

The TIPI's Validity Confirmed: Associations with Sociosexuality and Self-Esteem

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ABSTRACT - Brief measures of individual differences are growing in popularity. The Ten Item Personality Inventory (TIPI; Gosling et al., 2003) increases administration efficiency and maintains construct validity, but sacrifices some internal consistency when measuring the Big Five personality traits. In a survey of 360 college students, we attempted to replicate and extend the construct validity of the TIPI by relating it to sociosexuality and self-esteem. We replicated some of the most well documented Big Five correlations: Self-esteem was negatively correlated with neuroticism and positively with extraversion; sociosexuality was positively correlated with extraversion and negatively with agreeableness. Results suggest the TIPI measure is reasonably valid.

There is a growing tendency for personality researchers to generate short-form measures of important individual differences (e.g., Bartholomew & Shaver, 1998; Aron, Aron, & Smollan, 1992). The advantage and appeal is that briefer measures take less time to complete than lengthy personality inventories but still maintain adequate psychometric properties (Burisch, 1984a, 1984b, 1997; Epstein, 2006; Saucier, 1994). With new, briefer measures, comes the additional process of establishing whether the short-form measure is related to variables that the longer measures are related to. Establishing such evidence is an important part of the validation of the new measure.

One such new measure is the Ten Item Personality Inventory (TIPI), which assesses the Big Five personality traits with only ten items (Gosling, Rentfrow, & Swann, 2003; Much, Hell, & Gosling, 2007). The TIPI has proven useful in accounting for life outcome variables like enjoyment of vacations. Individuals who were high on conscientiousness – as measured with the TIPI – reported lower negative moods, higher confirmation of positive affective expectations, and lower perceived stress during vacation (Besser & Shackelford, 2007). Despite its usefulness, more work is needed to make sure that the TIPI truly measures the Big Five. The current study was designed to further assess the

validity of the TIPI with assessments of some of the most well documented correlations in the nomological network (Cronbach & Meehl, 1955) of the Big Five, sociosexuality (e.g., Schmitt & Shackelford, 2008) and self-esteem (e.g., Robins, Hedin, & Trzesniewski, 2001).

We can only reasonably expect the most well documented correlations to replicate with the TIPI because correlations can be the result of error in measurement (i.e., not reflective of genuine associations) and brief measures are more likely to suffer from measurement error than more lengthy inventories (Kline, 2000). Using longer measures like the NEO-PI-R (e.g., Costa & McCrae, 1992) and the BFI (e.g., Benet-Martinez & John, 1998); all dimensions of the Big Five have been associated with measures of mating strategies and sexuality (e.g., Buss & Shackelford, 1997; Eysenck, 1976; Hoyle, Fejar, Miller, 2000; Wright & Reise, 1997). However, across studies and cultures, extraversion and agreeableness relate reliably to sociosexuality (e.g., Nettle, 2005, 2006, 2007; Schmitt & Shackelford, 2008): those who are more extraverted and less agreeable report a more unrestricted sociosexuality. Additionally, sociosexuality may only be related to agreeableness and extraversion in men and not women. Being assertive and friendly may serve men more than it does women in mating because women's personality may be less important in mating contexts whereas men's personality may be a trait women use to decide to mate or not mate with others (Jonason, Li, & Cason, 2009). Agreeableness may relate to traits related to the ascension of dominance hierarchies and may facilitate short-term mateships in men but not women (Haselton & Miller, 2006; Jonason, Li, Webster, & Schmitt, 2009).

Alternatively, self-esteem is associated with many parts of the Big Five (e.g., Robins et al., 2001). Self-esteem appears to be most commonly associated with high levels of extraversion and low levels of emotional instability (e.g., Gosling et al., 2003; Katkute & Bunevicius, 2008). Such individual difference findings appear to be culturally universal (Schmitt & Allik, 2005), and appear to track across the same individuals over time (Denissen, Penke, Schmitt, & van Aken, 2008). Again, because of the increased error associated with short-form measures we examined these predicted findings using the TIPI. Additionally, we expect the correlation between extraversion and self-esteem to be similar in men and women. Both sexes are likely to benefit from having a social network and "people-skills" to reduce feelings of diminished self-esteem.

