

TO BE OR NOT TO BE: AN EMPIRICAL TEST OF ENGLISH PRIME AS THEORY

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To Be or Not To Be?: An Empirical Test of English Prime as Theory

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ABSTRACT

English Prime is a language prescription advocating the abolition of all forms of the verb “to be” from usage. Such benefits of a “to be”-less form of communication might include an increased appreciation for the essential complexity of reality and the intangibility of certain forms of knowledge. However, to date, no English Prime claims have been rigorously examined in an empirical manner. A program of research systematically assessed individual differences in the use of the verb “to be” to determine their relationship to outcomes described by English Prime scholars. Relations between English Prime violations and the following theoretically relevant measures were examined: dialectical endorsement, temporal nonlinearity, interpersonal complexity, the dialectical self, arrogance, and neuroticism. No support was found for English Prime theory via these measures. Possible reasons for such null results and implications are discussed.

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INTRODUCTION

Epistemology, the formal study of knowledge, dates to the ancient Greeks and persists as an area that inspires heated debate in the area of philosophy today (Encyclopædia Britannica, 2012). What we know, are capable of knowing, and are able to express in terms of knowledge is indeed a fundamental question and tension of human existence. The rich history of epistemology has been dominated by some of the most famous and well-known historical figures to have lived, including Plato, Bacon, Descartes, and Aristotle. Knowledge is a fundamental component of the human experience that permeates every facet of our lives. How do we *know* where we parked our car? What do we *know* about HIV and how to protect ourselves? What does our friend *know* that we do not? What we believe to objectively know influences our self-concepts (e.g., Boucher & O'Dowd, 2011; Schlegel, Hicks, King, & Arndt, 2011), our interpersonal functioning (Sanbonmatsu, Uchino, & Birmingham, 2011), and the manner in which our minds operate (e.g., Wilson & Bai, 2010). It is this intimate, proximate, and personal form of knowledge that is the focal point of the current line of research.

Subjectivity, Language, and Knowledge: General Semantics

Korzybski (1933) introduced what he termed "general semantics", a proposed eradication of and departure from categories of Aristotlean logic that he deemed to be detrimental to both rational and scientific pursuits. Primarily, Korzybski confronted Aristotlean "truth logic", akin to binary logic, being that something either *is* or *is not* true in absolute terms. It was argued that humans do not possess the physical or mental hardware to objectively observe or know such binary terms of truth and that this is most obvious in the manner in which we employ language. Specifically, he felt that the absolute application of labels (e.g., he *is* a liar), identity (e.g., I *am* an extravert), and the delineation of events or states in time (e.g., it *is* an election) are violations

of imposing what he referred to as an “is essence” upon things that possess greater complexities and dynamic variations than essentialist language allows for. Korzybski’s primary claim was that these are merely *descriptions* of such objects, concepts, and events in time that can only be known *subjectively*, and should be treated as such within our language. That is, the inherent complexity of the natural world and state of the universe cannot be meaningfully compartmentalized in order to understand it in objective terms.

Rather, it was stated that humans tend to engage in such practices as a way to make their lives easier, but potentially at a great cost. This practice conceptually over-simplifies the actual complexity of events, the world, and objects in it and, in doing so, may render us less sensitive and able to adapt to changing circumstances. Further, Korzybski (1933; 1938) stated that it is when we reify our own subjective experiences as objectively *true*, we inherently default to believing that the incongruent subjective experiences of others are absolutely and objectively *false*. This sort of problem creates conflict between people, groups, or nations that have different subjective belief systems, and inevitably so. As a result, such “to be”-like thinking was argued to facilitate arguments, social discord between groups, and even wars. Language was seen to be not only a marker of an implicit belief of objectivity being assigned to our senses and thoughts, but a *cause* of this state of affairs and the interpersonal issues stemming from it.

It was suggested that a greater appreciation for the complexities of reality can be achieved through the modification of language usage such that it reflects the subjectivity of knowledge. Specifically, Korzybski (1933) proposed to eliminate various manifestations of the verb “to be” from use within the English language. Traditionally, the verb “to be” and its conjugates are used to convey such concepts as binary value (something either “is” or “is not”), the same Aristotlean logic from which Korzybski (1933) sought to depart. For example, it is

impossible to objectively *know* that another person is intoxicated; one only concludes from inference that another person *appears* intoxicated as derived from various forms of information (e.g., seeing the person swagger while walking, smelling alcohol on their breath). This assumption may be entirely incorrect (e.g., the person may have had a seizure or be sick). Furthermore, intoxication is very much a graded property as well as a dynamic state, not a fixed, binary reality. The “to be” functionalization in the form of a state-description (implying truth or falsehood in an objective sense) superimposes a sense of an objective, absolute state wherein it does not actually exist. In the elimination of “to be” words, language more accurately reflects the subjective nature of cognition and perception, which may better correspond to the inherent complexity of reality and, therefore, greatly aid in the preclusion of erroneous conclusions.

