

SELF-ESSENTIALIST BELIEF AND WELL-BEING

A Thesis

by

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ABSTRACT

Psychological essentialism refers to the widespread belief that entities, such as kinds of animals or groups of people, have certain underlying immutable characteristics that are necessary for membership in a particular category. The aim of the present research was to expand on recent research to further investigate the effects of when people apply this kind of reasoning to selves, specifically whether doing so might have an impact on perceptions of authenticity and well-being. Studies 1A & 1B (N=544) revealed that individual differences in self-essentialist beliefs positively correlate with a range of measures of perceived authenticity and well-being. Studies 2A & 2B (N=1089) utilized an experimental paradigm that manipulated self-essentialist beliefs by presenting fabricated scientific articles that provided evidence for either high or low immutability of personality traits in humans. Significant mediational pathways were discovered from condition through self-essentialist beliefs for nearly every dependent variable of interest. This research has potentially important implications towards our understanding of how people's intuitions about self-hood relate to perceptions of authenticity and well-being.

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Contributors

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1. INTRODUCTION

Psychological essentialism is defined as a basic cognitive tendency to believe that categories have an underlying reality or true nature that one cannot observe directly (Gelman, 2003). Essences are believed to not merely exist, but to also exert causal effects on the outward characteristics and behavior of the entity in possession of the essence (Cimpian & Erickson, 2012). People rely on essences to explain the various observable properties possessed by members of particular categories (Gelman, 2003). Much of the preexisting work done on psychological essentialism has focused on the essences that are projected upon external beings in the outside world, ranging from dogs to flowers to introverts. However, until very recently (Christy, Schlegel, & Cimpian, 2019) it had been yet to be investigated whether people turn this logic inward; whether people possess *essentialist beliefs about their own selves*.

The present project seeks to build on initial work investigating the psychology of self-essentialist beliefs (SEBs). In particular, we seek to investigate the relationship between SEBs and measures of well-being and authenticity. Given that essences are perceived as causally powerful (Gelman, 2003; Cimpian & Erickson, 2012), this leads us to suggest that people who believe in self-essences (i.e., those high in SEBs) will be more likely to perceive their own actions as emanating from their causally powerful essence. That is, they should perceive more of their behavior as self-expressive rather than as products of circumstance or other external causal explanations. This is important because a body of work has established a robust positive link between true-self expression and well-being (Sheldon, Ryan, Rawsthorne, & Ilardi, 1997; Schlegel, Hicks, Arndt, & King, 2009; Schlegel & Hicks, 2011). This leads us to hypothesize that high SEBs may promote meaning and health via enhanced feelings of true-self expression (see Figure 1).

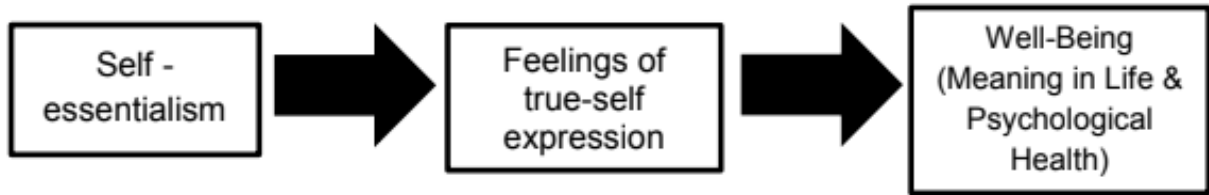


Figure 1. Proposed theoretical model

The present studies tested a number of hypotheses stemming from this proposed model. Specifically, we predicted that SEBs would be associated with various measures of authenticity and well-being (Studies 1A & 1B), would be predictive of these measures over and above theoretically related concepts (Studies 1A & 1B), and that experimental manipulations of SEBs would positively effect participants' state well-being and authenticity measures (Studies 2A & 2B).

1.1 Psychological Essentialism: Pervasive & Powerful

Previous work on psychological essentialism has shed light on what concepts people tend to ascribe essences to, when this phenomenon emerges in development, and who engages in this line of thought. People assume the existence of essences in a wide range of categories. A number of studies have demonstrated the prevalence of essentialist tendencies when thinking about biological categories such as animal species (Springer & Keil, 1989; Gelman & Markman, 1986). Furthermore, there has been a large amount of work done focusing on the essentializing of social categories like race and gender (Hirschfeld, 1996; Keller, 2005; Rhodes & Gelman, 2009). It has been previously discovered that people have tendencies to essentialize race and that increasing salience of essentialism increases hostility towards outgroups. Further studies have

pointed to other concerning applications of essentialism including instances of sexism, classism (Mahalingam, 2003) and entity theories of intelligence (Hong et al., 1999).

Previous research investigated when in life psychological essentialist reasoning develops, finding that the phenomenon emerges early in childhood (Gelman, 2004). For example, Gelman found that toddlers are likely to believe that an infant switched at birth to parents of a different nationality would still speak the same language as the birth parents. This biological intuition of inheritance in young children was also supported by work from Springer and Keil (1989) documenting toddler intuitions of the transmission of abnormal biological features to offspring. Further work demonstrated that categorical membership was more important in inferring the existence of shared traits than mere similar appearances (Gelman & Markman, 1986). For example, children were more likely to believe sharks shared the same breathing mechanism as tropical fish because by virtue of both being members of the category *fish* despite a much greater visual resemblance to dolphins.

In addition to appearing early in development, psychological essentialism has been found to be a phenomena that exists crossculturally. For example, work done comparing Americans' essentialist tendencies to that of Brazilians found that people of both nationalities exhibit similar proclivities to engage in such reasoning in thinking about biological categories (Sousa, Atran, & Medin, 2002) and racial categories (Gil-White, 2001). On the other side of the globe, essentialist inferences regarding ethnicity were found to exist in Mongolia (Gil-White, 2001) and Madagascar (Regnier, 2012). The combined findings from these vastly different societies led Henrich, Heine, & Norenzayan (2010) to label psychological essentialism as one of just seven universal psychological patterns between industrialized and small-scale societies.

The preponderance of essentialism in the global population along with the broad array of categories to which it is applied opens the door for many extensions of study, including that of selfhood. The current work is among the first to examine whether people engage in psychological essentialism when reasoning about their own identity. To the best of our knowledge, the only other study to do so was recently added to the literature by Christy, Schlegel, & Cimpian (2019). While Christy and colleagues established the existence of SEBs and their relation with belief in the true self, the current paper focuses on downstream consequences of SEBs. In order to examine these consequences, we rely on individual differences in and experimental manipulation of SEBs. This follows an existing tradition in the psychological essentialism literature that demonstrates that while the tendency for people to essentialize various groups and categories is very pervasive, not everyone utilizes this form of reasoning to an equal degree. Individual differences exist in the degree to which people engage in this line of thinking (Bastian & Haslam, 2006; Estrada-Goic, Yzerbyt, & Seron, 2004) and it is something that is amenable to experimental manipulations (Williams & Eberhardt, 2008).

