and state extraversion. When trying to connect with others and make others laugh, participants were significantly more extraverted than conscientious $t(42) = 7.74$, $p < .001$, $d = 0.62$. When participants were trying to get tasks done and use time effectively, they were significantly more conscientious than extraverted $t(40) = -11.15$, $p < .001$, $d = 1.97$. These findings strongly support the hypothesis that assigned goals can cause specific changes in personality states relevant to the pursuit and achievement of the goal.

Study 3

This research is trying to explain traits, defined as descriptions of what people actually do in their daily lives. However, there is some concern that states, being self-reported, are not accurate assessments of what people are actually doing. The fifth piece of evidence needed for our claims is that the states accurately assess what people are actually doing. If we are going to claim that goals explain the "what people are actually doing" side of traits, then we need to show that these state changes in response to goals are what people are actually doing. Thus, we added observers in order to assess states.

In addition, participants assessed their goals and states in a controlled, laboratory environment. The ecologically-valid methods used in Study 1 and Study 2 allowed participants to rate their goals and states that reflected the fluctuations of daily living. Study 3 tests whether the same pattern is found when all participants have similar experiences.

Method

Participants—Participants (N = 58) were undergraduate or graduate students who were recruited for this study via campus flyers or online campus advertising. They were paid $15 per session and were given a bonus for perfect attendance to all five sessions ($25 extra, for a total of $100) or for one absence ($5 extra, for $65).

Procedure—Participants attended five one-hour group sessions for five weeks. Most groups had four people (two groups had three participants) and involved a different instructed activity. Activities included (1) word activity (definitions of rating adjectives), (2)

[2]Because connecting with others may seem inherently sociable, we repeated these analyses on only the talkative subcomponent of extraversion. Participants were significantly more extraverted on this measure when trying to connect with others than when trying to get something done, $t(82) = 13.30$, $p < .001$, $d = 2.91$.

painting, (3) organizational committee decision task, (4) art analysis, (5) group homework session, (6) free activity (either games or homework).

Each session was split into two parts, lasting twenty minutes each. After a signal, the researcher instructed the participants to move to different locations in the room to complete their rating forms. Participants answered self-reports describing their behavior and goals, and they provided observer reports describing the behavior and goals of the other group members. Thus, participants acted as both targets and observers. As such, the observers were not completely independent from their targets, and may have been influenced in their ratings by participating in the activities. Participants placed completed rating sheets into a sealed container to ensure confidentiality. Once all participants completed their ratings, they returned to their original seats for the second part, and afterward completed ratings of the second part. Over the five sessions, there were ten self-ratings (M = 9.67, SD = 0.87), and for most participants, up to thirty observer ratings (M = 27.00, SD = 3.48).

Measures—For all sessions, participants were assigned with an ID number and a participant letter (A, B, C, or D). The rating sheets organized items in a grid format. Each row contained one state or goal item, and the four columns had the participant letters.

Personality states—Personality states were assessed with 12 adjectives (Roberts et al., 2004; Saucier & Ostendorf, 1999), 6 adjectives for each trait. There were two extraversion subcomponents—talkative (talkative, verbal, quiet) and assertive (assertive, bold, unassertive)—and two conscientiousness subcomponents—organized (organized, systematic, disorganized) and industriousness (persistent, purposeful, lazy). Participants rated how they and others acted during the session, e.g., “How talkative was the participant in the last 20 minutes?” Participants responded using a 6-point scale, ranging from “Not at all” to “Very.” The reliabilities for targets and observers were in an acceptable range (Extraversion: target Cronbach’s α = .87, observer α =.88; Conscientiousness: target α = .77, observer α =.79; Talkative Subcomponent: target α = .92, observer α =.91, Assertiveness Subcomponent: target α = .81, observer α =.82; Organized Subcomponent: target α = .75, observer α =.74; Industrious Subcomponent: target α = .62, observer α =.63).

Momentary goals—From the list of goals in Study 1, we selected four goal items for each rating. Two hypothesized goals related to extraversion (trying to have fun and trying to be the center of attention) and two hypothesized goals related to conscientiousness (trying to get tasks done and trying to use time effectively). Participants were instructed “How often was the participant trying to (goal) in the last 20 minutes?” Participants responded using a 6-point scale, ranging from “Not at all” to “All the time.”