Distillation of General Semantics: English Prime

The progression of general semantics has been maintained by subsequent generations of linguists. The strongest proponent of such language reformation has been D. David Bourland. Bourland (1952) took Korzybski's call for reformation to an extreme position, prescribing the absolute abolishment of the verb "to be" in *all* of its forms (e.g., “is”, “are”, “am”), in *all* contexts, from all modes of thought and extending processes thereof, especially communication; this framework has been labeled “English Prime”. The described rationale is largely parallel to that of Korzybski (Bourland & Johnston, 1997), including the epistemic consequences that should follow. While acknowledging that there are certain instantiations of “to be” that appear to be appropriate in their conveyance of finality or equivalence, such as in mathematics (e.g., “A is A; A is not B”), he stated that such concepts are able to be accurately conveyed without relying upon this verb and its conjugates (e.g., “A = A; A ≠ B”).

The psychological consequences stemming from the adoption of English Prime as a form of communication have been articulated by proponents of English Prime and are thought to extend to cognitive, interpersonal, and affective realms (e.g., Kellogg, 1987). For example, removing “to be” words might result in a reduction in dogmatism, which can only occur to the extent that one reifies their belief system as objectively true (Johnson, 2009; Korzybski, 1958; Wilson, 1989). English Prime has been advocated as an instructional tool for writing (Ralph, 1991; Scott, 1989), a bolsterer of critical thinking and creativity (Kellogg & Bourland, 1990), and a source of improvement in interpersonal functioning (Johnston, 1989; Scott, 1989), all supposedly impacted by the cognitive changes arising from the elimination of “to be”.

In the fields of psychology and psychotherapy, Albert Ellis was a known advocate of English Prime (Ellis, 1999). His theory of psychopathology emphasizes the overly-general, negative self-statements that catalyze unnecessary fatalism and psychological suffering among patients (e.g., “I *am* a failure”, “life *is* hopeless”). He would point out that such statements often lacked a firm, evidentiary basis. For example, an individual is unlikely to *always* be a failure; most individuals are able to readily retrospect upon past examples of success. Accordingly, and consistent with the prescription of English Prime advocates, patients were guided in correcting their negative self-statements such that they were more subjectively accurate (e.g., “I *feel like* a failure *right now*”, “life *seems* hopeless *at the moment*”). Such statements are consistent with the nature of affect and promote a self-concept with greater malleability, recognizing that the future has the potential to be drastically different than the past and present with regard to symptomology (Ellis, 2001; Ellis & Harper, 1975).

English Prime and Corresponding Psychological Precedent

The list of purported cognitive changes that originate from the embracement of English Prime has grown as time has passed. Various articles, books, and symposia have promoted the assertion that successfully avoiding “to be” words has definite, observable outcomes at the individual level (The Institute of General Semantics, 2012). Unfortunately, to date, no rigorous empirical testing has been performed on the exclusively anecdotal accounts of such outcomes. Claims of cognitive change made by both past and contemporary English Prime advocates have largely remained isolated to a community comprised solely of such advocates. This has left testable hypotheses “on the shelf”, despite their verisimilitude.

When one eliminates “to be” words from one’s language and thought, one’s apprehension of the self and the world are thought to become more flexible and nuanced, with a greater appreciation of change (Bourland & Johnston, 1997). Just such a mode of thinking appears to characterize Eastern (e.g., Japan, Korea, China) cognition (e.g., Markus & Kitayama, 1991). Therefore, even within a culture, people who avoid “to be” words may be characterized by many of the cognitive patterns associated with a more Eastern mode of thinking. Indeed, whereas Western thought traditionally follows Aristotlean logic, Eastern thought does not, but rather follows traditions (such as Confucian, Buddhist, Taoist) that are characterized by an appreciation of change and paradox (Peng & Nisbett, 1999).

It is important to note, however, that cross-cultural differences are a crude way of examining cognitive styles that operate in a manner that is largely driven by individual differences within, as opposed to between, cultures. That is, it must be recognized that people within a culture vary considerably in terms of whether they are flexible in their thinking about

self, time, and context (Lieber & Yu, 2003; Markman, Grimm, & Kim, 2009; Oishi, Diener, Napa-Scollon, & Biswas-Diener, 2004). Hence, although cross-cultural studies provided a basis for selecting some dependent measures for use in the present studies, these measures are rooted in examining differences in cognitive styles, which is also the overarching focus of English Prime theorizing (Bourland & Johnston, 1997). Indeed, the study of individual differences and language use possesses a history of research that applies to the current research inquiries. I will first discuss the utility of language analysis for the purposes of the current research interests, then detail specific hypotheses for the current research based upon English Prime Theory that will be assessed using such techniques.