In a change of direction from the existing psychological essentialism literature that demonstrates the racist and sexist conclusions that can arise downstream of essentialist logic, we propose that this inward, reflective form of essentialism is actually beneficial. This overarching prediction stems from two critical theoretical pieces, namely that 1) people view the concept of essences as causally potent and 2) the strong link between true-self expression and various measures of well-being.

1.2 The Little Essence That Could: The Causal Potency of Essences

A segment of the essentialism literature has demonstrated that people attribute causal powers to perceived essences. A recent study demonstrated the capability of essentialist belief

(e.g. saying that girls are good at a particular game) being used to provide a causal explanation for various behaviors and abilities (*why* they are good at the game) and in turn impacting children's performance on a difficult task (e.g. boys performed worse when they believed the essence of girls contributed to skill on the task) (Cimpian & Erickson, 2012). Earlier work yielded the conclusion that essentialist logic is utilized to explain the appearance, behavior, and other properties of those people or things that fit into a particular grouping. In the mind of an essentialist thinker, a cat's essence does not merely reside within the animal in the absence of impact on the world; the essence is the cause of the purring, sharp claws, and mouse-chasing that emblemize the cat. When this line of thought is pivoted inward and applied to the self of the essentialist thinker, our prediction is that similar conclusions are made about the downstream implications of possessing an essence. We posit that people who engage in self-essentialism will attribute essence-possession as responsible for their personal makeup of traits; responsible for *who they are* (e.g. Scott holds the belief that there is something essential about him that makes him Scott and not Steve). Included in this equation is a potential manner in which people interpret their own behavior. People who hold an essentialist view of the self should view their own behaviors as roots stemming from their own essence (e.g. Scott sees his desire to play basketball as rooted in his essence). Taken together, belief in an essence should lead one to see their behaviors as derived from their essence, their true self.

1.3 True-Self Expression, Well-Being, & Authenticity

Previous work demonstrated robust links between true-self expression and many measures of well-being in the growing literature pertaining to the concept. Included in the discoveries are findings highlighting the plethora of well-being measures linked to behaving authentically, including diminished levels of stress and anxiety (Sheldon, Ryan, Rawsthorne, &

Ilardi, 1997), greater psychological need satisfaction (Bettencourt & Sheldon, 2001), diminished psychological distress (Heppner et al., 2008; Lakey, Kernis Heppner, & Lance, 2008), and improved psychological well-being more broadly (Sheldon, 2002; Sheldon & Elliot, 1999; Sheldon & Houser-Marko, 2001). Additionally, true-self expression has been linked to the experience of meaning in one's life (Schlegel, Hicks, Arndt, & King, 2009; Schlegel & Hicks, 2011; Schlegel, Hicks, King & Arndt, 2011; Schlegel, Vess, & Arndt, 2012). Work on lay theories of decision-making has demonstrated that using the true-self as a guide in choices to be one of the best methods to make a significant decision for oneself (Schlegel, Hicks, Davis, Hirsch, & Smith, 2013). The findings extracted from these distinct but related concepts suggest seeing oneself act in a manner that is reflective *of how one really is* is conducive to a host of positive benefits on various measures of well-being.

The lay perception of the causality of essences and knowledge about the effects of true-self-expression give rise to our key theoretical model for the current work. Causal lay beliefs about essences lead one to see their actions as stemming from a deeply-rooted, inner nature, leading one to experience greater authenticity, meaning, and other forms of well-being. Stated more plainly, self-essentialist belief promotes meaning and health via enhanced feelings of true-self-expression.

1.4 Overview of Present Studies

A total of four studies were conducted to investigate our overarching hypothesis that SEBs lead to meaning and health through greater feelings of true-self expression. The first two studies (1A & 1B) were correlational and served as an initial test of our hypotheses. We hypothesized individual differences in SEBs such that those with higher scores on the measure would be associated with greater well-being and authenticity on a host of variables. We further

examined issues related to incremental validity in terms of whether SEBs would predict authenticity and well-being over and above other related constructs. In light of correlational evidence, Studies 2A and its ensuing direct replication of 2B aimed to establish a causal relationship between SEBs and well-being via an experimental manipulation of SEBs. We predicted that participants presented with materials espousing essentialist information about personality in an article-based manipulation would report greater self-essentialist beliefs and, in turn, greater well-being and authenticity.

2. METHODS: STUDIES 1A & 1B

Two correlational studies were conducted ($N_a = 223$, $N_b = 321$). Other analyses using this same data have been published previously (Christy, Schlegel, & Cimpian, 2019), however those analyses focused exclusively on the relationships between self-essentialism, explicit belief in a true self, and other forms of psychological essentialism. The analyses reported here examine the relationship between self-essentialism, perceived authenticity, and psychological health.

Multiple attention checks (7 in 1A, 8 in 1B) were dispersed amongst survey questions requesting that the subjects select a particular response (e.g., *somewhat agree*) for that item. Participants who failed to correctly respond to two or more of these items were excluded from the data, leaving a final sample of 208 for Study 1A and 305 for Study 1B. All descriptive statistics and analyses are reported on this final sample.

2.1 Participants

Participants in Study 1A were 208 undergraduate students at Texas A&M University who participated in the study for credit in psychology courses. The sample was majority female (135 female, 71 male, 1 transgender man, 1 not reporting) with ages ranging from 18 to 22 ($M = 18.91$, $SD = .93$). The sample was primarily White (64.3%).

In Study 1B, participants were 305 Amazon Mechanical Turk workers (157 female, 129 male, 1 transgender man, 1 transgender woman, 1 gender nonconforming, 19 not reporting). Subjects were paid \$1.00 each for their participation in the study. Ages in the sample ranged from 18 to 74 ($M = 34.75$, $SD = 11.50$). Most participants in the Study 1B sample identified as White (76.7%).

2.2 Materials and Procedure

Questionnaires were administered using Qualtrics. The measures that were included in Studies 1A and 1B were nearly identical, with a few minor exceptions. A six-item scale measuring mind/body beliefs was added to the questionnaire in Study 1B. Additionally, scales for authenticity norms were present in Study 1A but omitted from 1B. Only the variables that are of relevance to the current investigation are included in this report; other measures included in the studies supplemented past self-essentialism work (Christy, Schlegel, & Cimpian, 2019) or served other exploratory purposes. The order of all measures was randomized in both studies.¹ Unless otherwise specified, all variables were measured on 7-point response scales (1 = *Strongly disagree*, 7 = *Strongly agree*) and composite scores for all variables were computed by averaging across the individual items after reverse-coding appropriate items.

Self-Essentialist Beliefs. Essentialist beliefs about one's own self were assessed with a 10-item² self-essentialist beliefs scale we developed. Examples of items included “The important parts of my identity will still be there in 30 years” and “The things that make me who I am are unlikely to ever change ($M_{1A}=5.29$, $SD_{1A}=0.74$, $\alpha_{1A}=0.81$; $M_{1B}=5.15$, $SD_{1B}=1.06$, $\alpha_{1B}=0.91$) (See Appendix A for full scale). Our previous work suggests that this scale is positively correlated with individual differences in other forms of psychological essentialism (e.g. essentialist beliefs about human kinds), suggesting convergent validity (see Christy, Schlegel, & Cimpian, 2019 for details).

