

# Evaluating the validity of Myers-Briggs Type Indicator theory: A teaching tool and window into intuitive psychology

Randy Stein<sup>1</sup>  | Alexander B. Swan<sup>2</sup>

<sup>1</sup> Cal Poly Pomona

<sup>2</sup> Eureka College

## Correspondence

Randy Stein, College of Business  
Administration, Cal Poly Pomona, 3801 W  
Temple Ave, Pomona, CA 91768.  
Email: rbstein@cpp.edu

## Abstract

Despite its immense popularity and impressive longevity, the Myers-Briggs Type Indicator (MBTI) has existed in a parallel universe to social and personality psychology. Here, we seek to increase academic awareness of this incredibly popular idea and provide a novel teaching reference for its conceptual flaws. We focus on examining the validity of the Jungian-based theory behind MBTI that specifies that people have a “true type” delineated across four dichotomies. We find that the MBTI theory falters on rigorous theoretical criteria in that it lacks agreement with known facts and data, lacks testability, and possesses internal contradictions. We further discuss what MBTI's continued popularity says about how the general public might evaluate scientific theories.

## 1 | INTRODUCTION

Presumably, a purpose of the field of psychology is to assist the general public in becoming psychologically literate. Unfortunately, the ideas about psychology that gain the most traction with the public can lack theoretical rigor. Arguably, the most popular psychology idea in the world is the Myers-Briggs Type Indicator (MBTI). Seven decades after its inception, the administration and interpretation of the MBTI is a huge business and force in shaping the general public's perceptions of psychology, championed by the MBTI's current owners, The Myers-Briggs Company (formerly known until late 2018 as CPP). The MBTI is officially taken by two million people a year (including people in 89 of the Fortune 100 companies) and generates revenues of \$20 million a year (Stromberg & Caswell, 2015). According to The Myers-Briggs Company, the applications for use include team and leadership development, conflict and stress management, and career transitioning/planning (The Myers-Briggs Company, 2018).

Given its popularity, continued scrutiny is warranted. Criticisms of the MBTI from the past few decades (e.g., Pittenger, 2005) have focused on several of its problems (see Stromberg & Caswell, 2015, and Redding, 2008, for reviews) while having ostensibly little impact on MBTI's popularity. Conversely, as best we can tell, MBTI is not on

the radar of many social and personality psychologists. Therefore, the current paper builds on past criticisms by broadly focusing on the vast difference between the MBTI theory and what social and personality psychologists would consider a valid theory. We hope this will raise awareness of the psychological idea that is shaping the public's view of psychology perhaps more than any other and provide a teaching reference to discuss its issues.

## 2 | A PRIMER ON MBTI THEORY

We start with an explanation of what the theory behind MBTI is. Perhaps this first step is one most end users—even those who have taken psychology classes—do not take. We intend the material in these sections to be a springboard for discussions with students about what constitutes a valid theory of psychology. Focusing on the theory is key for fully evaluating MBTI. The Myers-Briggs Company claims that reports of problems with the assessment's test-retest reliability are fixed in newer versions (Schaubhut, Herk, & Thompson, 2009). Though this claim is difficult (and costly, given fees likely involved) to verify independently, either way, if the MBTI theory falls apart at the conceptual level, any results from its assessment, even if they are reliable, are difficult to interpret.

The MBTI is based on Carl Jung's theory of psychological types (Jung, 1921/1971). According to Jung, understanding people's behavior meant understanding what personality "type" to which they belong. Jung suggested the popular view at the time—personality was random biological variation—was incorrect. He believed observable differences in personality were orderly and consistent. Thus, Jung divided personality into innate "types."

Jung posited that personalities are primarily either extraverted or introverted and then defined by four paired "functions": sensing vs. intuition and feeling vs. thinking. Extraversion or introversion (an "attitude" in Jung's language) referred to the tendency for a person to be "energized" by outwardly focused behavior (e.g., being outgoing and lively) or inwardly focused behavior (e.g., being reserved or solitary), respectively. Sensing involves a person utilizing their five senses to perceive the physical world (a bottom-up perceptual/attentional progression), while intuition involves evaluating impressions and patterns of the natural world (a top-down perceptual/attentional progression). Thinking involves utilizing pragmatism and logic; feeling involves values and others' points of view. Jung also thought that the functions were arranged in a hierarchy. Based on how well developed each function is, the four functions are referred to as dominant, secondary, tertiary, and inferior (Briggs Myers, McCaulley, Quenk, & Hammer, 1998).