Language Analysis and Individual Differences

Language can be computer-analyzed in terms of the frequency with which meaningful categories of language are used by the individual. In general, language category frequencies have been shown to exhibit meaningful variations both as a function of context (Pennebaker, 2011) and persons (Pennebaker, Mehl, & Niederhoffer, 2003). Further, individual differences in language use are established at early ages and persist across the lifespan (Richards, 1990). These differences have been described as indicative of underlying cognitive styles, being reflective of a system of thought (Chomsky, 2011). Accordingly, preexisting individual differences in English Prime violations (namely, the use of “to be” words, which are censured) may reflect something intrinsic to the individual; that is, different degrees of violation might be indicative of inherent differences in the way in which people cognitively function, interpret, and mentally map reality.

Language analysis has already been identified as a viable implicit measure of individual differences that helps avoid some of the pitfalls associated with both traditional, self-report measures and some more contemporary implicit assessment paradigms (e.g., the implicit

association task; Bosson, Swann, & Pennebaker, 2000). Furthermore, such techniques have already been demonstrated to be of high utility within the field. Stable individual differences in personality and language usage are able to be ascertained via language analysis (Mehl, Gosling, & Pennebaker, 2006). Language categories tend to exhibit high test-retest reliability (Pennebaker, 2007) and have been shown to be important in making nuanced distinctions in individual differences research (Arntz, Hawke, Barnelis, Spinhoven, & Molendijk, 2012). Importantly, individual differences in cognitive style have been demonstrated to be reflected by language use in areas such as attributional style (Peterson, Seligman, & Vaillant, 1988; Peterson & Ulrey, 1994), integrative complexity (Tetlock, Peterson, & Berry, 1993), and goal processes (Stein, Folkman, Trabasso, & Richards, 1997). In sum, the analytic techniques invoked for the purposes of the current research are well-established and fruitful. Findings suggesting that stable cognitive and individual difference trends are able to be elucidated via language analysis techniques offer strong encouragement for their application to English Prime research.

Hypotheses

Recognition of complexity, fluidity, and nuance of the world, in tandem with a recognition of subjectivity in perception and cognition, are mainstays of both English Prime theory and previous psychological research. This set of qualities is diverse, however, and can manifest itself in different realms (e.g., how the self is conceptualized, whether time is seen as a linear or curvilinear entity, etc.) both within and between cultures. Cognitive styles and individual traits purported to be related to English Prime adoption possess empirical precedent in studies of culture and cognition as well as personality, facilitating an integration of English Prime postulations with previous psychological measures from these realms. Six constructs will

be discussed in turn, with specific hypotheses stated for each construct with regards to how it is expected to correspond to English Prime violations (use of “to be” conjugates) in language.

Stability of self-construal has been explored extensively by researchers interested in how individuals vary across social situations in terms of social cognition (see Medvene, Grosch, & Swink, 2011). Terminology has varied as a function of focus, however, research suggests that stable individual differences exist with regards to the manner in which the self is cognitively construed across social interactions in terms of emotions (Kang & Shaver, 2004), interpersonal functioning (see Streufert & Nogami, 1989), self-improvement (Heine et al., 2001), and leadership potential (Hunsaker, 2007). Generally speaking, the cognitive style of dynamic self-construal across situations appears to be a stable individual difference construct that is reflective of both behavioral (e.g., Täuber & Sassenberg, 2012) and self-pertinent cognition (Chiao et al., 2009) across situations. English Prime theory explicitly links violations of doctrine with inflexibility of self-labeling across social situations as a result of self-concept malleability (Johnson, 1989), creating an organic fit for this hypothesis within the context of interpersonal complexity research. It is therefore predicted that greater violations in English Prime should correspond to lesser flexibility in the construal of the self across social roles.

Recent research in dialecticism has studied notions of simultaneity in incongruent cognitions largely in terms of emotions (e.g., Spencer-Rodgers, Peng, & Wang, 2010) and cognition (Spencer-Rodgers, Boucher, Mori, Wang, & Peng, 2009), nested within the context of Eastern versus Western culture. Importantly, cognitive flexibility with regard to consideration, and even acceptance, of conflicting views have been described in terms of stable individual differences (Hamamura, Heine, & Paulhus, 2008; Ricco, 2010). Similarly, Scott (1989) has stated that the elimination of “to be” words drives a propensity to view the world in shades of

probability statements and cognitive flexibility in viewing multiple perspectives simultaneously. Conceptually, then, dialecticism, specifically the endorsement of it, should exhibit a positive relationship with English Prime violations as such violations are theorized to correspond to binary conceptualizations of truth, thus precluding simultaneous advocacy of inconsistent concepts.