¹ Due to an error in how the randomizer function was set up in Study 1B, one set of measures was omitted at random from the survey administered to each participant. Thus, the number of participants who completed each measure varies, and the number of participants included in analyses is always less than the full sample size.

² Study 1A included a preliminary pool of 39 self-essentialism items, which was refined through factor analysis to yield the final 10-item version of the scale. Results reported for Studies 1A and 1B use the refined 10-item scale.

Perceived Authenticity. Perceived authenticity was assessed with the three subscales of the 12 item Authentic Personality Scale (Wood et al., 2008) as well as a 14-item Self-Expressiveness of Behavior scale (Adapted from Schlegel et al., 2013). The three subscales of the Wood measure include: Authentic Living (e.g., “I think it is better to be yourself, than to be popular”; $M_{1A}=5.94$, $SD_{1A}=0.82$, $\alpha_{1A}=0.74$; $M_{1B}=5.72$, $SD_{1B}=1.03$, $\alpha_{1B}=0.81$), Accepting External Influence (e.g., “I am strongly influenced by the opinions of others”; $M_{1A}=3.74$, $SD_{1A}=1.32$, $\alpha_{1A}=0.80$; $M_{1B}=3.24$, $SD_{1B}=1.37$, $\alpha_{1B}=0.81$) and Self-Alienation (e.g., “I feel out of touch with the ‘real me’”; $M_{1A}=2.56$, $SD_{1A}=1.45$, $\alpha_{1A}=0.89$; $M_{1B}=2.42$, $SD_{1B}=1.44$, $\alpha_{1B}=0.88$).

The Self-Expressiveness of Behavior measure included 14 various behaviors that participants indicated the extent to which each was self-expressive on a 7-point scale with endpoints at 1 (not self-expressive at all) and 7 (extremely self-expressive). Examples of the behaviors participants rated include “Your daily morning routine” and “Your activity on social media” ($M_{1A}=5.10$, $SD_{1A}=0.80$, $\alpha_{1A}=0.79$; $M_{1B}=4.93$, $SD_{1B}=0.91$, $\alpha_{1B}=0.86$)

Presence of Meaning in Life. Subjects responded to the 5 item Presence of Meaning scale from the Meaning in Life Questionnaire (MLQ; Steger et al., 2006). Example items include “I understand my life’s meaning” and “I have discovered a satisfying life purpose” ($M_{1A}=5.13$, $SD_{1A}=1.27$, $\alpha_{1A}=0.87$; $M_{1B}=4.83$, $SD_{1B}=1.46$, $\alpha_{1B}=0.93$).

Depression. The 20-item Center for Epidemiologic Studies Depression Scale (CES-D) (Radloff, 1977) was administered to subjects. Participants responded to statements like “I was bothered by things that usually don’t bother me” and “I had trouble keeping my mind on what I was doing” by indicating their frequency of experiencing each item over the past week on a four point scale with endpoints at 1 (rarely or none of time) and 4 (most or all of the time; $M_{1A}=1.74$, $SD_{1A}=0.45$, $\alpha_{1A}=0.88$; $M_{1B}=1.70$, $SD_{1B}=0.61$, $\alpha_{1B}=0.94$).

Stress. Subjects responded to the 10 item Perceived Stress Scale (Cohen, Kamarck & Mermelstein, 1983). Each response was selected on a 5 point scale with endpoints at 0 (never) and 4 (very often). Sample items included “In the last month, how often have you felt nervous and stressed?” and “In the last month, how often have you found that you could not cope with all the things that you had to do?” ($M_{1A}=1.76$, $SD_{1A}=0.60$, $\alpha_{1A}=0.85$; $M_{1B}=1.58$, $SD_{1B}=0.73$, $\alpha_{1B}=0.89$).

Self-Esteem. The Rosenberg Self-Esteem Scale (Rosenberg, 1965) was included in the questionnaires for Studies 1A and 1B. Subjects indicated their agreement with statements like “I feel that I have a number of good qualities” and “On the whole, I am satisfied with myself” with endpoints at strongly disagree and strongly agree ($M_{1A}=5.17$, $SD_{1A}=1.11$, $\alpha_{1A}=0.91$; $M_{1B}=5.28$, $SD_{1B}=1.30$, $\alpha_{1B}=0.94$).

Belief in a True Self. Subjects completed the Belief in a True Self scale (Christy, Sanders, Vess, Routledge, & Schlegel, 2017; Christy, Schlegel, & Cimpian, 2019). Subjects responded to items including “Every person has a set of core characteristics that defines who they really are” and “Every person has a true self” with endpoints at strongly disagree and strongly agree ($M_{1A}=5.52$, $SD_{1A}=0.92$, $\alpha_{1A}=0.91$; $M_{1B}=5.24$, $SD_{1B}=1.19$, $\alpha_{1B}=0.93$).

Internal Locus of Control. Subjects completed the Internal Locus of Control scale (Rotter, 1966). For each item participants selected one of two statements, one of which being indicative of an internal locus of control and the other being demonstrative of an external locus of control (i.e. “In my case getting what I want has little or nothing to do with luck” vs. “Many times we might just as well decide what to do by flipping a coin”; “The average citizen can have an influence in government decisions” vs. “This world is run by the few people in power, and there is not much the little guy can do about it”). One point was scored for each item in which

the participant selected the statement indicative of an internal locus of control, and points were summed to yield a composite score ($M_{1A}=12.00$, $SD_{1A}=3.67$, $\alpha_{1A}=0.69$; $M_{1B}=11.85$, $SD_{1B}=4.96$, $\alpha_{1B}=0.82$).

Autonomy. Subjects completed a measure of autonomy in the questionnaires for Studies 1A and 1B (Deci & Ryan, 2000). Participants indicated their level of agreement with statements like “I feel like I am free to decide for myself how to live my life” and “I generally feel free to express my ideas and opinions” with endpoints at “not at all true” and “very true” ($M_{1A}=4.96$, $SD_{1A}=0.95$, $\alpha_{1A}=0.74$; $M_{1B}=5.09$, $SD_{1B}=1.16$, $\alpha_{1B}=0.86$).

Entity Lay Theories. The extent to which participants endorsed the characteristics of intelligence and morality as fixed entities was assessed (Dweck, Chiu, & Hong, 1995). For intelligence, participants indicated their level of agreement with assertions like “You have a certain amount of intelligence and you really can’t do much to change it” and “You can learn new things, but you can’t really change your basic intelligence” with endpoints at strongly disagree and strongly agree ($M_{1A}=3.54$, $SD_{1A}=1.40$, $\alpha_{1A}=0.88$; $M_{1B}=3.87$, $SD_{1B}=1.63$, $\alpha_{1B}=0.93$). For morality, statements like “A person’s moral character is something very basic about them and it can’t be changed much” and “There is not much that can be done to change a person’s moral traits (e.g. conscientiousness, uprightness, and honesty)” were assessed with identical endpoints ($M_{1A}=3.86$, $SD_{1A}=1.40$, $\alpha_{1A}=0.83$; $M_{1B}=3.95$, $SD_{1B}=1.56$, $\alpha_{1B}=0.88$).