Two decades following Jung, Katharine Cook Briggs, and later her daughter, Isabel Briggs Myers, extended Jung's theory to add a fourth dimension, judging vs. perceiving (Quenk, 2009, p. 2). This last dimension involves whether a person prefers planning or spontaneity, respectively, and signals which of the functions are dominant. They argued for the existence of types defined by the four dichotomies, rather than the four dichotomies representing traits. Further, types are defined by *preferences* within each for each side of the dichotomies, rather than abilities or tendencies.

When taking the MBTI, respondents are asked a series of questions that target one dichotomy each. When the assessment concludes, respondents' "type" is revealed, with one letter corresponding to each of the four dichotomies (e.g., if one is an ENFP, then one prefers Extraversion, Intuition, Feeling, and Perceiving; Schaubhut et al., 2009). This combination of letters/functions forms the basis of the 16 personality types, which represent an interaction of the preferences a person subconsciously espouses.

## 3 | HOW SHOULD MBTI THEORY BE EVALUATED?

Because the purpose of taking the MBTI is to learn useful and presumably true things about oneself and others, the MBTI theory is in fact an *attempt* at a scientific theory. Therefore, we can and should evaluate it as such.

Evaluating the "acceptability" of a scientific theory is one of the classic problems of philosophy of science and a useful skill for psychology students to develop. If a psychological theory lacks "acceptability," then its ability to advance knowledge of psychology is limited. In the MBTI's case, lacking "acceptability" would mean findings gleaned

from the MBTI (e.g., correlations between scores on one of the dichotomies and proclivities for certain jobs) are difficult to interpret because the explanations that the MBTI theoretical offer would not be valid.

We will evaluate the MBTI theory based on Shaw and Costanzo's (1982) three criteria: (1) *agreement with known data and facts* (a theory's ability to account for empirical evidence from other theories, and whether its claims can be rebuffed via pure logical argumentation), (2) *internal consistency*<sup>1</sup> (statements within the theory should not be contradictory with one another), and (3) *testability* (ability to generate empirical predictions). While other sets of criteria exist (see Jaccard & Jacoby, 2010, chapter 3), Shaw and Costanzo's brief list is sufficient for pointing out important issues with the MBTI.

We next turn to explaining the problems that MBTI theory has with each of these three criteria. In Table 1, we summarize our key points to this end. Whenever possible, we apply the principle of charity (Gauker, 1986) and try to evaluate the MBTI theory in the best possible light.

We think the evaluation below is an excellent way to use an intrinsically interesting topic to teach how to distinguish valid science from pseudoscientific "woo." We strongly speculate that, unless given explicit reasons not to, even the best students in psychology might become converts to MBTI once it is brought up in their organization after graduating, as much work on educational psychology highlights the difficulty that people have in linking concepts learned in class to "real-world" situations (Chinn & Brewer, 1993).

Also, we do not mean to suggest that theories more accepted by social and personality psychology are free from issues. However, by existing in a "parallel universe" governed mostly by commerce rather than peer review, MBTI is not at all limited by the theoretical scrutiny assumed to be a normal part of rigorous psychological science. Hence, it is not altogether surprising that they seem to prioritize what sells over what is correct.

## 4 | EVALUATING MBTI THEORY

### 4.1 | Agreement with known data and facts

#### 4.1.1 | Jungian roots

While we focus primarily on the theory implied by official MBTI materials (e.g., Briggs Myers et al., 1998; Quenk, 2009), some notes on Jung are necessary. Jung's theories (like those of his colleague Sigmund Freud) were created