Predictions about the future with an implicit allowance for change has been studied in terms of cognition nested with culture (e.g., Ji, Nisbett, & Su, 2001), again with an Eastern versus Western cultural focus. Accounting for change propensity in predictions has been established as an individual difference variable and, broadly, related to individual differences in epistemic and existential cognition (e.g., Van Pachterbeke, Keller, & Saroglou, 2012) and information processing (Hussy & Scheller, 1976). With regards to English Prime theory, Bourland (2004) proposed that liberation from “to be” facilitates a proclivity towards making predictions of future trends and events, in cognitive terms, in a manner that precludes rigid reliance upon past trends. This connection of absolutes in cognition to trend prediction informs the hypothesis that greater violations in English Prime doctrine should correspond to greater adherence to past trends in the prediction of future outcomes.

An extension of the previously mentioned research on dialecticism is that of trait-level, self-relevant complexity and dialectical cognition held by the individual pertaining to the self (e.g., tolerance for contradiction and awareness of change; see Lutz & Ross, 2003). These reflect larger, complex patterns of thought that apply to the self, a topic that is often reserved for unique metacognitive processes (see Brinol & DeMarree, 2012; Proust, 2003). English Prime theory suggests that such metacognitive processes are linked to “to be” words (Dawes, 2010; Ralph, 1991) in that “to be” disallows the flexibility and inconsistencies about the self. As such, it is

predicted that greater violations of English Prime will correspond to lower characterizations of the self as dialectic in nature.

Humility is seen to be opposite to arrogance (e.g., Hareli & Weiner, 2002; Weber, 2006; Wiggins & Trobst, 1997), an important interpersonal trait that has been explored in contexts such as relationships (Kowalski, Walker, Wilkinson, Queen, & Sharpe, 2003), creativity (Silvia, Kaufman, Reiter-Palmon, & Wigert, 2011), and social dysfunction (Summers & Summers, 2006). Interpersonal arrogance has been linked to brain regions associated with agentic cognition (Sollberger et al., 2009), agency being an implicit component of “to be” cognition (Bourland & Johnston, 1997). The trait of humility has been described as a direct outcome of English Prime adoption as well (e.g., Wilson, 1989). In agreement with English Prime theory, psychological theory has postulated relationships between truth-pertinent cognition to arrogance through beliefs of agency (hubris; e.g., Crichton-Miller, 1947; Weber, 2006). As such, greater violations of English Prime are predicted to correspond to greater arrogance.

Lastly, it is reasonable to suspect that a decrement in beliefs about a concrete, objectively-knowable reality may correspond to existential, in addition to general, anxiety and negative affect (Lacovou, 2011). Such anxiety is considered a facet of the neuroticism domain for individual differences (see Rosellini & Brown, 2011), which is marked by a tendency to experience and a susceptibility to stressors, anxiety, and negative affect (see Suls, 2001). This is precisely the outcome described by Dawes (2010) with regards to the elimination of English Prime violations from thought and language. “To be” words may, in fact, provide a degree of existential security, serving as a buffer against anxiety. As such, it is predicted that greater English Prime violations will predict lower levels of anxiety, as measured by trait neuroticism.

STUDY 1: IMPLICIT ASSESSMENT

Method

Participants

A total of 69 participants (29 female) were recruited from North Dakota State University via the web-based SONA research platform. Participants, each being assigned to a private cubicle space, independently participated in the study within a laboratory setting in groups of 6 or less. All tasks performed by the participants were completed via desktop computers loaded with a standard, 32-bit distribution of the Windows XP operating system. All tasks were performed via custom-created scripts, programmed by the author, and were executed using E-Prime 2.0 and MediaLab software.

Computer-based Writing Assessment

The writing assessment portion of the study consisted of a two-part, guided writing task intended to capture individual differences in social cognition – i.e., how we think about the self and others. Each facet of the assessment was comprised of a prompt followed by a writing procedure. The first prompt (“When you think about YOURSELF, what do you think about?...”) requested that individuals write about themselves for 5 minutes. The second writing prompt (“When you think about OTHER PEOPLE, what do you think about?...”) requested that the participants write about other people for 5 minutes. All participants engaged in both writing tasks; text was compiled across both tasks for the purpose of having a larger text sample per participant that was not topic-specific.