Lastly, we wished to compare three potential hypotheses to account for scores on sociosexuality. The most common individual difference to account for differences in sociosexuality has simply been the sex of the participant (e.g., Simpson & Gangestad, 1991). Alternatively, others extraversion has proven to be import in accounting for variance in sociosexuality (Nettle, 2005, 2006, 2007). More recently, disagreeableness, in the form of the Dark Triad (i.e., narcissism, psychopathy, and Machiavellianism) accounts for differences in sociosexuality (Jonason et al., 2009). However, extraversion and agreeableness share variance (Jonason, Li, & Teicher, 2010; Paulhus & Williams, 2002). Therefore, it remains an open question, which accounts for more variance in sociosexuality. Therefore, we conduct regression analyses to compare these three hypotheses.

Method

Participants and Procedure

Three hundred-sixty psychology students (39% men, 61% women) aged 18 – 50 years ($M = 21.34$, $SD = 4.77$) received extra credit for participation in this study. After the participants gave consent, they completed the measures while seated alone in a lab room. At the end of the study, participants were thanked and debriefed.

Measure of Self-Esteem. To assess self-esteem we used a single-item measure (Robins et al., 2001). Participants were asked: how much they agreed with the statement: I am someone who generally has high self-esteem (1 = *not at all*, 5 = *very much*). Robins et al. (2001) have shown that single-item measures of self-esteem are valid and a good proxy for the ten-item scale more traditionally used (Rosenberg, 1965).

Measure of the Big Five. To measure the Big Five, we used the TIPI (Gosling et al., 2003), a short, ten-item measure that asks two questions for each dimension. Participants were asked, for instance, how much (1 = *not at all*; 5 = *very much*) they think of themselves as “extraverted, enthusiastic” and “quite, reserved” as measures of extraversion. Estimates of internal consistency returned low rates: extraversion (Cronbach’s $\alpha = .61$), agreeableness ($\alpha = .20$), conscientiousness ($\alpha = .36$), neuroticism ($\alpha = .31$), and openness ($\alpha = .18$).

Sociosexuality. To measure mating psychology we used the seven-item Sociosexuality Orientation Index (Simpson & Gangestad, 1991). Participants responded to questions like “I can imagine myself being comfortable and enjoying casual sex with different partners”. Individual SOI items were standardized (z -scored) prior to computing scale means and averaging as an index ($\alpha = .77$).

Results

To assess the nomological network surrounding the TIPI, we correlated the TIPI scales with measures of mating and self-esteem (see Table 1). Results confirmed our predictions regarding the overall validity of the TIPI. First, we found a positive correlation between extraversion and sociosexuality. We found a negative correlation between agreeableness and sociosexuality. We found a positive correlation between self-esteem and extraversion. We found a negative correlation between self-esteem and neuroticism. We also found a positive correlation between openness and sociosexuality.

Table 1
Correlations Among the TIPI, the Sociosexuality, and Self-Esteem

	1	2	3	4	5	6	7
1. Self- Esteem	--						
2. Sociosexuality	.04	--					
3. Extraversion	.15**	.21**	--				
4. Agreeableness	-.08	-.16**	-.04	--			
5. Conscientiousness	.12*	-.06	.12*	.03	--		
6. Neuroticism	-.44**	-.01	.01	.12*	-.02	--	
7. Openness	.04	.15**	.33**	.02	.02	.01	--

Note. * $p < .05$ ** $p < .01$

Next, we assessed these same relationships across the men and women. Gender moderated these associations in a number of cases (see Table 2) as we predicted. We found a positive correlation between extraversion and openness and with sociosexuality among men but not women. We found a negative correlation between agreeableness and sociosexuality in men but not women. We found a negative correlation between neuroticism and sociosexuality in women and not men. Extraversion appears to serve both sexes for self-esteem purposes. We found a negative correlation between neuroticism and self-esteem in men but not in women.