Results

Explained variance in self-reported personality states—We calculated explained variance with the same procedure as described in Study 1 (subtracting the unexplained variance in the model including goals as predictors from the model with no predictors, and dividing by the unexplained variance in the model with no predictors). The two goals hypothesized for extraversion explained 20.6 percent of the within-person variance in state

extraversion and 34.4 percent of the between-person variance. The two goals hypothesized for conscientiousness explained 32.6 percent of the within-person variance in state conscientiousness, and 53.6 percent of the between-person variance. Although the amount of variance explained by the goals is lower than Study 1, this calculation also used half as many goal items and one-fifth as many ratings, yet the variance explained by only two goals was still quite high. Thus, goals again explained both a large part of why people acted extraverted or conscientious at times, and also a large part of why some people acted more extraverted or conscientious than others.

The bivariate relationships between goals and states were very similar to those from Study 1, confirming that the hypothesized extraversion goals were related to state extraversion and were un- or weakly related to state conscientiousness. Inversely, the hypothesized conscientiousness goals were related to state conscientiousness and were un- or weakly related to state extraversion. This pattern continued to the subcomponent level.

Explained variance in observer-reported personality states—Because our research takes density distributions of states to be traits as used to describe what people actually do, the main goal of Study 3 was to test whether goals predict the states when states are reported by observers. Two or three peers provided observer ratings for each participant in each of the five sessions. We ran multilevel models and used the equations outlined in Study 1, but predicting observer ratings of states from observer ratings of goals (with target as the grouping variable to account for the non-independence of ratings of the same target). These results revealed the same pattern found in Study 1 and the Study 3 self-ratings. The two goals hypothesized for extraversion explained 30 percent of the within-person variance in state extraversion and 67.2 of the between-person variance. The two goals hypothesized for conscientiousness explained 47.8 percent of the within-person variance in state conscientiousness, and 49 percent of the between-person variance. Thus, goals predict a large amount of variance in corresponding personality states even when rated by observers.

The bivariate relationships between observer-rated goals and states are shown in Table 5. The pattern is similar to that in Study 1, showing that the hypothesized extraversion goals were related only to state extraversion and were unrelated or weakly related to state conscientiousness. Inversely, the hypothesized conscientiousness goals were strongly related only to state conscientiousness and were unrelated or weakly related to state extraversion. These results demonstrate that observer ratings do have the same patterns as self-ratings for both personality states and goal pursuit, and previous findings were not an artifact of self-report.

Target-reported goals predicting observer-reported personality states—As a final, conservative test of whether the pursuit of goals predicts observable changes in personality states, we predicted the observers' ratings of the personality states from the targets' ratings of their own goals. This is a conservative test because the prediction crosses over from self-reports of internal goals to observer reports of external states, and because observers can report only on part of the personality states, namely the observable parts. However, it is a valuable test, because it decouples the reports of the goals from the reports of the personality states by using different raters for the two constructs.

We used the same analytic procedures, but used the observer ratings of personality states as the dependent variable (averaged across the two or three observers of each state) and the target ratings of goals as the independent variables. In support of the hypothesis, the targets' reports of how much they were trying to have fun and trying to be the center of attention significantly predicted the observers' reports of how extraverted those targets were acting, accounting for 11.5% of the within-person variance and 17.7% of the between-person variance in observer reports of state extraversion. The targets' reports of how much they were trying to use time effectively and to trying to get tasks done significantly predicted the observers' reports of how conscientious they were acting, accounting for 19.6% of the within-person variance in observer reports of states conscientiousness, but none of the between-person variance.

Table 6 shows the bivariate results, produced from multilevel models in each of which one goal predicted one personality state. These findings revealed the same pattern as shown in the pure self-report and in the pure observer-report findings. Goals significantly predicted their corresponding state, but did not or only weakly predicted the other personality state.

General Discussion

The findings argue that a major explanation for traits, at least in so far as traits are taken to be descriptions of what people actually do, is the goals they are pursuing. Goals explain both by identifying a major reason why individuals differ in traits and by providing a major mechanism underlying the enactment of traits in behavior.

Five pieces of evidence supported this claim. First, the hypothesized goals predicted nearly half the variance in state conscientiousness and state extraversion, showing that goal pursuit is one predominant explanation for trait enactments. Second, goals explained large amounts of both between- and within-person variance in trait manifestation. People sometimes act extraverted or conscientious because they are pursuing goals that need those manifestations, and some people are more extraverted or conscientious than others because they pursue the associated goals more often than do others.