In order to create scores for English Prime violations, I employed the Linguistic Inquiry and Word Count 2007 software (LIWC; Pennebaker, Booth, & Francis, 2007). This software performs a complete scan of text input and records the prominence of a designated language

category in terms of the percentage of words matching tokens for that category. Using a custom-built language dictionary consisting of all forms and conjugates of "to be" (Beyer, 2007), all text provided by participants was analyzed and compiled into a single composite score, by participant, across writing conditions ($M = 5.54, SD = 1.59$).^{1,2} Higher values of such scores, then, reflect greater reliance upon and instantiation of "to be" conjugates (greater English Prime violations) in one's language, with the opposite being true for lower values.

Interpersonal Complexity Task

In order to assess the individual's interpersonal complexity, I employed a modified version of Suh's (2002) identity consistency paradigm. Participants were asked to report the degree to which various adjectives are characteristic of the self in different social contexts. Six adjectives (anxious, helpful, talkative, demanding, practical, spontaneous) that are descriptive markers of various traits (e.g., neurotic, agreeable, extraverted) in conjunction with five interaction partners (e.g., a close friend, a stranger, parents) were presented onscreen to the participants. The prompt consisted of: "When I am interacting with [interaction partner], I generally tend to be...". Participants were asked to rank order the six traits from 1 (most characteristic) to 6 (least characteristic) in each particular social role. A static guide was present onscreen throughout the duration of the task in order to ensure that the participants understood the task as they performed it; a full instruction set was also readily accessible to the participants during the entirety of the task.

Scoring of interpersonal complexity was performed in a manner parallel to that described by Suh (2002; see also: Block, 1961; Donahue, Robins, Roberts, & John, 1993). A 5 (role) X 6 (adjective) within-subject matrix was constructed for each participant and was derived from their rank-ordering of adjectives across roles. Each matrix was then subjected to a principal axis factor

analysis. It has been shown that the first factor resulting from such procedures reflects the extent to which people view their personalities as static across roles. The amount of variance accounted for by the first factor, then, was used as the participant's interpersonal complexity score, with higher values reflecting lower levels of this construct. The mean and standard deviation of the measure ($M = 50.43\%$ variance explained, $SD = 10.22\%$ variance explained) suggest that the measure was adequate and possessed acceptable amounts of variance for the purposes of detecting any relationships with English Prime.

Dialectical Endorsement Task

I employed a modified version of the protocol used by Friedman, Chen, and Vaid (2006) in order to assess each participant's endorsement of dialectical statements. 20 proverbs were selected from their protocol, 10 dialectical (e.g., "Everybody's business is nobody's business") and 10 non-dialectical (e.g., "Sorrow will pay no debt"), that were highly prototypical of these two categories. The twenty proverbs were presented to participants onscreen, one at a time, in a randomized fashion. Participants were asked to indicate their endorsement of each proverb on a scale ranging from 1 (strongly disagree) to 6 (strongly agree).

For each participant, two composite scores were compiled: dialectical endorsement and non-dialectical endorsement. These scores were generated by averaging across each participant's endorsement ratings of the proverbs from their respective categories. A difference score was then created by subtracting non-dialectical endorsement from dialectical endorsement, with higher values of this score reflecting a differential preference for acknowledging nuance and complexity in the world, at least upon the basis of proverbs seen to possess wisdom. Participants generally displayed a mild preference for dialectical proverbs ($M = .23$, $SD = .57$), suggesting that this phenomenon is not necessarily driven by a Western versus Eastern cultural influence.

Temporal Nonlinearity Task

In order to assess an appreciation for complexity in trends over time, I employed a modified version of the Ji, Nisbett, and Su (2001) study paradigm, which found that nonlinearity in temporal prediction was more characteristic of Chinese than American participants, consistent with a more complex view of how events unfold over time. Participants were instructed that they would see a series of graphs consisting of two data points that were said to be representative of real trends across time (e.g., annual Indonesian rainfall, wheat prices in Kuala Lumpur). They were then asked to predict where a third data point would fall at a future time for each graph. Each graph (total of 15) consisted of three time points that were labeled as being the past value (time point 1), present value (time point 2) and future value (time point 3), represented by equal spacing along the X-axis. The first two data points were fixed; their Y-axis positions were chosen at random, however, subject to the constraint that a third point along the same linear precedent would fit within the graph. Using their mouse, the participants were asked to guesstimate Time 3's position along the Y-axis of the graph; the X-axis position remained fixed. This procedure enabled us to discern the extent to which trends occurring in the past are seen to be indicative of how events typically proceed into the future.

