Breanna E Atkinson¹, Gabriela Lasky¹, Gregory J Boyle² and Philip A Vernon¹*

¹Department of Psychology, The University of Western Ontario, London ON N6A 3K7, Canada
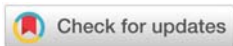²University of Melbourne, Parkville VIC 3010, Australia

*Corresponding author: Philip A Vernon, Department of Psychology, The University of Western Ontario, London ON N6A 3K7, Canada, E-mail: vernon@uwo.ca

https://www.peertechz.com

Check for updates

Research Article

A self-defeating interpersonal style predicts depression over and above the Big 5 personality trait constructs

Abstract

Three hundred and fifty-three adult participants completed self-report measures assessing depression, the putative "Big 5" personality factors, socially desirable responding, and a new scale intended to measure the propensity to engage in a self-defeating interpersonal style of behavior (the SELF-DISS; Atkinson & Vernon, 2018). Our goals were to see whether SELF-DISS scores would significantly predict depression and whether they would do so over and above the proposed "Big 5" trait constructs using online recruitment of participants from the general population at large. The recruitment method, although expeditious, necessarily resulted in the self-selection of participants, thereby raising the possibility that some sampling bias may have been incorporated into the study. Nevertheless, the results obtained clearly supported both predictions.

Introduction

Prevailing views on psychopathology suggest that serious depression is one of the most commonly diagnosed psychological disorders [1]. Depression (both endogenous and exogenous) is defined as a consistent sad mood that affects an individual's ability to function and enjoy daily activities [2]. While exogenously-induced depression may be a normal reaction to difficult life circumstances, endogenous depression is invariably a mental health concern. Considering the adverse consequences that may come with this mental illness, previous research has attempted to identify risk factors that contribute to its development. For example, it is well-documented that negative life events are a key predictor of depression [3]. Personality psychologists have investigated the relationship between depression and the currently popular "Big 5" trait constructs [4].

Individuals with high scores on neuroticism and low scores on extraversion, conscientiousness and agreeableness are more likely to suffer from depression [5]. A positive relationship between consistently low openness and depression has also been found [6]. Proponents of the "Big 5" factors generally assert that the Five Factor Model (FFM) covers most of the personality trait variance and will account for most of the variance in any type of behaviour, including depression [7]. However, Boyle, Stankov and Cattell and Boyle [8,9], have shown that five personality dimensions account for less than two-thirds of the normal trait variance alone,

quite aside from the abnormal personality trait variance [10]. Indeed, a considerable body of research has demonstrated that other personality traits, including those assessed by the Supernumerary Personality Inventory [11] and the H factor of the HEXACO model [4], account for variance in a number of behaviors both more strongly and over and above the putative "Big 5" trait constructs [12].

Atkinson and Vernon [13], recently reported the development and validation of a measure of a self-defeating interpersonal style (the SELF-DISS) which measures individual differences in the propensity to remain in, and even to tolerate, a relationship in which individuals are abused. It seems plausible that high SELF-DISS individuals would be more susceptible to depression and the goals of the current research are not only to investigate this but also to see whether the SELF-DISS actually predicts depression over and above the purported "Big 5" personality trait constructs [14].

Method

Participants

Adult volunteer participants were recruited using online Amazon Mechanical Turk (MTurk). Complete data were obtained from 218 females and 135 males aged from 18 to 67 years (M = 32, SD = 7.2) all of whom were fluent in English. Participants received 50 cents for their participation. The online method of recruitment necessarily involved the self-selection of participants who provided informed consent by virtue of

001

their participation. Participants who self-reported that they suffered from mental illness including severe depression were excluded from the study. Participants came from the general population at large.

Measures

Self-Defeating Interpersonal Style Scale (SELF-DISS): The version of SELF-DISS used comprised 52 items measured on a 10-point Likert-type scale ranging from 0 (*Strongly Disagree)* to 10 (*Strongly Agree)*. There are three subscales tapping insecure attachment (α = .91; e.g. "I am afraid my partner will leave me"), an undeserving self-image (α = .93; e.g. "I need the attention of others to feel worthwhile") and a self-sacrificing nature (α = .93; e.g. "I let others talk down to me in relationships"). The subscales were highly intercorrelated [13] and the alpha coefficient for the total SELF-DISS scale was α =.97 − [15].