Third, personality states had distinct functions with almost no predictive overlap, confirming that different states have different uses, in line with the rationale that different states have different uses because they enact different operations on the world and different operations are needed for different goals. Fourth, the effect of goals on states was shown to be a causal effect, confirming the proposal that the goals are causal in the sizable goal-state relationships revealed in Study 1. Fifth, the relationships between goals and trait manifestations were found even in observable aspects of goals and trait manifestations, suggesting that these goals are explaining the traits people actually enact.

Explaining Traits

Traits can be taken as, at least in part, descriptions of what people actually do. For example, McCrae and Costa define traits as "dimensions of individual differences in tendencies to show consistent patterns of thoughts, feelings, and actions" (McCrae and Costa, 2003, p. 25).

If traits are taken as descriptions, at least in part, then a goal of personality psychology is to explain individual differences in what people actually do. Thus, we measured people's distributions of trait enactments, and then tried to explain why people enact the traits they do and why they differ in their distributions. We started with the plausible but untested assumption that states might have consequences on the world rather than be only styles. We then wondered whether people might be able to apply those states with the intention of bringing about desired consequences and avoiding undesired consequences (Paulhus & Martin, 1987).

This study showed that a major part of the explanation for traits (as descriptions) was indeed goals. People differed from each other in traits because they pursued different goals. People enacted the state content in their daily life that they did because they were pursuing goals that would benefit from those states. For example, some people were more extraverted than others because they wanted to have fun more often than others, and they were more extraverted at times because they wanted to have fun at those times. The word "because" is used in the previous sentences because the effect was shown to be causal rather than only associational.

Traits may not be only descriptive. Traits may also refer to causal machinery that determines what states people enact. The results suggest that goals are part of those mechanisms. Goals explained what traits people actually enacted. They predicted half of the variance in trait enactment in the experience-sampling study, and causally affected trait enactment in the experiment. Thus, one of the causes of state enactment, and thus a part of the causal machinery of traits, is the goals people pursue, as depicted in Figure 1 (Fleeson & Jayawickreme, in press; Little & Josephs, 2007).

Implications for the Relations Between Motivation and Traits

These findings suggest that traits and motivation are closely integrated with each other. The specific mechanism of this integration is that pursuit of momentary and specific goals is one major source of enactments of traits in everyday life. Specific, small-sized goals are activated, and then states are selected for enactment. The states that are enacted are the ones that have consequences that should accomplish the activated goal.

Causality is a necessary part of this proposal, because the specific states and subcomponents hypothesis requires that the goal is activated first and then the state is enacted as a response to the goal. Causality was demonstrated with the novel procedure of randomly assigning a goal condition to participants, sending them back to their everyday lives to accomplish the goal, and then showing that their trait manifestations changed accordingly. This causal direction was contrary to the causal direction of most previous theories. For example, Lüdtke et al (2009) provided empirical evidence that traits cause major life goals; Corker et al. (2012), and Lischetzke et al. (2012) suggested that conscientiousness and extraversion lead to goals which in turn lead to outcomes. Most likely, the causal relationship could be bidirectional. However, the present studies addressed the specific causal direction flowing from goals to trait manifestations, and provided supportive evidence in an ecologically valid setting.

In contrast to theories that keep motivations and traits as separate but related constructs (e.g., McAdams & Olson, 2010; Roberts & Wood, 2006), our proposal puts goals into an explanatory role for traits as descriptions, and also makes goals part of the causal machinery of traits. Goals and traits are not part of separate domains of functioning, but are rather the same domain of functioning. It is more similar to theories that identify traits with motive systems (Carver et al., 2000; Elliot & Thrash, 2002; Read et al., 2010). However, whole trait theory does not go so far as to identify traits with motive systems, because we believe the content of goals, rather than only the goals' approach or avoidance direction, determines the association between goals and trait enactments. For example, extraversion is not identified with approach goals, but rather includes both approach and avoidance goals.