In order to ascertain the degree to which participants perceive the world in a temporally non-linear manner, a score was created for each participant reflecting their deviation from an established trend. For each trial, the slope from Time 1 to Time 2 was calculated. Using this slope, the predicted point (assuming a linear trend) for Time 3 was thus established. The degree to which participants then diverged from this point was scored in terms of pixel values. An average divergence from linearity was then calculated for each participant, which showed an

acceptable amount of variation ($M = 56.25$, $SD = 38.60$) with consideration to the overall screen resolution (1600 x 1200 pixels).

Results

English Prime violations were found to be not significantly correlated to interpersonal complexity, $r(67) = -.15$, $p = .21$. This held true for both males, $r(39) = -.24$, $p = .12$, as well as females, $r(26) = .04$, $p = .85$. English Prime violations were also found to not significantly correlate with differential dialectical proverb endorsement, $r(67) = .19$, $p = .11$. This remained true both for males, $r(39) = .08$, $p = .60$, as well as females, $r(26) = .23$, $p = .25$. Finally, English Prime violations were significantly correlated with temporal non-linearity in predictions, $r(67) = .26$, $p < .05$; this runs conceptually counter to assertions by English Prime theorists. This relationship appeared to be unreliable and driven almost exclusively by female participants, $r(26) = .42$, $p < .05$, as the relationship was rather weak and not significant among male participants, $r(39) = .14$, $p = .38$.

Discussion

People did differ in the frequency with which they used “to be” words. A greater use of such words, according to English Prime theorists, is reflective of a thinking style that promotes dispositional thinking with regards to the self, an inability to appreciate paradox, and tendencies to assume that what was true in the past would be true in the future as well. Three measures were designed to assess these three sorts of constructs; in no case was there evidence in support of such hypotheses. In the one instance where a significant correlation was found, it was not only in the wrong direction, but its reliability is questionable owing to non-replication among males. The dependent measures of Study 1 were relatively subtle and implicit. It is possible that predictions consistent with English Prime theorizing would fare better with a more explicit approach in

which people should be quite conscious of the constructs being assessed. This is the approach taken with Study 2.

STUDY 2: EXPLICIT ASSESSMENT

Method

Participants

A total of 141 participants (52 female) were recruited in the same manner as has been described for Study 1. Participants initially completed the same writing task as was detailed for Study 1 and similarly engaged in all assessment tasks via computer. The writing task was scored in a manner congruent with Study 1, with the task revealing highly similar outcomes in terms of English Prime violations among participants ($M = 5.46$, $SD = 1.51$).

Dialectic Self Measure

Tendencies toward dialectical thinking with respect to the self were assessed using the Dialectical Self Scale (DSS, Spencer-Rodgers et al., 2010). This measure consists of 32 items rated on a 1 (strongly disagree) to 7 (strongly agree) scale. Sample items include: “When I hear two sides of an argument, I often agree with both”; “I sometimes believe two things that contradict each other”; and “I often find that my beliefs and attitudes will change under different contexts.” Prior research has indicated that the DSS possesses admirable psychometric properties, shows both convergent and discriminant validity, and displays sensitivity to hypothesized cultural differences (Spencer-Rodgers, Peng, Wang, & Hou, 2004). An overall composite score of this scale was created for the purposes of analysis that suggested individuals tended towards only a slight degree of dialecticism with regards to the self ($M = 3.68$, $SD = .54$; $\alpha = .78$).

Arrogance Measure

Arrogance was assessed by means of self-report in response to items reflecting the arrogance-unassuming vector of the Interpersonal Adjective Scale - Revised (IAS-R, Wiggins,

Trapnell, & Phillips, 1988). Participants rated the extent to which (1 = extremely inaccurate; 5 = extremely accurate) they could be characterized in terms of 16 personality adjectives marking this dimension. The 8 arrogant markers include sly, cunning, tricky, calculating, crafty, cocky, boastful, and wily. The 8 unassuming items include unwily, uncunning, unsly, boastless, unargumentative, undemanding, uncrafty, and uncalculating. Arrogance and unassumingness are bipolar in theory and exhibit bipolarity in structural terms as well (Wiggins, Phillips, & Trapnell, 1989). Therefore, arrogance was scored in dimensional terms by reverse-scoring the unassuming markers and then averaging across all 16 items, revealing a slight proclivity towards interpersonal arrogance among the participants ($M = 3.66$, $SD = .79$, $\alpha = .88$).

Neuroticism Measure

Finally, trait neuroticism was assessed by asking participants to respond to items reflecting the neuroticism factor of Goldberg's (1999) Big-Five assessment; this measure has performed exceedingly well in previous studies (for a review, see Robinson & Gordon, 2011). Participants rated the extent to which (1 = very inaccurate; 5 = very accurate) various statements describe them in general. This measure consists of 10 items (2 reverse coded). Examples include phrases such as "I worry about things", "I get irritated easily", and "I change my mood a lot". An average score was compiled for each participant for analysis ($M = 2.61$, $SD = .85$, $\alpha = .90$).