Personality Essentialism. Bastian & Haslam’s Personality-Essentialism Scale (2004) was included in Studies 1A and 1B. Four subscales (discreteness, biological basis, informativeness, and immutability) totaling 30 items measured the extent to which subjects view human personality through an essentialist lens. Items for discreteness (e.g. “The kind of person someone is is clearly defined; they are either a certain kind of person or they are not), biological

basis (e.g. “The kind of person someone is can be largely attributed to their genetic inheritance”), informativeness (e.g. “When getting to know a person it is possible to get a picture of the kind of person they are very quickly”), and immutability (e.g. “The kind of person someone is is something very basic about the, and it can’t be changed very much”) were combined to create a composite measure averaging all four subscales. All items were measured on 7-point scales with endpoints at strongly disagree and strongly agree ($M_{1A}=3.84$, $SD_{1A}=0.54$, $\alpha_{1A}=0.82$; $M_{1B}=3.90$, $SD_{1B}=0.75$, $\alpha_{1B}=0.90$).

3. RESULTS: STUDIES 1A & 1B

Bivariate Correlations. Full bivariate correlations are reported in Appendices 1 and 2. Of particular relevance to our hypotheses are the bivariate correlations between SEBs and the authenticity and well-being measures. These correlations for both samples are reported along with meta-analytic results across the two samples in Appendix C (Goh, Hall, & Rosenthal, 2016). Consistent with hypotheses, SEBs were significantly related to all of the authenticity and well-being measures of interest in the predicted directions (meta-analytic r s between $-.17$ and $.42$).

Incremental Validity. As a test of incremental validity, we also examined whether our SEBs measure predicted perceived authenticity and well-being over and above theoretically related constructs (belief in a true self, locus of control, autonomy, and entity lay theories of intelligence and morality). To do this, we conducted a series of multiple regressions that included self-essentialism as a predictor and all five of the related constructs as covariates predicting, in turn, our seven primary dependent variables. We then meta-analyzed these estimates (see Appendix D) and found significant (or marginally significant) relationships between SEBs and all measures of authenticity/well-being. This is a particularly strict test of incremental validity given how many covariates we included and the strength of the relationship between some of these variables and well-being (e.g. $r = 0.44$ for the meta-analytic estimate for the relationship between autonomy and authentic living; See Appendices A & B for full bivariate correlations).

Potential Moderation by Self-Esteem. In order to examine the potential interaction between self-esteem and self-essentialism we again utilized multiple regression. We conducted separate regressions for each of our dependent measures (i.e., self-expressiveness, self-alienation, authentic living, meaning in life, depression, perceived stress). We then meta-

analyzed the beta coefficients obtained across the two samples. This revealed a significant interaction on two of the six dependent variables (meaning in life and depression; see Table X). Counter to what intuition would suggest, however, this interaction revealed that self-essentialism was a stronger predictor of meaning for individuals with low self-esteem relative to individuals with high self-esteem, suggesting that self-essentialism is particularly beneficial to individuals with low self-esteem (See Appendix G).

3.1 Discussion: 1A & 1B

These results suggest that various measures of perceived authenticity and well-being are related to one's endorsement of self-essentialist beliefs. These data cannot provide direct causal evidence of relationships between these correlations. Further, these relationships exist over and above other theoretically relevant constructs (e.g. locus of control, belief in a true self). Results also suggested that SEBs are potentially a stronger predictor of meaning for individuals with low self-esteem relative to individuals with high self-esteem. While this finding was not robust across all dependent measures and should be interpreted with caution, one possible explanation for this counterintuitive finding (if it exists) is that people tend to believe essences are good (e.g., Newman et al., 2014; De Freitas, et al., 2017). Thus, a person with dispositionally low levels of global self-esteem may maintain a belief that deep within them, they are good (e.g., "deep down inside I am confident, intelligent, etc."). This belief that goodness is lurking below the surface may bolster meaning and temper depression. Nonetheless, we hesitate to draw too many conclusions about this pattern given that it was only evident in two of six potential tests of the interaction. However, the initially promising correlational findings led us to examine potential causal effects of SEBs on perceived authenticity/well-being in the following studies.

Studies 2A & 2B. Studies 2A and 2B sought to demonstrate a causal effect of SEBs on authenticity and well-being. Study 2B is a preregistered direct replication of Study 2A with a few key modifications designed to strengthen the manipulation. Preregistration can be found at <http://aspredicted.org/blind.php?x=vr2ss7>

4. METHODS: STUDIES 2A & 2B

4.1 Participants

Participants from both Study 2A and 2B were students from Texas A&M University who participated for credit in psychology courses ($N_A=578$, $N_B=511$). Seven attention check items were distributed throughout the study. Like Studies 1A and 1B, participants failing two or more of these checks were excluded from analyses. Following the experimental manipulation, subjects responded to three comprehension-check items. Two multiple choice items asked subjects to identify the general topic and conclusion of the articles. Additionally, an open-ended item asked subjects to explain the article in their own words. These responses were coded by two research assistants as correct or incorrect (with discrepancies resolved by two of the authors). Participants who missed one or more of these comprehension checks were excluded from further analyses. Of the 578 participants in Study 2A, 90 were removed from the analyses for missing at least one comprehension check ($n=96$), two attention checks ($n=22$), or both ($n=17$), resulting in a final sample of 488 ($N_{high}=234$, $N_{low}=254$). One hundred and seven exclusions were made in Study 2B (100 Ps missed at least one comprehension check, 22 Ps missed at least two attention checks, 15 Ps did both), yielding a final sample of 404 ($N_{high}=194$, $N_{low}=210$). There were no exclusions for suspicion in either study. All descriptive statistics and analyses are reported on this final sample.

The final samples from both studies were majority female (64.3% in 2A, 51.5% in 2B) and majority white (66.0% in 2A, 63.9% in 2B). Ages ranged from 18 to 25 in Study 2A ($M=18.91$, $SD=1.01$) and from 18 to 23 in Study 2B ($M=18.95$, $SD=1.10$).

4.2 Materials and Procedure

Manipulation of Self-Essentialist Beliefs. Under the guise of a test of scientific literacy an article-based manipulation was utilized to manipulate self-essentialist beliefs (procedure and materials adopted from Williams & Eberhardt, 2008). To bolster the cover story, an article on a neutral, unrelated topic was presented prior to the manipulation. Subjects were randomly presented with either a high- or low-essentialism article. In the high-essentialism condition, the article claimed that scientists had succeeded in discovering innate, genetic roots for personality traits while in the low essentialism condition the article reported that the scientists' project had ruled in favor of a malleable, situational model of personality (See Appendices B & C for full articles). Both articles appeared after a fictitious loading screen that stated an article was being accessed from an Associated Press database.