**TABLE 1** Key points of MBTI theory evaluation

Shaw and Costanzo (1982) evaluation criteria	Key points
Agreement with known data and facts	<ul style="list-style-type: none"> <li>• Jungian theory is not grounded in empirical data.</li> <li>• MBTI theory leans on unsupported assumptions about:               <ul style="list-style-type: none"> <li>○ the existence of unconscious, preference-driven "true types" and the MBTI assessment's ability to identify "true" type,</li> <li>○ the causal path from trait to behavior, and</li> <li>○ the inborn nature of "type."</li> </ul> </li> <li>• The dichotomies of MBTI either are not actually opposites or can be described as single dimensions, so the poles of the dichotomies do not likely represent competing psychological functions.</li> </ul>
Internal consistency	<ul style="list-style-type: none"> <li>• The typing process allows and bases reports of validity on self-verification, introducing circular evidence of validity and obscuring whether one's type is actually hidden.</li> <li>• Using preferences, rather than abilities or behavioral tendencies, as the basis of "true" types affords predictions of multiple types for the same person.</li> </ul>
Testability	<ul style="list-style-type: none"> <li>• MBTI generally avoids strong statements of what type predicts.</li> <li>• MBTI treats the idea of dichotomies (e.g., the traits exist as two truly separable categories, rather than as continua) as essentially unfalsifiable.</li> </ul>

before modern conceptualizations of falsification and empirical verification (Popper, 1959). Jung likely was trying to figure out the truth behind human psychology, but he was not doing so by creating rigorous theories that could be tested and revised with new knowledge. Indeed, he considered the unscientific nature of his theories to be a strength (McGowan, 1994).

As a result, his theories tend to not be very useful for researchers who are trying to get closer to verifiable knowledge. Jung's ideas were based on argumentation and anecdotal observation rather than systematic empirical evidence and correspondingly belong in the class of “synthetic” ideas (rather than reductionist; Berg, 2009) that tend to be overly complex at the expense of practicality and correctness (see McGowan, 1994, for a thorough examination of Jung's theories).

Though Jung's ideas arguably thus tend to feel rather profound, profundity does not necessarily equal acceptability. Sperber (2010) suggests the existence of a “guru effect” where people assume confusing statements from authority figures have profound truth. The guru effect fits with the popularity of figures such as Jung and Freud, and in particular ideas about psychological type. An excellent point to stress to students is that knowledge advances via a progression of theoretical and empirical improvements, not continued re-interpretation of figures from the past as some seem to assume.

### 4.1.2 | Claims implied by MBTI theory

The central premises of the MBTI theory include that people belong to a “true” personality “type” (which we'll refer to as “the ‘true type’ claim”), that “type” causes differences in observed behavior (“causal claim”), and that “type” is determined at birth (“inborn claim”). For the MBTI theory to be correct, each of these three claims needs to be supported. However, each has several validity issues.

#### “True type” claim

Marketing materials for the MBTI (e.g., the official website) make it clear that the MBTI purports to measure “true” type, implying that “true” type might be hidden (presumably from consciousness). In suggesting that the self can be sorted into “true” vs. “not true” components, the MBTI theory seems to be leaning in to people's documented tendency to intuitively think that they are governed by a hidden, deep down “true self” (Strohming, Knobe, & Newman, 2017). However, Strohming et al. (2017) also eloquently explain why this point of view is more metaphorical than actual. They find that what people consider to be part of the “true self” is dependent on context and highly subjective. Some people might say the “true” self contains only good things, others might say it does not. The problem is there is no way to sort out who is correct. Strohming et al. therefore conclude the “true self” is not a scientific concept and, at best, a “useful fiction.” To the extent that “true type” is an iteration of the “true self” intuition, it would not be a useful starting point for a valid theory of psychology.

We will nonetheless apply the principle of charity here and assume that “true” type does exist as the MBTI theory stipulates it does. There is then a separate issue: How would the Indicator itself—which is a measure of conscious preferences—accurately measure the unconscious true self?

The MBTI theory seemingly resolves this issue via special pleading to the abilities of Isabel Briggs Myers and Katharine Briggs. They created the initial Indicator by finding friends and relatives “whose type preferences seemed to the authors to be clearly evident from long acquaintance and from a 20-year period of careful observation of behavior,” and creating forced-choice questions, which seemed to differentiate people of “known” type from one another, even if the resulting choices between options that were not necessarily logical opposites (Briggs Myers et al., 1998, pp. 128, 141). Since they were studying “true” exemplars of each type, their preferences on each question could be taken as the true indicators of type.

As impressive as the long observation period might sound to those unfamiliar with rigorous scientific method, this logic is circular and does not specify how Briggs and Briggs Myers were able to verify who “truly” fit into each category. Moreover, this anecdotal method of creating the assessment does not actually confirm the existence of

the 16 types. It works only if we attribute guru status to Briggs and Briggs Myers (Sperber, 2010). It should be noted that this method of creating the assessment likely resulted in one reason why (at least early versions of) the MBTI infamously lacked good reliability (Pittenger, 1993, 2005), though this method does result in deep-feeling questions (Stein & Swan, 2018).