Results and Discussion

In order to examine the relationship between English Prime violations and each of the preceding measures, Pearson's correlations were conducted. English Prime violations were not predictive of lower Dialectical Self scores, $r(139) = .11$, $p = .17$. This was true for males, $r(87) = .11$, $p = .33$, as well as females, $r(50) = .14$, $p = .31$. Further, the hypothesized relationship between English Prime violations and trait arrogance was not found, $r(139) = .09$, $p = .29$. This

was true for males, $r(87) = .15, p = .16$, as well as females, $r(50) = -.13, p = .36$. Finally, variations in English Prime violations did not predict dispositions toward anxiety as assessed by the trait of neuroticism, $r(139) = .05, p = .57$. This was true for males, $r(87) = .10, p = .35$, as well as females, $r(50) = .01, p = .92$.

Study 2 focused on explicit measures in which people were directly asked to characterize themselves. It was hoped that such measures, which are not only more explicit but also potentially more reliable and stable than those in Study 1, would reveal evidence for differences by the use of “to be” words (versus their lesser use). There were no significant correlations despite the more than adequate sample size and the fact that English Prime theorists often refer to personality correlates of “to be” thinking.

GENERAL DISCUSSION

English Prime theorists and advocates have asserted a relationship between a broad domain of cognitive and trait outcomes and reduced instantiations of the verb “to be”; the current research is the first known attempt towards imposing empirical scrutiny upon such claims. I selected measures that reflect constructs implicated by English Prime advocates as correlates of “to be” in language usage, predicting that greater violations of English Prime would correspond to: (1) greater rigidity across different role contexts; (2) a diminished capacity to advocate dialectical or paradoxical proverbs; (3) perceive time to be a linear entity; (4) possess a self-concept in which conflicting facets are precluded; (5) exhibit greater arrogance; and (6) display lesser anxiety via trait neuroticism. Such measures were found to manifest no meaningful, hypothesized relationship with English Prime violations in language patterns.

English Prime recommendations are ultimately recommendations about individual differences in language use; the LIWC approach to language use has exhibited excellent support for just such an individual differences stance. Accordingly, I constructed a dictionary of “to be” words and derivatives whose use varied considerably across participants. Despite adequate sample sizes, especially in Study 2, there simply were no meaningful, hypothesized correlations between the use of these words and cognitive styles consistent with rigidity versus flexibility, nor were correlations with personality variables significant. Overall, hypotheses of English Prime as theory found no purchase in the current studies.

Reasons for Null Findings

The writing task included in the two presented studies was designed in such a manner as to tap into social cognition specifically. While social cognition overlaps with a broad set of cognitive constructs (see Gawronski & Payne, 2010), it is possible that this selection of focus for

writing was in fact too myopic for the purposes of the current research. The social arena is merely one of many in which specific types of interaction, perception, and mentation occur (Cavigelli, Michael, West, & Klein, 2011; Dunning, 2011), allowing for the prospect that this construct was too narrow in scope to elicit sufficient language-evident cognition pertinent to constructs hypothesized to be relevant to English Prime. Furthermore, the writing samples gathered for these studies were relatively discrepant from the typical amount and style of language employed by the average individual even within a typical day (e.g., Patrick & Whalen, 1992). Lastly, there is the alternative possibility that generally stable individual differences in “to be” usage simply do not exist.³ English Prime violations in language patterns may be highly transient and unstable or, alternatively, topic-specific.

The dependent measures employed for the current research were selected on the basis of their conceptual implication on the part of English Prime advocates in conjunction with their conceptual overlap with previous psychological research, those largely being research in the area of culture and cognition. Such measures may not have been ideal in their ability to acquire an understanding of individual differences with regards to the constructs theorized to be of importance by English Prime advocates, or may be inherently less reliable and predictable than desired. Indeed, our measures suggested that individuals in our first sample tended towards endorsing dialectical, relative to non-dialectical, proverbs, whereas Westerners would not be expected to exhibit such endorsement based upon previous findings (e.g., Friedman, Chen, & Vaid, 2006). Measures such as dogmatism may in fact more closely pertain to the concepts of the individual reifying their own beliefs as true than, for example, arrogance, being reflective of more abstract social cognitive tendencies. Nevertheless, these measures are believed to reflect constructs have been rather explicitly stated by English Prime advocates as relating to “to be”

words. Additionally, well-validated measures of other, more proximal theorized constructs (e.g., neuroticism, interpersonal complexity) also exhibited no significant or meaningful relationships with English Prime violations.