The study was presented to participants as two unrelated studies, with the manipulation of essentialism delivered in the first and the dependent measures collected in the second. The two parts of the study were programmed as separate Qualtrics surveys, with the first automatically redirecting to the second upon completion. Different themes and fonts in the two parts reinforced the idea that they were separate studies. Upon completion of the manipulation check items following the articles, subjects were presented with a message thanking them for their completion of "Study 1" and redirected them to "Study 2" where they then proceeded to complete questionnaires containing the key DVs and other exploratory items.

Self-Essentialist Beliefs. The 10-item self-essentialist beliefs scale administered in Studies 1A and 1B was used as the manipulation check. Scores on the 10 items were averaged to compute overall self-essentialism scores. Scores were averaged to yield an overall scale score ($M_{2A}=5.38$, $SD_{2A}=0.83$, $\alpha_{2A}=0.89$; $M_{2B}=5.34$, $SD_{2B}=0.90$, $\alpha_{2B}=0.87$).

Measures. All the dependent measures were used in previous studies and included: Presence of Meaning in Life ($M_{2A} = 5.22$, $SD_{2A} = 1.27$, $\alpha_{2A} = 0.91$; $M_{2B} = 5.20$, $SD_{2B} = 1.33$, $\alpha_{2B} = 0.93$), Authentic Living ($M_{2A} = 5.81$, $SD_{2A} = 0.84$, $\alpha_{2A} = 0.73$; $M_{2B} = 5.74$, $SD_{2B} = 0.88$, $\alpha_{2B} = 0.71$), Accepting External Influence ($M_{2A} = 3.68$, $SD_{2A} = 1.23$, $\alpha_{2A} = 0.79$; $M_{2B} = 3.67$, $SD_{2B} = 1.33$, $\alpha_{2B} = 0.83$), Self-Alienation ($M_{2A} = 2.51$, $SD_{2A} = 1.38$, $\alpha_{2A} = 0.89$; $M_{2B} = 2.71$, $SD_{2B} = 1.56$, $\alpha_{2B} = 0.91$), Self-Expressiveness of Behavior ($M_{2A} = 5.14$, $SD_{2A} = 0.82$, $\alpha_{2A} = 0.84$; $M_{2B} = 5.12$, $SD_{2B} = 0.76$, $\alpha_{2B} = 0.80$), Depression ($M_{2A} = 1.76$, $SD_{2A} = 0.47$, $\alpha_{2A} = 0.89$; $M_{2B} = 1.77$, $SD_{2B} = 0.50$, $\alpha_{2B} = 0.91$), and Stress ($M_{2A} = 1.90$, $SD_{2A} = 0.55$, $\alpha_{2A} = 0.86$; $M_{2B} = 1.83$, $SD_{2B} = 0.69$, $\alpha_{2B} = 0.88$).

Modifications to Study 2B. Study 2B was identical to Study 2A with the exception of a few minor modifications. In Study 2A, the “second study” was presented to participants as a study of how religious beliefs impact measures of well-being. Due to concerns about the possible effects of religious salience on our DVs of interest, the language introducing this portion of study was modified in Study 2B. Instead of an introduction geared towards religion, participants were greeted with a message stating that the topics of interest were the relationships between people’s beliefs about themselves and well-being.

Secondly, language for some of the scales used to assess the key DVs was modified in Study 2B to capture a more state-like measure than what the original wording assesses. For the Perceived Stress Scale, Study 2B replaced the original language assessing each item on a monthly time frame with instructions to respond with regards to one’s current state. A five-point scale was maintained, but instead of the original endpoints at “never” and “very often”, endpoints of “not at all” and “completely” were adopted to mesh the items into the desired state assessment. The CES-D scale was modified in a similar fashion in Study 2B with the original

time frame of interest being shrunken to reflect the present moment. The four-point scale was modified to have endpoints at “not at all” and “extremely”.

5. RESULTS: STUDIES 2A & 2B

Given that there were two independent data sets, we conducted all analyses in each sample separately as well as a meta-analysis of the two samples (Goh, Hall, & Rosenthal, 2016).

Manipulation Check. An independent-samples *t* test was conducted to evaluate the effectiveness of the manipulation. The results suggested that it was successful in both studies (See Appendix E). Subjects in the high-essentialism condition endorsed SEBs to a significantly greater degree than those in the low-essentialism condition.

Effects on Dependent Variables. Independent sample *t*-tests were conducted to compare scores on the key DVs between the high- and low-essentialism conditions (See Appendix E). While the means tended to be in the predicted directions (i.e. higher scores in the high essentialism condition), few significant differences emerged in either study. In the mini meta-analysis, there was a significant difference observed between conditions on presence of meaning, authentic living, and accepting of external influence measures.

Mediation Analysis. Despite the lack of consistent differences on our dependent measures, we sought to examine whether our manipulation indirectly affected subjects' perceived authenticity/well-being through the intended mechanism (i.e., by influencing their self-essentialist beliefs). Although traditional approaches to statistically testing for mediation (e.g., Baron & Kenny, 1986) required the presence of a total effect of *X* on *Y*, more recently Hayes (2009) has demonstrated that indirect effects observed in the absence of total effects may still provide meaningful evidence of a mediated causal relationship (i.e., an effect of *X* on *Y* through *M*). Thus, we examined indirect effects for the dependent measure. To do this, we conducted a mediation analysis using the PROCESS macro for SPSS (Hayes & Preacher, 2013). Condition

(low-essentialism=0; high-essentialism=1) was entered as the independent (X) variable; the measures of interest (Authentic Living, Self-Alienation, Accepting External Influence, Self-Expression in Behavior, Presence of Meaning in Life, Depression, Stress) were individually entered as the dependent (Y) variable; and the manipulation check (i.e. self-essentialist beliefs) was entered as the mediating variable. Bias-corrected confidence intervals for the effects in this model were computed based on 5,000 bootstrapped resamples. Results of this analysis in Study 2A (Appendix F) revealed that the manipulation exerted a significant indirect effect of via SEBs on all dependent variables. The same analysis in Study 2B resulted in significant indirect effects for all DVs with the exception of the Accepting External Influence. Full results and figures are below.

5.1 Discussion: 2A & 2B

Studies 2A and 2B provided evidence that self-essentialist beliefs are subject to experimental manipulation. Both the original study and its replication produced significant differences in SEBs between high- and low-essentialism conditions. Additionally, Studies 2A and 2B produced evidence that is suggestive of a causal relationship between SEBs and the authenticity and well-being measures of interest. Significant mediational pathways were discovered from condition through SEBs for every dependent variable of interest with the exception of the Accepting External Influence subscale of the Wood Authenticity Scale. However, this evidence is limited by the nature of the mediation analysis in which the mediator and dependent variable are assessed concurrently. Future work will need to be done to provide clear, conclusive evidence for the hypothesized causal mechanism.