### Causal claim

Another tenet of the MBTI theory and Jungian theory is that personality (in this case, personality type) is a *causal* force. That is, personality *causes* differences in observed behavior and is perhaps the dominant cause. In other words, we could say that someone tends to be shy at parties, avoids large crowds, etc., *because* he or she is introverted.

However, whether such causal claims are warranted has long been a subject of debate in the personality literature (see Saucier & Srivastava, 2015, for review). Mollaret (2009) offers the following useful analogy on why the causal path from trait to behavior cannot be assumed: The “reliability” of a car is something car buyers care about and is certainly descriptive of an important trait of a car. However, “reliability” is not literally represented as an identifiable structure within the car; it is a term created by observers of cars and can be evaluated in reference to other cars. In the same sense, to say someone is “introverted” describes that person's behavior but does not necessarily imply a reference to some structure within that person's brain, causing that person to be introverted. Thus, Jung's conceptualization of each personality dimension as a discrete “function” or “attitude” is problematic to the extent that he used those terms to refer to discrete psychological functions that cause behavior.

### Inborn claim

The MBTI theory claims that one's type is inborn (The Myers-Briggs Company, 2018). This includes the claim that people are born with a set of attitudes and hierarchically arranged functions arranged into one of 16 personality types, based on their (sometimes unconscious) “preferences” for the dichotomies that make up those attitudes and functions. This necessitates a theory of how people could be genetically predisposed to be born into one specific set of 16 types, fit around four dichotomies, defined by preference and not ability or tendency. However, we know of no principles of evolutionary psychology that could account for a claim so arbitrary and specific. Official MBTI literature, to our knowledge, does not provide such an explanation. Appealing to Jung does not help the scientific status of this idea, as he saw the personality types at least in part as products of the collective unconscious, which he saw as dissociable from the biology of the individual (McGowan, 1994, pp. 135, 146).

## 4.1.3 | Agreement with empirical knowledge about personality

Though the “true type” idea has already put the MBTI theory on precarious ground, we can still examine the MBTI's more specific claims about the individual personality dichotomies with respect to other extant knowledge about personality. Again, the MBTI's fit with what is known about personality is rather poor.

In having an unwavering stance that the purpose of the MBTI is to measure Jungian personality type, MBTI's definitions of its dichotomies differ drastically from dimensions that have been refined via decades of research, namely the Big Five (Pittenger, 1993, 2005). For example, DeYoung (2014, p. 10) synthesized work on motivation and personality and conceptualized the Extraversion dimension of the Big Five as “a behavioral exploration and engagement with specific rewards.” This casting of extraversion as sensitivity to the possibility of rewards is simply missing from MBTI's definition of E/I, which deals with where people direct and receive “psychic energy.” The advances in theory development academics take for granted are just not represented in MBTI definitions.

Relatedly, the definitions that are offered for MBTI dichotomies tend to be defined with unfounded claims, further limiting their fit with other theories. As an example, consider the definition of “Intuition” (N) (Quenk, 2009, p. 6):

*When Intuition is being used, the perceiver focuses on concepts, ideas, and theories, inferring connections among diverse pieces of information. With little conscious effort, a person who prefers intuitive perception moves quickly and easily from what is present in the here and now to what is implied and possible in the future. Without exercising considerable conscious effort, a person who prefers Intuition has difficulty memorizing and using facts without putting them into an interesting, meaningful context. Intuition is a process that is less experienced and interested in acquiring, remembering, and using facts and details for their own sake.*

The initial definition of Intuition describes cognition so generally that it is hard to imagine how anyone could not be an “N.” But even if we allow Intuition to mean something like “makes decisions quickly,” the following claims about “N”s’ inability to memorize facts do not seem logically connected, and no empirical support is provided. These problems are likely an artifact of Jung/Briggs Myers assuming that “N”s exist and then piling properties on to the definitions of “N”s based on their own observations.

A final general note is that even if one assumes that there is an innate personality “type,” the MBTI theory offers little (again, aside from the intuitions of Jung/Briggs Myers) in the way of explaining *why* its four dichotomies are what defines type. The number of dimensions personality has is a function of the methodology used to examine it (DeYoung, 2014). It is arbitrary to point to one particular set of dimensions and declare it the correct one.