Beck Depression Inventory (BDI): To assess participants' levels of depression, the BDI was used [16]. The BDI consists of 21 items measured on a 3-point Likert-type scale ranging in severity of depressive symptoms from 0 (*normal)* to 3 (*most severe*; e.g. "0 = I do not feel sad, 1= I feel sad, 2 = I am sad all the time and I can't snap out of it, 3 = I am so sad and unhappy that I can't stand it"). The BDI has exhibited high validity and internal consistency (α = .86;) [16].

Big Five Inventory (BFI): To assess participants on the "Big 5" trait constructs, the BFI was used [17]. The BFI consists of 44 items, measured on a 5-point Likert-type scale ranging from 1 (*Strongly Disagree)* to 5 (*Strongly Agree)*. The BFI includes five subscales that assess extraversion (α = .77; e.g. "I see myself as someone who is talkative"), agreeableness (α = .75; e.g. "helpful and unselfish with others"), conscientiousness (α = .83; e.g. "does a thorough job"), neuroticism (α = .84; e.g. "is depressed, blue"), and openness (α = .80; e.g. "is original, comes up with new ideas"). The scale was internally consistent (α = .97;) [18].

Balanced Inventory of Socially Desirable Responding (BIDR): The BIDR [19], was included to measure social desirability bias. The 40-item BIDR measures an individual's level of self-deceptive enhancement (α = .80; i.e., the unconscious tendency to exaggerate one's positive qualities) and impression management (α = .86; i.e., the conscious tendency to exaggerate one's positive qualities). Responses are on a 7-point Likert-type scale ranging from 1 (*not true)* to 7 (*very true)*. The BIDR has high internal consistency (α = .83) and concurrent validity [19]. As we anticipated that SELF-DISS scores would be most highly correlated with self-deceptive enhancement, we focused on this in order to see whether the SELF-DISS could contribute to the prediction of depression over-and-above the "Big 5" while also controlling for self-deceptive enhancement.

Demographics: Data on gender, age, and language spoken were assessed to ensure that participants met the exclusion criteria. Thus, participants were required to speak English as their first language, be aged between 18-67 years and comprising both males and females.

Procedure

Volunteers were recruited using online MTurk where they completed all aspects of the study. Participants clicked on our study name from a list of research projects presented on MTurk. They were then directed to the letter of information, describing the study and reassuring participants about their anonymity. Participants provided informed consent by clicking "I agree." Participants then completed the questionnaires including: the demographic questionnaire, SELF-DISS, BDI, BFI, and the BIDR. Upon completing the questionnaires, participants were presented with a debriefing form, which included a mental health message about how they could obtain psychological support if they felt it necessary. Finally, participants were thanked and received 50 cents for their participation.

Results

Intercorrelations between each of the variables are reported in table 1. All correlations were significant at least at the p < .05 level; correlations > .20 were significant at the p < .01 level.

Replicating Atkinson and Vernon (2018), correlations among the three SELF-DISS subscales were all .80 (or greater) so we will focus on the total SELF-DISS score. As expected, this score was negatively correlated with the BIDR self-deceptive scale (-.61), supporting the need to control for this facet of socially desirable responding. High SELF-DISS scores were also positively correlated with BDI scores (.71) and with neuroticism (.61). BDI scores were themselves positively correlated with neuroticism (.66) and are negatively correlated with extraversion (-.40), agreeableness (-.36), and conscientiousness (-.46).

In table 2, the results of a multiple regression analysis predicting BDI scores are reported. The BIDR self-deceptive scale was entered at step 1 and its standardized beta (-.55) was the same as the correlation between these variables (Table 1). At step 2, the "Big 5" variables were added showing that extraversion and neuroticism scores contributed to the prediction of depression over and above the BIDR with betas of -.13 and .46, respectively. Finally, at step 3 total SELF-DISS scores were added to the equation. Extraversion and neuroticism still contributed significantly, with betas of -.13 and .29, respectively, but SELF-DISS scores made the largest unique contribution (beta of .41).

Discussion

The two purposes of the current research were to see whether the tendency to engage in a self-defeating interpersonal manner would be positively related to depression and whether this relationship would hold up after controlling for the "Big 5" variables. Our results provide evidence supporting both of these goals: high SELF-DISS scores made the largest contribution to the prediction of depression over and above the "Big 5" and after controlling for socially desirable responding.