Implications for the Nature of Extraversion and Conscientiousness

These results suggest that two of the five Big Five traits – extraversion and conscientiousness -- have functions. Traits are manifested for the consequences they may bring about; enacted states might have consequences, and those consequences might help individuals accomplish their desired ends. For example, being assertive might have the consequence of grabbing other people's attention, and grabbing other people's attention might serve the goal of avoiding being ignored by others. Evidence for this claim extends beyond just one trait, and thereby argues that the model may be general to multiple traits. It is important to note that extraversion and conscientiousness are quite different in their apparent instrumentality. Conscientiousness seems to be an instrumental trait, whereas extraversion seems more a matter of style. Conversely, extraversion is often identified with the approach system (Carver et al., 2000; Elliot & Thrash, 2002; Heller et al., 2009; Read et al., 2010), whereas conscientiousness is not as widely identified with a motivational system. Nonetheless, the findings for both traits supported the hypothesis that trait manifestations are caused by goal pursuit.

Primary functions of extraversion include trying to have fun or trying to be the center of attention. In contrast, the primary functions of conscientiousness include trying to use time effectively or trying to get tasks done. Nearly all of the strength of the goal-manifestations associations was based on the specific content of the goals. These cleanly discriminative results supported the hypothesis that traits differed in the content of their related goals. These functions included both approach functions and avoidance functions. The discriminative results also argue against many artifactual explanations, such as a general acquiescence bias or a lack of discrimination between the different goals.

The primary functions of extraversion and conscientiousness may shed light on the nature of the behaviors that enact extraversion and conscientious. Extraversion behaviors appear to be of the sort that have the consequences of encouraging people to pay attention, aligning one's activities with the group's, and of getting one's interests satisfied. Conscientiousness behaviors might be of the sort that have the consequences of moving objects into effective positions, setting up realistic schedules, staying focused on a task, and diverting resources towards specific tasks.

Limitations and Future Directions

Although these studies confirmed the theory for two very distinct traits, it is still unclear whether the theory would also apply to the other traits of the Big Five. The SSFH predicts that new template sentences for the specific subcomponents of the other traits would identify goals predictive of those traits. For example, the template "I am intentionally *creative* in order to *goal* in a given moment" might lead to goals such as trying to solve a difficult problem or trying to break out of a routine. However, it is also possible that there are unique features of the other traits making them less amenable to this procedure.

A second direction for future research is investigating the origins of the goals. If people are more extraverted and conscientious in part because they pursue these goals more often, why do they pursue these goals more often? In order to find strong connections between goals and traits, we went to very small, specific, and momentary goals. We think it is very likely that these specific goals come from broader motivational units, in a hierarchical manner (Freund, 2007; Read et al., 2010). Other motivational units, such as life goals (Cantor et al., 1987), personal projects (Little et al., 1992), personal strivings (Emmons, 1986), values (Schwarz & Bilsky, 1987), or motives and needs (Brunstein, Schultheiss, & Grässman, 1998; Deci & Ryan, 2008) might thereby be connected to traits. Beliefs, expectancies, competencies, worries, and other factors may also affect the specific goals individuals pursue (Mischel, 1973). What we find exciting about these findings is that they provide one wedge into the Big Five that makes room for this broad range of characteristics to be related to the Big Five traits.

When we went to the specific level, motivation-trait relationships became much clearer to see. Ironically, the clear connection works against the theory, because discovering such clear connections makes them almost too obvious, such that they appear almost self-evident. However, the connection is not necessary at all. Coming up with the goals facilitated by states was difficult, and required multiple team meetings. Even once the goals were identified, the connection to states was not logically necessary. Indeed, some of the hypothesized goals for the low ends of a state ended up with bivariate relations in the opposite direction (e.g., trying to fit in).

People may not pursue goals with real change in their behavior, or they may change behaviors other than specifically personality states. It is possible people will pursue the goals ineffectively or counter-productively. It is plausible that trait manifestations are styles of doing things, without meaningful or goal-relevant consequences on the world (Winter et al., 1998). The behaviors needed to accomplish the goals may be specific to the goal and not well-represented by the state terms. For example, introverts may pursue the goal of connecting with others in quiet, gentle and undemanding ways rather than in talkative, verbal, and outgoing ways. Conscientious people may try to connect with others in systematic, and purposeful ways. Unconscientious people may try to get something done in disorganized, unsystematic ways.