### Individual dichotomies

Of the four individual dimension dichotomies (Extraversion vs. Introversion, Sensing vs. Intuition, Thinking vs. Feeling, and Judging vs. Perceiving), it is useful to highlight the majority of them might be neither logical nor psychological opposites as the MBTI theory suggests. For example, Thinking vs. Feeling appears to be akin to logical and reasonable vs. empathic and compassionate. This dichotomy seems like a distinction between intuition and analytical thinking, where the former refers to quickly made judgments based on rules of thumb and social harmony and the latter refers to deliberately applying conscious thought (Stanovich & West, 2000). Despite sounding like opposites, research on the interaction between intuition and reasoning has shown that they are both ubiquitously operating and not opposites at all (see Haidt, 2001, or Epstein, Pacini, Denes-Raj, & Heier, 1996, for investigations). This is quite important, because, to the extent that “thinking” (T) and “feeling” (F) are not actually opposites, it does not make sense to say that people are born with a preference for one or the other, since the “or” is no longer meaningful. This is severely problematic at least for Jung’s conceptualization of the dichotomies (Jung, 1921/1971), as he saw the poles of each dichotomy not only as defining people into one type or the other but as different psychological processes (“functions” as mentioned above) that oppose each other and would cause issues if they tried to operate at the same time.

The Sensing vs. Intuition dichotomy, to the extent that it focuses on using raw data vs. interpretation of that data (Quenk, 2009, p. 6), has a similar issue. Sensing and perceiving patterns are such pervasive and nonconscious processes (e.g., Schneider & Chein, 2003) that is most assuredly the case that both bottom-up processing and top-down processing are unavoidable. For example, when forward speech is played in reverse (a sound production technique called backmasking), a naïve subject might report hearing nothing but garbled sounds. However, when a full message is attributed to the same reversed speech, the subject is no longer naïve—a top-down process enables hearing the message. These are all basic features of perception and occur automatically, making the idea that people tend to “prefer” one over the other difficult to reconcile.

Though the E/I and J/P dichotomies come closer to describing mutually exclusive classes of behavior, they do not necessarily represent psychologically opposing mechanisms. It is certainly not possible to be in the same moment both reserved and gregarious around strangers (E/I), or planned and spontaneous (J/P). However, both MBTI dichotomies have unidimensional correlates in the five-factor model: Extraversion for E/I and Conscientiousness for J/P (Schaubhut et al., 2009). Given that the five-factor model has much more empirical support, it is hard to justify defining these traits as two separate poles.

## 4.2 | Internal consistency

### 4.2.1 | Issues with the typing process

One problem for the MBTI theory's internal consistency is that it asks those that take it to self-verify the results. Ultimate responsibility for choosing the correct type is with the person taking the MBTI. That is, if someone does not agree with the type suggested by the MBTI, he or she can pick a different type. In fact, The Myers-Briggs Company uses the rate at which assessment takers agree with their assigned type as evidence for the assessment's validity (Schaubhut et al., 2009).

Given how much MBTI stresses the benefits of uncovering one's "hidden" personality and the necessity of using the official assessment to do so, from a theoretical perspective, it is difficult to reconcile, allowing people to pick their own type and validating the assessment with verification rates. This is an internal consistency problem because it cannot be the case that "true" personality is both hidden and not. This is, though, easy to justify from a *customer service* perspective: Assessment takers are simply happier when they have control over the output of the process. Notably, it is not clear how people should ultimately decide, except via uninformed intuition, whether a type description that seems to fit them is the "true" type.

Also, given the rather complex nature of the MBTI theory (the very detailed descriptions of the four dichotomies, and the layers of dominant, secondary, and auxiliary functions), it is difficult to see how end users (even with the help of a consultant) would be able to generate accurate on-the-spot self-typing of their "unconscious" self.

### 4.2.2 | Predicting type

The MBTI would have another internal contradiction problem if there is evidence that the MBTI theory allows a reasonable case to be made that any type can be assigned to any person. Others (e.g., Stromberg & Caswell, 2015) have pointed out that the vague and positive nature of MBTI type descriptions might lend themselves to Forer effects (Forer, 1949), where a number of the descriptions might seem correct.