6. CONCLUSIONS

Convergent results across two correlational studies and two experiments demonstrated that holding essentialist beliefs about the self results in increased feelings of well-being and authenticity. The correlational work in Studies 1A & 1B found that individual differences in self-essentialist beliefs are predictive of increased well-being and authenticity, along with demonstrating that SEBs are predictive of these measures over and above many theoretically related concepts. Studies 2A & 2B found that experimentally bolstering SEBs via experimental manipulation resulted in greater well-being and authenticity, suggesting the existence of a causal relationship between the concepts.

The knowledge acquired from these studies contribute to a growing base of knowledge of what leads to the perception of meaning in people's lives. This is of the utmost importance due to previous findings demonstrating that the subjective experience of meaning is predictive of decreased depression, stress, and anxiety (Steger et al., 2006; Steger & Kashdan, 2009; Steger, Mann, Michels, & Cooper, 2009). Down the line, this knowledge could potentially be integrated into therapies and interventions that help elicit meaning. Encouraging one to adopt an essentialist view of oneself could possibly be an additional tool in the toolbox of techniques used to improve the sense of meaning in life in individuals who are lacking this vital ingredient of human flourishing and the downstream benefits of increased self-esteem, life satisfaction, and happiness that accompany it (Dunn & O'Brien, 2009; Kashdan & Steger, 2007).

While much of the previously cited literature documented the racist (Hirschfeld, 1996) and sexist (Rhodes & Gelman, 2009) side effects of taking essentialist views of these categories, these findings demonstrate that all effects of essentializing need not exclusively carry negative

implications. Perhaps there could exist other effects of SEBs that are free of this reductive and stereotype-laden burden.

A future extension of this research could perhaps seek to conceptualize different categories of essences to discover which particular notions of essences are best equipped to elicit the effects discovered in this project. Previous work has demonstrated that a diminished sense of free will is associated with negative effects on well-being (Li et al, 2017; Crescioni et al., 2015). While the current work demonstrated the positive effects of viewing characteristics of the self as the product of a causally-potent essence, is it possible that such essence could be seen as *too* powerful and *too* explanatory of one's behavior? Could an essence presented as powerful to the point that it bypasses one's sense of free will and agency be detrimental to the effects discovered in the current project? There are likely a number of ways in which different individuals surmise of essences, and it is conceivable that different effects could arise from different degrees of causal power of this concept, along with other varying attributes that people ascribe to them.

These results should be interpreted as suggestive rather than conclusive evidence for the hypothesized causal mechanism, given the limitations of mediation analysis in which the mediator and dependent variable are assessed concurrently. Future work should aim to test novel manipulations and experimental designs that can potentially demonstrate these effects in the absence of such mediation analyses.

In sum, this project demonstrated evidence suggestive of a causal relationship between taking an essentialist view of the self and well-being/authenticity. The work sets the stage for conceptual and methodological extensions, along with reason to believe that not all literature pertaining to essentialism must necessarily be negative.

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APPENDIX A

BIVARIATE CORRELATIONS FOR STUDY 1A

	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Self-Essentialist Beliefs													
2. Authentic Living	.48*												
3. Self-Alienation	-.35*	-.38*											
4. Accepting External Influence	-.09	-.25*	.32*										
5. Self-Expressiveness	.55*	.42*	-.28*	-.05									
6. Presence of Meaning in Life	.44*	.41*	-.40*	-.04	.38*								
7. Depression	-.35*	-.29*	.51*	.18*	-.23*	-.49*							
8. Perceived Stress	-.31*	-.29*	.54*	.28*	-.13	-.47*	.74*						
9. Self-Esteem	.39*	.42*	-.58*	-.29*	.32*	.49*	-.68*	-.68*					
10. Belief in a True Self	.46*	.32*	-.18*	.09	.42*	.31*	-.27*	-.21*	-.23*				
11. Internal Locus of Control	.12	.20*	-.31*	-.20*	.17*	.23*	-.33*	-.45*	.35*	.21*			
12. Autonomy	.29*	.38*	-.48*	-.43*	.37*	.30*	-.50*	-.53*	.59*	.24*	.22*		
13. Entity Lay Theories-Intelligence	.08	-.14*	.17*	.04	-.04	-.11	.09	.03	-.09	-.03	-.12	-.16*	
14. Entity Lay Theories-Morality	.18*	-.03	-.08	-.05	.03	.00	-.07	-.07	.21*	.05	-.02	-.01	.28*

Note. *Correlation is significant at the 0.05 level (2-tailed)

APPENDIX B

BIVARIATE CORRELATIONS FOR STUDY 1B

	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Self-Essentialist Beliefs													
2. Authentic Living	0.37*												
3. Self-Alienation	-0.35*	-0.48*											
4. Accepting External Influence	-0.21*	-0.37*	0.55*										
5. Self-Expressiveness	0.29*	0.40*	-0.16*	-0.04									
6. Presence of Meaning in Life	0.30*	0.42*	-0.40*	-0.24*	0.35*								
7. Depression	-0.20*	-0.36*	0.61*	0.42*	-0.15*	-0.49*							
8. Perceived Stress	-0.19*	-0.35*	0.59*	0.43*	-0.14*	-0.48*	0.82*						
9. Self-Esteem	0.21*	0.44*	-0.62*	-0.47*	0.24*	0.59*	-0.82*	-0.81*					
10. Belief in a True Self	0.47*	0.39*	-0.82*	-0.18*	0.32*	0.44*	-0.28*	-0.28*	0.27*				
11. Internal Locus of Control	0.17*	0.27*	-0.27*	-0.22*	0.21*	0.43*	-0.46*	-0.51*	0.45*	0.20*			
12. Autonomy	0.14*	0.46*	-0.54*	-0.42*	0.29*	0.46*	-0.61*	-0.64*	0.66*	0.28*	0.40*		
13. Entity Lay Theories-Intelligence	0.15*	-0.03	0.14*	0.10	-0.01	-0.07	0.14*	0.09	-0.06	-0.06	-0.10	-0.13*	
14. Entity Lay Theories-Morality	0.27*	0.05	0.10	0.01	0.00	0.05	0.06	-0.01	0.03	0.14*	-0.06	-0.04	0.59*

Note. *Correlation is significant at the 0.05 level (2-tailed)

APPENDIX C

CORRELATIONS FOR SELF-ESSENTIALIST BELIEFS WITH AUTHENTICITY AND WELL-BEING STUDIES 1A AND 1B

Dependent Variable	Study 1A Effect Size (r)	Study 1A p-value	Study 1B Effect Size (r)	Study 1B p-value	Meta-Analytic Effect Size (r)	Meta-Analytic p-value
Authenticity Measures						
Self-Expressiveness	.55	<.001	.29	<.001	.41	<.001
Authentic Living	.48	<.001	.37	<.001	.42	<.001
Accepting External Influence	-.09	.215	-.21	.001	-.17	<.001
Self-Alienation	-.35	<.001	-.35	<.001	-.36	<.001
Well-Being Measures						
Presence of Meaning in Life	.44	<.001	.30	<.001	.37	<.001
Depression	-.35	<.001	-.20	.002	-.27	<.001
Perceived Stress	-.31	<.001	-.19	.003	-.24	<.001
Self-Esteem	.39	<.001	.21	.001	.29	<.001

Note. All effect sizes in this table represent bivariate correlations between self-essentialist beliefs with a given dependent variable.