What these findings show is that the actions and operations needed by the goals are precisely those actions and operations that are present in manifestations of the Big Five. This leads to the conclusion that the Big Five are present as people's ways of accomplishing their goals.

Given the 100+ years of trying to relate the motivational and trait domains, and the common view that motivational and trait domains are separate, we believe finding a conceptual location where the two domains are closely connected is a significant step. Verifying the strength of the association (large portion of variation explained and causality) empirically is necessary for claiming that this connection is strong.

A limitation of Study 2's field experiment was that it lacked full experimental control, because participants completed the experiment outside the lab. It is possible that participants may have lied about what they did. While we did add several checks to ensure compliance, and the results of Study 3 showed that observers agreed with targets about the goals they reported pursuing and the traits they reported manifesting, it would be useful in future research to conduct similar studies in the lab. Additionally, the results could be due to demand. It is possible that participants inferred the purpose of the experiment and may have changed their behavior as a result. We did include a variety of Big Five items in the post-questionnaire to mask the behavior we were interested in, but we do urge additional research to corroborate this experimental result.

In Study 1, we correctly identified goals pulling for the high ends of extraversion and conscientiousness, but we correctly identified only two of the goals pulling for the low end of extraversion and conscientiousness. This finding raises the question—are there actually momentary goals for low levels of a personality state? One possible explanation of these findings was unclear or ambiguous wording. Errors in goal selection may have prevented us from finding the goals for low levels of a personality state.

Conclusions

Although traits and motivation are two important and prominent concepts in personality psychology, they mainly are treated separately. Their treatment has had this uneasy separation because it is not clear how traits and motivation are related to each other. This paper argued that traits are intricately connected to motivation. Goals cause the actual enactments of traits in momentary actions, beliefs, and cognitions, revealing the functional role of trait enactments as the means by which people accomplish their goals. Extraversion enactments provided the means for accomplishing the goals of trying to become the center of attention, trying to fit in, and trying to have fun, among other goals; conscientiousness enactments provided the means for trying to direct one's energy where it was needed most, trying to use time effectively, and for trying to get things done, among other goals.

The evidence for these conclusions was that when people changed the goals they were trying to accomplish, they rapidly changed their trait manifestations accordingly, both associatively across ten days of their daily lives and causally when randomly assigned goals in an experiment. These effects were strong, predicting close to half the variance in trait manifestation from just a handful of goals. Goal pursuit predicted trait manifestation variation both within-person and between-person, such that different people manifested different traits because they manifested different goals and each person manifested different traits at different times because he or she pursued different goals at different times. Half of the association between questionnaire-assessed traits and states was explained by goals. Goal pursuit as rated by targets predicted trait manifestation as rated by observers, showing

that these are the traits people are actually enacting in their daily lives. Goal pursuit predicted manifestation for two different traits, and did so discriminatively, such that goals predicted only their corresponding traits and had little or no relation to non-corresponding traits. Thus, these findings provided strong evidence for one explanation of traits, that they are useful for accomplishing goals. These findings provided one answer to long-standing questions about the conceptual relations between traits and motivation. They clarified the meaning and nature of extraversion and conscientiousness by revealing part of what these traits are for.