However, there is another issue that is even more problematic here. The MBTI theory purports to measure *preferences* for each of the dichotomies, rather than tendencies or abilities. Notably, the MBTI theory does not specify *why* the "true" self lies in the preferences, not the other two. This major gap in the theory notwithstanding, this distinction allows both the possibilities that, say, a person might exhibit the characteristics of being an "Intuition" person without actually being one (i.e., one is good at "Intuition" but prefers using the "Sensing" function), limiting the ability to create strong a priori predictions of who belongs in what type (while also being a Testability problem). This freedom makes sense from a customer service perspective but not a scientific one.

## 4.3 | Testability

The MBTI theory suffers from a testability problem in that it tends to hedge severely about what it is saying about human behavior. The creators hedge on whether "preferred" functions and attitudes should be expressed in behavior over time (Briggs Myers et al., 1998, p. 119) and whether preference scores really indicate strength of preference for a certain dichotomy (p. 121). They further hedge on the pervasiveness of types ("neither Jung nor Myers believed that everyone was a 'type,'" p. 137). These are all avoidances of taking strong stances about what the theory is predicting.

We still, though, can be charitable and examine the possibility that people tend to have personalities in the 16 flavors posited by MBTI. Though this idea can be and has been tested, the MBTI theory seems to have been resistant to being revised because of these tests. The most straightforward realization of the 16-type idea would be that the dichotomy scores should tend to have bimodal distributions. Infamously, they do not (e.g., Pittenger, 2005). Interestingly, the most recent MBTI version applies item response theory (IRT) so that it is more difficult to get scores at the

midpoint of each dimensional score, on the assumption that Jungian theory is correct and still what they are trying to measure (Briggs Myers et al., 1998, p. 13, though see Bess & Harvey, 2002, for independent evidence that the revised scoring method still does not produce bimodal distributions).

This assumption, in addition to being a worryingly circular double-down on Type theory, still seems to be implying that something is amiss with the assessment tool. Briggs and Briggs Myers created the initial set of Indicator items by examining people that they “knew” fit one type or other the other and creating questions that matched those people's preferences (Briggs Myers et al., 1998, p. 128). Presumably, then, the MBTI assessment measures people's similarities to people at both ends of each dichotomy. That should (but does not) result in bimodal distributions for each dimension.

Perhaps, though, even though the Indicator itself has problems, underlying types do cause the trait scores, and the problems with the Indicator just obscure that. Though this might seem like a strange argument, Meehl (1992) argued that normally distributed trait scores do not necessarily discount underlying types and created a “coherent cut kinetics” technique to test whether classes of scores tend to cluster together. For MBTI, then, a straightforward prediction is that we should tend to see clusters of people with scores organized around the 16 types (e.g., if INFPs really exist, we should see a class of people that have high trait scores for the I, N, F, and P dichotomies).

Unfortunately for Jungian typists, Arnau, Green, Rosen, Gleaves, and Melancon (2003) subsequently applied Meehl's (1992) coherent cut kinetics to several Jungian type assessments, including the MBTI. They found no support using any of the assessments for the existence of underlying types. Relatedly, McCrae and Costa (1989), albeit using an earlier version of the MBTI, found no evidence for the interactions necessitated by the predictions of the MBTI theory about dominant and other functions, again concluding that a taxonomic structure for the MBTI is not supported. The most parsimonious explanation for MBTI scores is that they are measuring constructs that are not dichotomies, despite official MBTI literature's continued persistence in endorsing the dichotomization assumption, essentially treating it as unfalsifiable.

## 5 | NOT TRUE BUT USEFUL (?)

We have thus far argued that, despite its popularity, the MBTI theory does not represent a suitable framework for understanding personality. But this is an incomplete assessment of why people like MBTI. As people tend to resist leaving behind intuitive lay-theories in favor of scientific ones (Shtulman, 2015), we would argue that many MBTI faithful would be unphased by our discussion. Perhaps, as part of the guru effect (Sperber, 2010), when confronted with contradictory evidence against an intuitive theory, people are able to reframe the utility of the theory, even if that leads to additional theoretical issues.

Indeed, The Myers-Briggs Company themselves seem to be encouraging their users to do exactly that. MBTI is sold not necessarily on its theoretical rigor but on its ability to help its users (Myers & Briggs Foundation, 2018). It is possible that though the MBTI is unlikely to be a valid measure of personality, it is still helpful to its users. However, this would implicitly pose a new theoretical question: What theory links MBTI assessment to improvements in the outcomes of its users? We examine the possibilities that MBTI assessment can increase self-awareness, and that MBTI assessment can provide guidance on outcomes of interest, such as issues of career.