The relation between self-defeating interpersonal style and depression is in line with evolutionary perspectives that posit that self-protection strategies developed during an individual's chaotic childhood may manifest into maladaptive interpersonal behaviours during adulthood, which in turn increases the chance of psychopathological difficulties [20]. Given that

Table 1: Pearson correlations between variables

	BDI	SELFDISS	BIDR	N	E	A	C	O	IA	USI	SSN
BDI		.71	-.55	.66	-.40	-.36	-.46	-.13	.61	.68	.68
SELFDISS			-.61	.61	-.32	-.39	-.48	-.17	.92	.95	.94
BIDR				-.57	.28	.48	.57	.20	-.58	-.56	-.58
N					-.44	-.48	-.53	-.16	.51	.56	.64
E						.29	.33	.28	-.26	-.32	-.31
A							.48	.31	-.29	-.42	-.38
C								.29	-.43	-.47	-.44
O									-.12	-.22	-.12
IA										.80	.80
USI											.83
SSN											

Note. BDI = Beck Depression Inventory, SELFDISS = total scores on the SELF-DISS, BIDR = self-deceptive enhancement, N = Neuroticism, E = Extraversion, A = Agreeableness, C = Conscientiousness, O = Openness, IA = Insecure Attachment from the SELF-DISS, USI = Undeserving self-image from the SELF-DISS, SSN = Self-sacrificing nature from the SELF-DISS.

Table 2: Three Step Regression predicting depression with the BIDR, the Big 5, and the SELF-DISS.

Step	Variables	Standardized Beta Coefficients	t
1	BIDR	-.55	-12.38*
2	BIDR	-.24	-4.62*
	E	-.13	-2.92*
	A	.04	.78
	C	-.07	-1.45
	N	.46	8.79*
	O	.04	.83
3	BIDR	-.08	-1.61
	E	-.13	-3.31*
	A	.04	.93
	C	-.03	-.72
	N	.29	5.98*
	O	.03	.83
	SELFDISS	.41	8.61*

Note: BIDR = self-deceptive enhancement, E = Extraversion, A = Agreeableness, C = Conscientiousness, N = Neuroticism, O = Openness, SELFDISS = total scores on the SELF-DISS, *p<.05.

self-defeating interpersonal style involves the perception of a negative working self-model (believing that one deserves bad outcomes and has low-worth), the results of the present study are in accordance with the vulnerability to depression hypothesis, whereby negative cognitions are considered a key contributor to the development of depression [21,22].

From the second step of the hierarchical regression, the results showed that high neuroticism and low extraversion scores contributed to the prediction of depression, in line with previous findings that indicate that personality traits are associated with depression [5,6]. However, when the self-defeating interpersonal style was added into the regression analysis, the variance contributed by the "Big 5" traits was greatly reduced and was substantially smaller than that accounted for by the latter. These findings demonstrate that in addition to traumatic life events, a self-defeating interpersonal style reflects a unique set of self-defeating cognitions evidently not captured by the "Big 5" constructs, which challenges the widely-held notion that the "Big 5" account for the development of all psychopathological disorders [7].

Thus, the present study found that a self-defeating interpersonal style uniquely accounted for the largest proportion of variance in depression. These findings suggest that the new SELF-DISS scale increased predictive variance beyond that already seen by the "Big 5" [23]. These findings also highlight the incremental validity of the SELF-DISS scale, as well as providing further evidence that a self-defeating interpersonal style is a unique construct. Our findings indicate that further investigation of trait variables beyond the "Big 5" constructs is urgently warranted, in line with the previous empirical findings reported by Boyle [9].

Limitations include the somewhat small sample size and the fact that this was a general population sample which may have introduced some sampling bias. Our sample also did not include any participants with a clinical diagnosis of depression (to our knowledge) and this would be an important population to sample from in future research with the SELF-DISS. Finally, it could have been useful to have included other measures of depression.

References

1. Dai Q, Wei J, Shu X, Feng Z (2016) Negativity bias for sad faces in depression: An event-related potential study. Clinical Neurophysiology 127: 3552-3560. **Link:** https://tinyurl.com/yy9eytvs

2. Alloy LB, Abramson LY (1999) The Temple–Wisconsin Cognitive Vulnerability to Depression (CVD) Project: Conceptual background, design, and methods. Journal of Cognitive Psychotherapy 13: 227–262. **Link:** https://tinyurl.com/y5cw9rsx

3. Ravindran AV, Matheson K, Griffiths J, Merali Z, Anisman H (2002) Stress, coping, uplifts, and quality of life in subtypes of depression: A conceptual frame and emerging data. J Affect Disord 71: 121-130. **Link:** https://tinyurl.com/y52gz8q6