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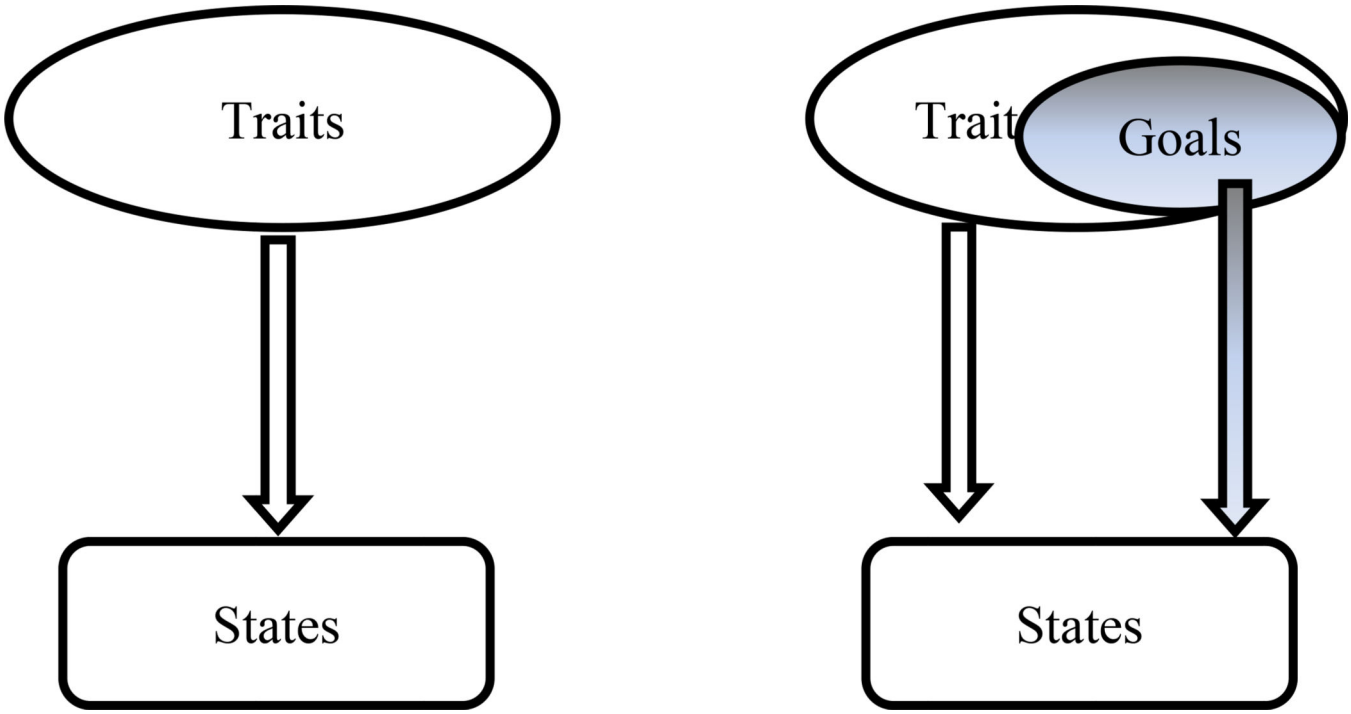

Figure 1.
Goals as One Explanation for Traits as Descriptions of How Individuals Act.