APPENDIX D

STANDARDIZED BETAS FOR INCREMENTAL VALIDITY ANALYSES

Dependent Variable	Study 1A Effect Size (β)	Study 1A <i>t</i>	Study 1A p-value	Study 1B Effect Size (β)	Study 1B <i>t</i>	Study 1B p-value	Meta-Analytic Effect Size (β)	95% CI	Meta-Analytic p-value
Authenticity Measures									
Authentic Living	.40	5.78	<.001	.28	3.75	<.001	.34	.22, .45	<.001
Accepting External	-.04	-.61	.700	-.18	-2.18	.031	-.12	-.28, .05	.158
Self-Alienation	-.25	-3.66	<.001	-.22	-3.03	.003	-.23	-.39, -.07	.005
Self-Expressiveness	.42	6.36	<.001	.25	3.05	.003	.33	.17, .50	.000
Well-Being Measures									
Presence of Meaning	.36	5.03	<.001	.10	1.51	.127	.21	-.04, .47	.100
Depression	-.19	-2.83	.005	-.08	-1.33	.184	-.13	-.24, -.03	.013
Perceived Stress	-.14	-2.25	.025	-.02	-.35	.725	-.08	-.20, .04	.208
Self-Esteem	.21	3.48	.001	.13	2.16	.032	.16	.05, .27	.005

Note. All Betas in this table come from multiple regressions that include self-essentialist beliefs as a predictor of the given dependent variable along with the following covariates: belief in a true self, locus of control, autonomy, entity lay theories of intelligence, and entity lay theories of morality.

APPENDIX E

T-TEST RESULTS FOR STUDY 2A AND STUDY 2B

Variable	Study 2A				Study 2B				Meta-Analysis		
	M _{High} (SD _{High})	M _{Low} (SD _{Low})	<i>t</i>	<i>d</i>	M _{High} (SD _{High})	M _{Low} (SD _{Low})	<i>t</i>	<i>d</i>	<i>d</i>	CI _U	CI _L
Manipulation Check	5.52 (0.78)	5.25 (0.85)	3.59**	.33	5.48 (0.87)	5.21 (0.92)	3.02**	.30	.32	.18	.45
Self-Essentialist Beliefs											
Authenticity Measures											
Authentic Living	5.90 (0.81)	5.72 (0.86)	2.40*	.22	5.81 (0.89)	5.68 (0.88)	1.50	.15	.19	.06	.32
Self-Alienation	2.46 (1.44)	2.56 (1.29)	.94	.07	2.64 (1.51)	2.78 (1.60)	.90	.09	.07	-.06	.20
Accepting External Influence	3.51 (1.15)	3.83 (1.28)	2.95**	.26	3.72 (1.32)	3.62 (1.34)	.72	.07	.17	.04	.31
Self-Expressiveness	5.20 (0.83)	5.09 (0.80)	1.54	.13	5.16 (0.73)	5.09 (0.78)	.98	.13	.13	-.001	.26
Well-Being Measures											
Presence of Meaning	5.29 (1.25)	5.15 (1.28)	1.25	.11	5.33 (1.28)	5.09 (1.36)	1.83	.18	.14	.01	.27
Depression	1.73 (0.45)	1.79 (0.49)	1.41	.13	1.78 (0.50)	1.77 (0.50)	.34	.03	.09	-.05	.22
Perceived Stress	1.87 (0.56)	1.94 (0.55)	1.36	.13	1.82 (0.68)	1.84 (0.70)	.84	.02	.08	-.05	.21

Note. *Test is significant at the 0.05 level (2-tailed), ** Test is significant at the 0.01 level (2-tailed)

APPENDIX F

RESULTS FOR INDIRECT PATH IN MEDIATION MODELS IN STUDIES 2A AND 2B

Dependent Variable	Study 3A				Study 3B			
	b	se	CI _L	CI _U	b	se	CI _L	CI _U
Authenticity Measures								
Authentic Living	.11	.03	.05	.18	.12	.04	.04	.21
Self-Alienation	-.12	.04	-.20	-.05	-.15	.06	-.28	-.05
Accepting External Influence	-.05	.02	-.10	.01	-.05	.03	-.12	.00
Self-Expressiveness	.10	.03	.04	.16	.10	.03	.03	.17
Well-Being Measures								
Presence of Meaning in Life	.17	.05	.08	.28	.18	.06	.07	.32
Depression	-.03	.01	-.06	-.01	-.05	.02	-.08	-.02
Perceived Stress	-.03	.01	-.06	-.01	-.06	.02	-.10	-.02

Note. Indirect path represents the effect of condition on each dependent variable via the manipulation check

APPENDIX G

SELF ESTEEM MODERATION ANALYSIS (STUDIES 1A & 1B)

		Study 1A Effect Size (β)	Study 1A <i>t</i>	Study 1A p- value	Study 1B Effect Size (β)	Study 1B <i>t</i>	Study 1B p-value	Meta- Analytic Effect Size	95% CI	Meta- Analytic p- value
Authenticity Measures										
Authentic Living	SEB	.40	6.20	<.001	.26	4.24	<.001	.33	.19, .46	<.001
	SE	.25	3.88	<.001	.38	6.11	<.001	.31	.19, .44	<.001
	SEB x SE	-.14	-2.35	.020	-.03	-.54	.589	-.23	-.39, -.07	.005
Self-Alienation	SEB	-.14	-2.20	.029	-.25	-4.69	<.001	-.21	-.34, -.08	.001
	SE	-.54	-8.72	<.001	-.55	-10.58	<.001	-.55	-.64, -.045	<.001
	SEB x SE	-.07	-1.26	.211	.13	2.63	.009	.05	-.15, .24	.651
Accepting External Influence	SEB	.05	.69	.493	-.09	-1.54	.126	-.05	-.19, .09	.475
	SE	-.32	-4.39	<.001	-.43	-6.97	<.001	-.39	-.50, -.28	<.001
	SEB x SE	-.13	-1.90	.059	.04	.61	.540	-.03	-.18, .13	.746
Self- Expressiveness	SEB	.49	7.69	<.001	.21	3.02	.003	.35	.07, .62	.014
	SE	.14	2.15	.033	.19	2.84	.005	.16	.10, .23	<.001
	SEB x SE	.09	1.49	.137	.02	.30	.764	.05	-.02, .12	.148
Well-Being Measures										
Presence of Meaning	SEB	.31	4.83	<.001	.15	2.67	.008	.21	.06, .36	.005
	SE	.36	5.71	<.001	.57	10.21	<.001	.47	.27, .67	<.001
	SEB x SE	-.09	-1.50	.135	-.10	-1.83	.069	-.10	-.19, -.01	.037
Depression	SEB	-.12	-2.12	.035	-.04	-1.06	.293	-.08	-.15, -.01	.035
	SE	-.63	-11.41	<.001	-.80	-19.63	<.001	-.71	-.88, -.55	<.001
	SEB x SE	.10	1.99	.048	.08	2.01	.046	.09	.06, .12	<.001
Perceived Stress	SEB	-.05	-.81	.418	-.03	-.58	.562	-.03	-.08, .01	.213
	SE	-.66	-11.73	<.001	-.80	-19.07	<.001	-.73	-.87, -.60	<.001
	SEB x SE	-.04	-.73	.467	.04	1.03	.304	.01	-.07, .09	.831

Note. SEB = Self-Essentialist Beliefs. SE = Self-Esteem.