4. Lee K, Ashton MC (2012) The H factor of personality. Wilfrid Laurier University Press. **Link:** https://tinyurl.com/y3uw87p8

5. Koorevaar AML, Comijs HC, Dhondt ADF, van Marwijk HWJ, Van Der Mast RC, et al. (2013) Big Five personality and depression diagnosis, severity and age of onset in older adults. J Affect Disord 151: 178-185. **Link:** https://tinyurl.com/y27ybkcs

6. Guilford, Kendler KS, Myers J (2010) The genetic and environmental relationship between major depression and the five-factor model of personality. Psychol Med 40: 801-806. **Link:** https://tinyurl.com/y5uyk2g7

7. Botwin MD, Buss DM (1989) Structure of act-report data: Is the five-factor model of personality recaptured? Journal of Personality and Social Psychology 56: 988-1001. **Link:** https://tinyurl.com/y4mc3j3z

8. Boyle GJ, Stankov L, Cattell RB (1995) Measurement and statistical models in the study of personality and intelligence. In Saklofske DH, Zeidner M (Eds). International handbook of personality and intelligence 417-446. **Link:** https://tinyurl.com/yxp56zwr

9. Boyle GJ, Matthews G, Saklofske DH (2008) Critique of Five-Factor Model (FFM). In Boyle GJ, Matthews G, Saklofske DH (Eds.), The SAGE handbook of personality theory and assessment. Personality theories and models 1: 295-312. **Link:** https://tinyurl.com/y2st9pe6

10. Paunonen SV, Jackson DN (2001) What Is Beyond the Big Five? Plenty! Journal of Personality 68: 821-835. **Link:** https://tinyurl.com/y5gjkwh4

11. Hong RY, Koh S, Paunonen SV (2012) Supernumerary personality traits beyond the Big 5: Predicting materialism and unethical behavior. Personality and Individual Differences 53: 710-715. **Link:** https://tinyurl.com/y2bfblto

12. Vernon PA (2017) Beyond the Big 5. Invited Eysenck address presented at the meeting of the International Society for the Study of Individual Differences. Warsaw, Poland.

13. Atkinson BE, Vernon PA (2017) The SELF-DISS: A comprehensive measure of self-defeating interpersonal style. Counseling 11: 2-15. **Link:** https://tinyurl.com/yxwnxgbv

14. Vernon PA, Villani VC, Vickers LC, Harris JA (2008) A behavioral genetic investigation of the Dark Triad and the Big 5. Personality and Individual Differences 44: 445-452. **Link:** https://tinyurl.com/y3pdzfgn

15. Boyle GJ (1991) Does item homogeneity indicate internal consistency or item redundancy in psychometric scales? Personality and Individual Differences 12: 291-294. **Link:** https://tinyurl.com/yxulf3by

16. Beck AT, Ward CH, Mendelson M, Mock J, Erbaugh J (1961) An inventory for measuring depression. Arch Gen Psychiatry 4: 561-571. **Link:** https://tinyurl.com/y5arb9or

17. Goldberg LR (1993) The structure of phenotypic personality traits. American Psychologist 48: 26-34. **Link:** https://tinyurl.com/y545yc8e

18. John OP, Srivastava S (1999) The Big-Five trait taxonomy: History, measurement, and theoretical perspectives. In: Pervin LA, John OP (Eds.), Handbook of personality: Theory and research 102-138. **Link:** https://tinyurl.com/yymcb8j8

19. Paulhus DL (1988) Balanced inventory of desirable responding (BIDR). In Wetswood JD (Eds.), Acceptance and Commitment Therapy. Measures Package. University of British Columbia. 41.

20. Wei M, Ku TY (2007) Testing a conceptual model of working through self-defeating patterns. Journal of Counseling Psychology 54: 295–305. **Link:** https://tinyurl.com/yxq5mn23

21. Freeman D, Garety P (2014) Advances in understanding and treating persecutory delusions: a review. Soc Psychiatry Psychiatr Epidemiol 49: 1179-1189. **Link:** https://tinyurl.com/y58fdyta

22. Reilly LC, Ciesla JA, Felton JW, Weitlauf AS, Anderson NL (2012) Cognitive vulnerability to depression: A comparison of the weakest link, keystone and additive models. Cognition & Emotion 26: 521-533. **Link:** https://tinyurl.com/y3c8dwzr

23. Kessler RC (1997) The effects of stressful life events on depression. Annu Rev Psychol 48: 191-214. **Link:** https://tinyurl.com/y43q3tlr