Exploring the links between English Prime and its outcomes may be fruitful under more highly stringent guidelines. Application of the English language is saturated with “to be” and its conjugates and, thus, the hypothesized corresponding Aristotlean “truth logic” may be automatic and overtrained in the individual irrespective of its overt appearance in language. Without concrete, explicit reason to speak and mentate contrarily, there is, in fact, little motivation for the average individual to avoid such words and thinking (Korzybski, 1933; 1938). As such, it is possible that intensive training would be necessary to free the individual from this system of language and cognition; this would be consistent with current research pertaining to language structure and cognition (see Lucy, 2010). Such training, however, would need to be mindful of well-documented thought suppression phenomena such as the “white bear” effect (see Wegner, Schneider, Carter, & White, 1987). It may be difficult to train individuals to avoid “to be” verbs without inadvertently facilitating their prominence in cognition and language generation processes; such effects have been described by English Prime proponents as being particularly arduous to circumvent (Bourland, 1990; DeWitt, 1989; Johnson, 1988; Scott, 1989). As such, the current measures may be useful only in detecting differences between those who do not employ English Prime versus those who have great experience and practice in employing the doctrine; such concepts are highly prominent in other areas of research with mindfulness experts (see Baer, 2006; Chiesa, 2009; Treadway & Lazar, 2009).

English Prime as a Belief System

Natural variations in “to be” verb usage may alone not be predictive of the outcomes proposed by English Prime advocates. A common thread to anecdotal reports by advocates of the theory and its practice is that all advocates are not only explicitly aware of the theory behind the practice, but possess specific, desired outcomes when undertaking English Prime by actively engaging in its prescribed language modifications. This potential confound would distinguish the *practice* of English Prime as simply symbolic of a belief system rather than a true prescription that substantively *causes* desired outcomes (see Tiba, 2010). That is, in the pursuit of specific cognitive and trait-like outcomes, the *beliefs* surrounding English Prime (e.g., thinking in a non-rigid manner, appreciation of complexity and change, perception as a means of inference instead of objective “knowing”) might be of greater consequence than the use of “to be” words *per se*. Explicitly embracing such a belief system by enforcing principles derived from this belief may very well moderate the relationship between English Prime adherence and outcomes espoused by proponents of its theory. That is, it is possible that low levels of English Prime violations predict outcomes pertaining to specific cognitive and behavioral patterns, as well as trait outcomes, only in conjunction with an understanding and adoption of beliefs about *why* such a relationship should exist.

In terms of application, it has been noted by Korzybski (1933), as well as subsequent theorists (e.g., Bourland & Johnston 1997), that the instantiation of “to be” conjugates is indeed highly functional in terms of evolutionary adaption. For example, threatening stimuli are proposed to be processed in a highly automatized and efficient manner (e.g., Brosch & Wieser, 2011). In the event of threatening or noxious stimuli in one’s environment, it behooves the individual to both think and behave in highly encapsulated, concrete terms. Recent research

suggests that, especially in the event of threatening stimuli, attention is driven in a bottom-up manner, potentially optimizing threat detection and evasion (Cornwell, Mueller, Kaplan, Grillon, & Ernst, 2012). Therefore, the functionality of “to be” words, even if demonstrated to pertain to outcomes described by English Prime theorists in the course of future research, do indeed possess important utility within certain contexts. For example, when decisiveness and certainty are favored in a given context (e.g., threat appraisal, orientation within new environments, under cognitive taxation, and collaborative efforts), such efficient, heuristic modes of processing and thinking about the world are highly desirable (Elliot, Payen, Brisswalter, Cury, & Thayer, 2011; Gigerenzer, Dieckmann, & Gaissmaier, 2012; Vogel-Walcutt, Gebrim, Bowers, Carper, & Nicholson, 2011). Such considerations of context and efficiency should be treated as important factors in future research.

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ENDNOTES

¹The dictionary codes for the following English Prime violations: ain't, aint, am, are, aren't, be, been, being, hain't, here's, heres, he's, hes, how's, hows, I'm, Im, is, isn't, isnt, it's, she's, shes, that's, thats, there's, theres, they're, theyre, was, wasn't, wasnt, we're, weren't, werent, whatcha, what's, whats, where's, wheres, who's, whos, you're, and youre.

²Analyses were also conducted in which separate “self” scores and “other” scores were used to predict the dependent measures. Results were parallel to the results created from a composite score across the two separate essay prompts.

³For both studies, English Prime violations when writing about the self and others were not strongly or significantly correlated, both r 's $< .16$, p 's $> .05$.