APPENDIX H

SELF-ESSENTIALIST BELIEFS SCALE

The following items reflect beliefs that you may or may not hold about your own identity. Please indicate your degree of agreement or disagreement using the scale provided.

1. The important parts of my identity will still be there in 30 years.
2. The things that make me who I am are unlikely ever to change.
3. The defining parts of my identity clearly distinguish me from other people.
4. I am a distinct individual because I have certain central characteristics that define my identity.
5. My personal identity has well-defined boundaries; it is clear where I end and others begin.
6. The important parts of who I am are deeply-rooted.
7. It is difficult to imagine being a person other than the one I am now.
8. I have certain basic characteristics that define my identity.
9. I have deeply-rooted qualities that make me who I am at a fundamental level.
10. I have a single clearly-defined identity as a person.

APPENDIX I

HIGH ESSENTIALISM ARTICLE

Who Am I? Who Are You? Who Is Anyone? The Central Role of Personality Dispositions

CHICAGO, IL - Psychologists have long debated whether our innate traits or the situations we find ourselves in have more influence on who we are and how we behave. Often, this debate is phrased in terms of “Person” versus “Situation.” According to the “Person” perspective, an individual’s identity and typical behavior is primarily a product of that person’s inborn personality dispositions, which are tendencies to act, think, and feel in certain ways that are ultimately encoded in the person’s DNA. In contrast, the “Situation” perspective holds that an individual’s identity and typical behavior is primarily a product of the experiences they have, which in turn depend mostly on the life circumstances they find themselves in.

Until recently, the Person/Situation debate was primarily a matter of armchair speculation. Psychologists’ preferences for one side versus the other were largely driven by their intuitions and areas of interest. Psychologists studying personality traits and the biological basis of behavior favored the Person perspective, while those studying social and cultural psychology favored the Situation perspective. Thus, Person and Situation were for the most part untested assumptions that psychologists started with, rather than propositions that were being directly tested with scientific evidence.

This all changed with the advent of the Human Genome Project. In April of 2003, the HGP completed its primary task of identifying and sequencing all genes in human DNA. With sequencing complete, psychologists and other researchers were able to directly study the role of genes in a wide range of outcomes, both physical and mental. For the first time, the relative importance of biological vs. social-environmental factors in producing these outcomes could be directly compared.

“Based on the evidence that has emerged since 2003, a conclusive verdict can be reached in favor of the Person perspective” says Dr. Beatrice Carmichael, a psychologist at the University of Chicago who has followed up on the Human Genome Project extensively in her work. Psychologists working in the field of behavior genetics have consistently found evidence tying people’s fundamental personality traits and behavioral tendencies to genetic origins. These findings are corroborated by the work of developmental psychologists, which shows that individuals’ personalities remain basically the same from infancy onwards. “A 50-year-old man is fundamentally the same person that he was as a young adult and even as a 2-year-old. His general mood, his activity level, his degree of self-control, and even his personal tastes and preferences as an adult man can be traced back to their origins in his temperament as a young child”, says Dr. Carmichael.

“In contrast, the social environment appears to play a less central role than proponents of the Situation perspective have suggested,” Dr. Carmichael went on to say. Rather than determining who an individual is at the most basic level, our experiences and the social roles and relationships we occupy serve to fill in the details of our identities, on top of the foundation of Person-level traits. In sum, according to Dr. Carmichael, “We are who we are because of the

basic character of our innate personalities, and our many experiences, roles, and relationships simply channel that basic character into specific outlets.”

APPENDIX J

LOW ESSENTIALISM ARTICLE

Who Am I? Who Are You? Who Is Anyone? The Central Role of Life Circumstances and Experiences

CHICAGO, IL - Psychologists have long debated whether our innate traits or the situations we find ourselves in have more influence on who we are and how we behave. Often, this debate is phrased in terms of “Person” versus “Situation.” According to the “Person” perspective, an individual’s identity and typical behavior is primarily a product of that person’s inborn personality dispositions, which are tendencies to act, think, and feel in certain ways that are ultimately encoded in the person’s DNA. In contrast, the “Situation” perspective holds that an individual’s identity and typical behavior is primarily a product of the experiences they have, which in turn depend mostly on the life circumstances they find themselves in.

Until recently, the Person/Situation debate was primarily a matter of armchair speculation. Psychologists’ preferences for one side versus the other were largely driven by their intuitions and areas of interest. Psychologists studying personality traits and the biological basis of behavior favored the Person perspective, while those studying social and cultural psychology favored the Situation perspective. Thus, Person and Situation were for the most part untested assumptions that psychologists started with, rather than propositions that were being directly tested with scientific evidence.

This all changed with the advent of the Human Genome Project. In April of 2003, the HGP completed its primary task of identifying and sequencing all genes in human DNA. With sequencing complete, psychologists and other researchers were able to directly study the role of genes in a wide range of outcomes, both physical and mental. For the first time, the relative importance of personal vs. social-environmental factors in producing these outcomes could be directly compared.

“Based on the evidence that has emerged since 2003, a conclusive verdict can be reached in favor of the Situation perspective,” says Dr. Beatrice Carmichael, a psychologist at the University of Chicago whose work has followed up extensively on the Human Genome Project. Psychologists working in the field of behavior genetics have consistently failed to find evidence tying people’s fundamental personality traits and behavioral tendencies to genetic origins. These findings are corroborated by the work of developmental psychologists, which shows that individuals’ personalities can fluctuate considerably from infancy onwards as people move through different phases of life and their circumstances change. “A 50-year-old man is a fundamentally different person than he was as a young adult, and bears even less resemblance to who he may have been as a 2-year-old. His interests, his goals and values, and how he typically spends his time have changed drastically as he has progressed through different stages of life and his circumstances have changed,” says Dr. Carmichael.

“In contrast, innate biologically-based personality traits appear to play a less central role than proponents of the Person perspective have suggested,” Dr. Carmichael went on to say. Rather than determining who an individual is at the most basic level, our innate traits serve to fill in the details of our identities, on top of the foundational roles and relationships furnished by the Situation. According to Dr. Carmichael, “We are who we are because of the situations and life

circumstances we find ourselves in, and individual differences in biological personality tendencies simply produce small variations in how we navigate these circumstances.”