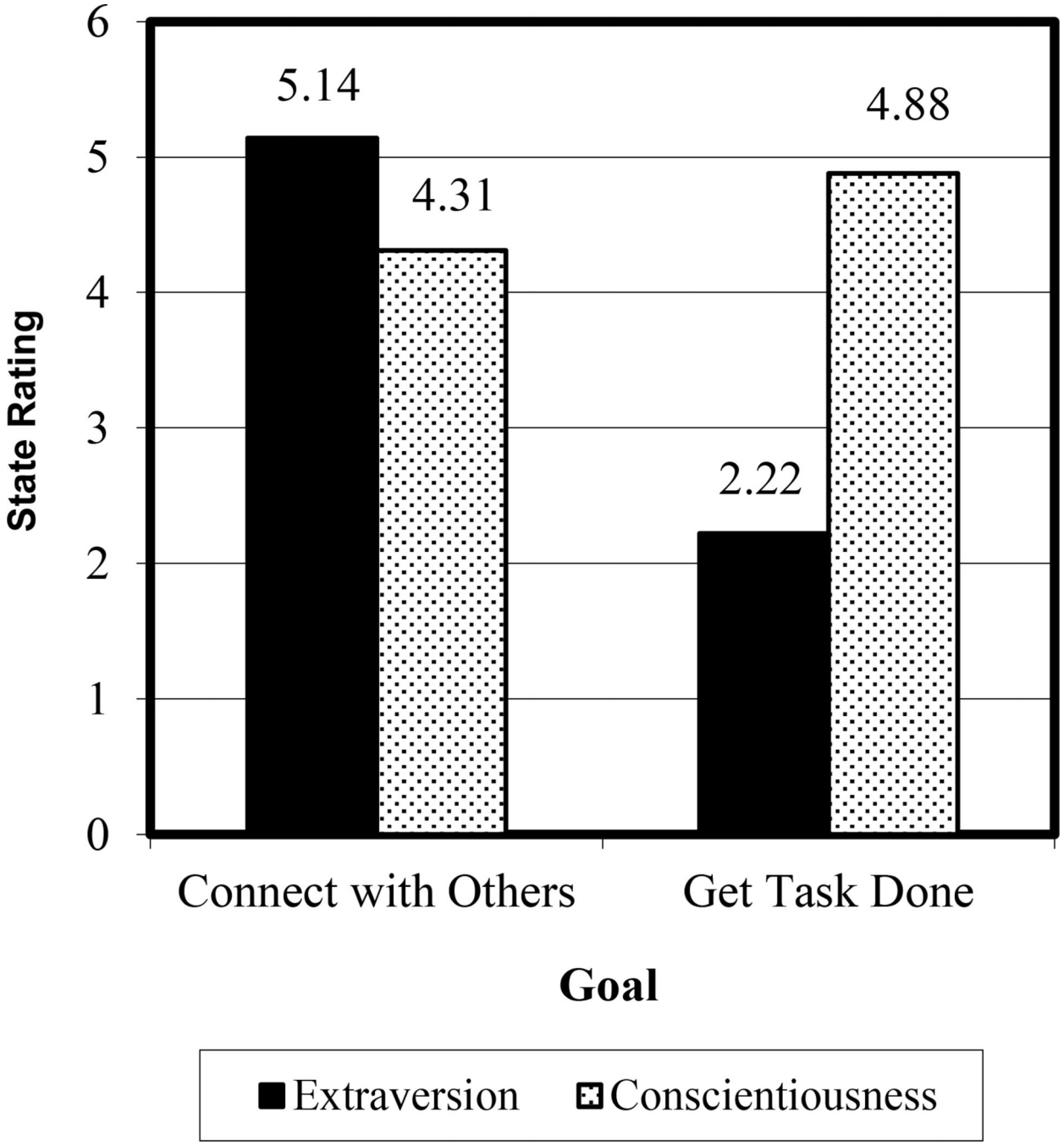

Figure 2.
Personality State Means in Each Goal Condition

Table 1

Descriptive Statistics of Personality States

	M	*SD*
Extraversion	3.59	1.18
Sociable Subcomponent	3.66	1.45
Assertive Subcomponent	3.53	1.15
Conscientiousness	4.10	1.02
Organization Subcomponent	4.19	1.10
Industriousness Subcomponent	4.01	1.15

Notes: Participants rated their personality states on a six-point scale from 1 “Not at all” to 6 “Very (adjective), with a Not Applicable option.

Table 2

Descriptive Statistics of Goals

	M	*SD*
Have fun (S+)	3.18	1.68
Avoid missing an opportunity (S+)	2.96	1.55
Regain energy/Recharge Batteries (S−)	3.05	1.65
Avoid embarrassing yourself (S−)	2.46	1.51
Center of attention (A+)	2.10	1.33
Avoid being ignored by others (A+)	2.42	1.40
Fit in (A−)	2.45	1.42
Avoid conflict (A−)	2.36	1.44
Use time effectively (O+)	2.42	1.40
Avoid forgetting to do something (O+)	3.12	1.62
Direct your energy where it is needed most (O−)	4.15	1.50
Avoid being uptight (O−)	3.98	1.61
Get tasks done (I+)	3.99	1.67
Avoid making mistakes (I+)	3.24	1.63
Put off worrying about something (I−)	3.14	1.48
Avoid a challenge (I−)	2.60	1.44

Notes: Personality States Extraversion (E), Conscientiousness (C). Extraversion Subcomponents: Sociable (S), Assertive (A). Conscientiousness Subcomponents: Organization (O), Industrious (I). The notation next to each goal reflects the hypothesized relationship to each subcomponent and the direction of this hypothesized relationship (e.g., S+ positively valenced relationship with the sociable subcomponent).

Table 3

Partitioning the Variance in State Extraversion and State Conscientiousness

	Extraversion		Conscientiousness	
	Variance	**Percentage**	**Variance**	**Percentage**
Unconditioned Model				
Between-Person Variance	0.27	20.4%	0.18	23.6%
Within-Person Variance	1.04	79.6%	0.77	81.0%
Including Hypothesized Corresponding Goals as Predictors				
Within-Person Variance				
Explained by goals	0.48	46.2 %	0.39	50.6%
Unexplained by goals	0.56	53.8%	0.38	49.4%
Between-Person Variance				
Explained by goals	0.08	29.6%	0.07	38.9%
Unexplained by goals	0.19	70.3%	0.11	61.1%
Total Variance Explained by Goals	0.56	42.7%	0.46	48.4%
Both Corresponding and Non-Corresponding Goals as Predictors				
Within-Person Variance Explained	0.49	47.1%	0.43	55.8%
Between-Person Variance Explained	0.09	33.3%	0.09	50.0%

Notes: All analyses were conducted through multilevel modeling, using the equations outlined in the section above.