Table 2
By Gender Correlations Between the TIPI, Sociosexuality, and Self-Esteem

	Sociosexuality			Self-esteem		
	Men	Women	<i>z</i>	Men	Women	<i>z</i>
Extraversion	.31**	.13	1.73*	.18*	.17*	0.09
Agreeableness	-.24**	.09	-3.06**	-.06	-.05	0.09
Conscientiousness	-.03	.12	-1.37	.09	.00	0.82
Neuroticism	.05	-.36**	3.90**	-.55**	-.04	-5.28**
Openness	.25**	.06	1.78*	.01	.06	-0.46

Note. * $p < .05$ ** $p < .01$ *z* is Fisher's *z* test to compare correlations

Next, we created a series of interaction terms by multiplying the sex of the participant (1 = male; 2 = female) and each of the Big Five. We ran ten separate hierarchical regressions with the sex of the participant and the interaction term in a single block. The sex of the participant ($\beta = -.64, p < .01$) and the interaction term for extraversion ($\beta = -.64, p < .01$) each predicted sociosexuality. The sex of the participant ($\beta = -.44, p < .01$) and the interaction term for conscientiousness ($\beta = -.34, p < .01$) each predicted sociosexuality. The sex of the participant ($\beta = -.61, p < .01$) and the interaction term for openness ($\beta = -.19, p < .05$) each predicted sociosexuality. The sex of the participant ($\beta = -.17, p < .05$) and the interaction term for extraversion ($\beta = .19, p < .05$) each predicted self-esteem. The sex of the participant ($\beta = .39, p < .01$) and the interaction term for neuroticism ($\beta = -.58, p < .01$) each predicted self-esteem. For the interaction terms for agreeableness ($\beta = -.17, ns$) and neuroticism ($\beta = -.01, ns$), only the sex of the participant (respectively; $\beta = -.32, p < .01$ and $-.45, p < .01$) predicted sociosexuality. The sex of the participant and the interaction terms for agreeableness, conscientiousness, and openness did not significantly predict self-esteem (β 's $-.17 - .18, ns$).

Table 3
Hierarchical Regression Analyses to Predict Sociosexuality

	β	<i>t</i>
<i>Step 1</i>		
Sex of the participant	-.45	-9.47**
<i>Step 2</i>		
Sex of the participant	-.44	-9.39**
Extraversion	.20	4.31**
Agreeableness	-0.12	-2.57*

Note. * $p < .05$ ** $p < .01$

In a hierarchical regression, we analyzed the relative impact of three variables that account for sociosexuality. In Block 1, we entered the sex of the participant. In Block 2 we add both extraversion and agreeableness. All three appeared to have independent associations with sociosexuality (see Table 3).

Discussion

There has been growing appeal and attention paid to the creation of short measures of personality traits. Short measures present a reasonable compromise between precision and efficiency. As such, the TIPI was designed to be a brief and efficient measure that maintains validity (Gosling et al., 2003). In efforts to examine whether the TIPI is sufficiently valid, we evaluated its correlations with well-established measures of sociosexuality and self-esteem.

The TIPI measures the Big Five with reasonable validity, in that we were able to replicate the more reliable correlations among Big Five constructs with mating and self-esteem. Because the TIPI uses only two items to cover the rather heterogeneous constructs of extraversion (Ashton, Lee, & Paunonen, 2002; Lucas, Diener, Grob, Suh, & Shao, 2000), agreeableness (Graziano & Eisenberg, 1997), conscientiousness (Hogan & Ones, 1997), neuroticism (Costa & Widiger, 1994), and openness (McCrae & Costa, 1997), we predicted that only the most well documented associations would replicate. We replicated several, although not all, of the correlations with sociosexuality and self-esteem (e.g., Schmitt & Shackelford, 2008). Consistent with prior research (e.g., Robins et al., 2001; Schmitt & Shackelford, 2008) there was a positive correlation between sociosexuality and self-esteem and extraversion. We found a negative correlation between sociosexuality and agreeableness. Although there is unreliable evidence for the correlation between openness and sociosexuality, we replicated recent research suggesting these two are positively correlated (Schmitt & Shackelford, 2008).