In response to criticisms of the assessment, The Myers-Briggs Company's president (Hayes, 2014) claims that MBTI is not intended to be a tool for predicting performance or outcomes (an idea echoed elsewhere on official postings; CPP Blog Central, 2015), but instead is intended to lead to an increased senses of self- and other-awareness and understandings. This is an odd argument because decades of research on personality theories has been devoted to the (perhaps not-as-obvious as psychologists assume) idea that predictive ability is necessary to the validity of a personality theory (e.g., Kenrick & Funder, 1988). Even if this is an attempt at a side step around criticism, it raises the issue of whether the process of giving people feedback on their “true self”—even inaccurate feedback—is useful.

This argument seems to falter on internal consistency grounds: If the assessment increases self- or other-awareness in useful ways, that would imply that the personality distinctions measured by the assessment would manifest reliably in the behavior of self or others. It still is possible that the mere act of thinking about personality leads to a useful increase in self-awareness, but given access to cheaper and more valid theories of personality, it is not clear why people should pursue MBTI to that end. In MBTI's case, erroneously thinking that the "true self" has been revealed could also lead to negative outcomes—when people think their "true preferences" have been revealed, they expect pursuing those passions to be easy and find other things less interesting (O'Keefe, Dweck, & Walton, 2018).

Similarly, it is possible that MBTI divides people into categories that do account for a good deal of variance in outcomes such as job satisfaction (e.g., Briggs Myers et al., 1998, p. 306) without necessarily "carving nature at its joints." But this would seemingly necessitate both predictive validity of the assessment (which, as mentioned, it lacks) and well-specified theories of how the MBTI categories relate to those outcomes (which are difficult to fathom given how much MBTI relies on the "true self" idea). As it is, if something like personal career satisfaction is the outcome of interest, it is hard to see how people would not be better off using something that more clearly would account for variance in that outcome (like a direct measure of career satisfaction, or measuring traits like responsibility, independence, persistence, emotional stability, maximizing vs. satisficing, and so forth).

## 6 | FINAL NOTES ON PERSONALITY ASSESSMENT

A recent episode of NPR's "Hidden Brain" (Vedantam, 2017) focused on personality assessment. Though they did share some criticisms of MBTI, they also touted the usefulness of "typing" by presenting anecdotes of a woman finding dating success by screening on MBTI and, in service of the point that typing can foster positive feelings, presenting results of a study suggesting that parenting is improved when parents think their children belong to a coveted zodiac type (Mocan & Yu, 2017).

With this attempt at prioritizing even-handedness over accuracy in mind, we cannot help but think the persistence of MBTI-style thinking could fit in with and extend the current burgeoning literature on the communication of science in the "post-truth" world (e.g., Lewandowsky, Ecker, & Cook, 2017), a literature which is itself grasping with questions of how people decide what is true and what is not, and what is capable of being studied at all. Conversely, we expect that that many people see the "deep" insights that MBTI delivers as something that is quite divorced from scientific process.

This is especially problematic if, as recent research suggests, people believe they are guided by deep, unobservable essences (see Strohminger et al., 2017, and Quillien, 2018, for recent reviews) and that basing decisions on those deep desires is key to decision satisfaction (Schlegel, Hicks, Davis, Hirsch, & Smith, 2013). The desire for this knowledge and the appeal of MBTI-style theory is therefore an unfortunate combination, and attacking MBTI on theoretical or psychometric grounds might have little effect on what some people intuitively expect from MBTI, and/or encourage them to invent new reasons why MBTI is useful (cf. Efron, 2018). A challenge for academics is to get others to share their valuation of the scientific process in creating knowledge about human behavior.

### CONFLICT OF INTERESTS

The authors declare that they have no conflicts of interest with respect to their authorship or the publication of this article.

### ENDNOTE

<sup>1</sup> Note that this term is different from "internal consistency" when used in assessing reliability of measures.

## ORCID

Randy Stein  <https://orcid.org/0000-0002-9228-7197>

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## AUTHOR BIOGRAPHIES

**Randy Stein** is an Assistant Professor at the College of Business Administration, Cal Poly Pomona. His research interests include examining biases that people bring to judgments of truth.

**Alexander B. Swan** is an Assistant Professor of Psychology at Eureka College. His research interests include the rationality (or irrationality) of human thought and human biases.

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