Table 4

Bivariate Relationships between Goals and Personality States

Goals	States		Subcomponents			
	E	C	S	A	0	I
	b	*b*	*b*	*b*	*b*	*b*
Have fun (S+)	.36**	−.06	49**	.29**	−.09*	−.04
Avoid missing an opportunity (S+)	.16**	.18**	.13*	.19**	.11*	.23**
Regain energy/Recharge Batteries (S−)	−.11**	−.26**	−.09*	−.12**	−.20**	−.32**
Avoid embarrassing yourself (S−)	.34**	.05	.42**	.25**	−.04	.10*
Center of attention (A+)	.47**	.01	.60**	.32**	−.09*	.08*
Avoid being ignored by others (A+)	.33**	.00	.43**	.24**	−.05	.04
Fit in (A−)	.42**	.03	.55**	.28**	−.05	.08*
Avoid conflict (A−)	.14**	.03	.19**	.10**	.02	.04
Use time effectively (O+)	.00	.35**	−.07	.08*	.32**	.39**
Avoid forgetting to do something (O+)	.02	.21**	−.03	.07*	.19**	.24**
Direct energy where it is needed (O−)	.04	40**	−.03	.12**	.32**	.41**
Avoid being uptight (O−)	.21**	.03	.26**	.17**	−.02	.06
Get tasks done (I+)	−.01	.36**	−.08	.08*	.32**	.39**
Avoid making mistakes (I+)	.07*	.26**	.02	.13**	.22**	.30**
Put off worrying about something (I−)	.05	−.04	.06	.02	−.04	−.05
Avoid a challenge (I−)	−.06	−.18**	−.06	−.06*	−.14**	−.22**

Notes: Personality States Extraversion (E), Conscientiousness (C). Extraversion Subcomponents: Sociable (S), Assertive (A). Conscientiousness Subcomponents: Organization (O), Industrious (I). The notation next to each goal reflects the hypothesized relationship to each subcomponent and the direction of this hypothesized relationship (e.g., S+ positively valenced relationship with the sociable subcomponent). All unstandardized beta coefficients were calculated through multilevel modeling, with one goal as a predictor variable and the trait or subcomponent as the outcome variable.

* $p < .05$

** $p < .01$

Table 5

Relationships between Goals and Personality States (Observer Reports)

	E	C	T	A	O	I
	b	***b***	***b***	***b***	***b***	***b***
Have Fun	.28**	−.05*	.38**	.19**	.04*	−.05*
Center of Attention	.54**	−.02	.63**	.44**	−.07*	.03
Use Time Effectively	−.05	.38**	−.14*	.04	.40**	.36**
Get Tasks Done	−.07*	.39**	−.16**	.02	.39**	.40**

Notes: Personality States: E = State Extraversion (subcomponents: T = Talkative, A = Assertive), C= State Conscientiousness (subcomponents: O = Organization, I = Industriousness). All analyses were conducted using multilevel modeling, and the unstandardised beta weights are the fixed effects of the observer-rated goals predicting the observer-rated personality states in bivariate models. Observer ratings were the average of the three observers in the session.

Table 6

Relationships between Target-Reported Goals and Observer-Reported Personality States

	E	C	T	A	O	I
	b	***b***	***b***	***b***	***b***	***b***
Have Fun	.16**	−.05**	.23**	.10**	−.05*	−.05*
Center of Attention	.19**	−.01	.24**	.15**	.03	.01
Use Time Effectively	−.00	.16**	−.06	.06*	.14**	.18**
Get Tasks Done	−.02	.17**	−.08**	.04	.16**	.19**

Notes: Personality States: E = State Extraversion (subcomponents: T = Talkative, A = Assertive), C= State Conscientiousness (subcomponents: O = Organization, I = Industriousness). All analyses were conducted using multilevel modeling, and the unstandardised beta weights are the fixed effects of the target-rated goals predicting the observer-rated personality states in bivariate models. Observer ratings were the average of the three observers in the session.