We also provide additional evidence for the validity of the Big Five through moderation analyses. Extraversion, openness, and disagreeableness may serve men in solving the adaptive task of mating more than in women (Haselton & Miller, 2006; Jonason et al., 2009; Jonason et al., 2010) and the moderated correlations we found might be reflective of this. Women who were more neurotic were disinclined to engage in casual sex behaviors. This may be catching the fact that neurotic people are more concerned with the consequences of their actions, focusing on the negative aspects, and therefore are unlikely to engage in risky sexual behavior. In both sexes, men and women with high self-esteem described themselves as extraverted. In this case, extraversion may provide individuals with the social network and “people-skills” to offset perturbations in self-esteem that can occur in one’s life.

Last, we used the TIPI to compare the relative impact of three important variables on scores on the Sociosexuality Orientation Index. The sex of the participant, extraversion, and agreeableness all relate to sociosexuality. However, each of these shares variance with one another. Our results suggest that each has independent effects on sociosexuality scores. Sex of the participant may remain a powerful predictor because there are numerous other individual differences that can account for short-term mating behavior. Extraversion may be one route to sexual success; one designed around being nice and friendly. This may be exaggerated in the TIPI because the heterogeneous construct of

extraversion may not be fully tapped with the two items used. Agreeableness, or in this case, disagreeableness may be an alternative and perhaps darker route to sexual success as evidenced through work on the Dark Triad (Jonason et al., 2009).

Our study had a number of limitations. First, we did not directly test the construct validity of the TIPI by both creating a multitrait-multimethod matrix (Benet-Martinez & John, 1998) by including alternative measures of the Big Five and comparing correlations with sociosexuality and self-esteem and more than one measure of the Big Five. Although prior work (Gosling et al., 2003) has done this, future work should expand on the validity of the TIPI and even begin applying it in theoretical work. Second, our study was composed of a traditional college student sample with more women than men in the sample and a mean age of about 21 years. Although other research suggests that the Big Five are robust in nontraditional samples (e.g., Besser & Shackelford, 2007) and cross-culturally (e.g., Benet-Martinez & John, 1998) and most work on the development on personality measures uses college students, future work should assess the TIPI using alternative samples and sampling techniques.

We used a series of short measures to assess the construct validity of the TIPI. One feature of short measures is diminished internal consistency (Kline, 2000). There are multidimensional, longer versions of sociosexuality (e.g., Jackson & Kirkpatrick, 2007) and self-esteem (e.g., Bushman & Baumeister, 1998) and future research should assess the validity of the TIPI using these longer versions. However, the brief measures used here have shown to have good psychometric properties and to be reliable and therefore, we are confident in our conclusions.

Numerous reasons abound as to why short or brief measures are useful. In large-scale projects like national or international studies (e.g., McCrae, 2002; Schmitt et al., 2007), pre-screening packets (e.g., Rafaeli, Rogers, & Revelle, 2007), longitudinal studies (e.g., Denissen et al., 2008), daily diary studies (e.g., Jonason, Webster, & Lindsey, 2008), experience-sampling studies (e.g., Zelenski & Larsen, 2000), using sample who cannot devote the time to large batteries (e.g., Bresser & Shackelford, 2007), and where researchers have a limited budget, short measures are of particular usefulness. Our results suggest that the TIPI is a reasonable proxy for the larger scales used to measure the Big Five.

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