**Title**

Exploring the Ontology of Self-Enhancement: A Data-Driven Perspective

**Abstract**

**Keywords**

**Introduction**

Research Background

Self-enhancement is......

Its significance in psychology......

Although there is much research on self-enhancement, there are still limitations such as lack of clarity in definitions and measurement methods......

Research Purpose

Dedicated to data-driven discovery of the ontology of self-enhancement and clarification of the definition of self-enhancement .

Explore which indicators of self-enhancement are highly predictive of psychological adjustment and apply the results to mental health .

Refine the measurement of the self-enhancement domain from multiple perspectives including self-report, criterion comparison, and cognitive tasks .

Research Hypotheses

Self-enhancement consists of distinct dimensions (e.g., narcissism vs. self-promotion).

These dimensions predict psychological outcomes such as depression and subjective well-being. Different prediction effects at different dimensions .

**Results**

Association between tasks and questionnaire

Dimensionality reduction analysis

Exploratory factor analysis

Cluster analysis

Bifactor analysis

Prediction analysis

**Methods**

Data source and reliability

The data for this study came from a nationwide online experiment designed to measure individual levels of self-enhancement, obtain individual self-enhancement data, and make data-driven discoveries about the ontology of self-enhancement. One of the errors in online experiments is the uniformity and standardization of the experimental equipment, so the experimenter recorded the participants' web page refresh rate and resolution to reduce random errors due to the experimental design. Adult participants between the ages of 18 and 59 were recruited for the study, with a total of 771 participants participating in the experiment, and a total of 503 participants (mean age = 24 years, SD = 6 years) completed the experimental tasks and questionnaires from Day 1 through Day 4 after screening. These participants met the following screening criteria:

Behavioral data screening:

1. subject data from the 4 blocks of the joint task of the implicit associative reference test were removed for trials with reaction times greater than 10,000 ms and more than 10% of trials with reaction times less than 300 ms.

2. the percentage of correctness in the associative learning paradigm was calculated for the individual graphic conditions and for each domain, and if the percentage of correctness in any graphic condition was less than 20% or in any domain was less than 60%, the subject data were removed.

3. Subjects whose rate of correct recongnition was lower than the random level (55%) were excluded from the old and new vocabulary judgment phase of the self-reference paradigm; also, if more than 10% of the trials in the source judgment phase had a response time of less than 200 ms, that subject was also excluded.

Questionnaire data screening:

Subjects with abnormal responses to the attention detection questions inserted in the questionnaire on days 2, 3, and 10 were excluded.

In terms of grouping the participants, the study divided the participants into young (18-44 years) and middle-aged (45-59 years) groups based on the United Nations World Health Organization's age segmentation criteria. Meanwhile, the monthly household income was grouped based on the 2019 household income report of the National Bureau of Statistics.

Measures

本研究使用了一系列测量工具，从内隐和外显两个角度来全面的反映参与者的自我增强水平，同时使用生活满意度量表、抑郁障碍量表(PHQ-9)、广泛性焦虑量表(GAD-7)、简版一般拖延量表测量参与者主观幸福感、抑郁、焦虑、拖延水平，以此检验自我增强对现实世界的结果的预测能力。

Explicit measurement

对于道德领域的自我增强，研究使用道德同一性量表和道德自我形象量表测量。使用修订的道德同一性量表中文版测量道德特质概念的认同，在该量表中道德同一性可分为内隐的维度与外显维度，分别反映了自我对道德特质的内在认同以及特质是否在外显行为中表现出来(万，2008)。该量表来源于 Aquino (2002)等人编

制的道德同一性量表(moral identity scale)，该量表具有良好的信效度，Cronbach’s

α = 0.83。修订后的中文版 Cronbach’s α =0.85，内隐维度 Cronbach’s α =0.83，外显维度 Cronbach’s α = 0.74。中文版的道德同一性量表包括 10 道题，其中 1、2、4、7、10 为内隐维度，3、5、6、8、9 为外显维度，采用 5 点计分。道德自我形象测量采用刘青兰等 (2020)翻译的道德自我形象量表(moral self-image scale)(Jordan et al., 2015)，中文版的 Cronbach’s α = 0.88，该量表共 9 个 9 点计分条目，要求受测者判断有关道德形象的陈述与自己相符的程度，总分的范围为 9 - 81 分，具体计分方式为：1 代表远没有达到受测者想达到的程度；5 代表完全与受测者想要达到的程度相同；9 代表远高于受测者想要达到的程度。分数越高表明受测者知觉到道德自我形象水平越高。

除此之外，本文采用Rosenberg (1965)编制的罗森伯格自尊量表 (Rosenberg Self-Esteem Scale)。本研究采用修订的中文版的 Self-Esteem Scale(孙，2007)，量表共 10 道，4 点计分条目，其中包含 5 个反向计分与 5 个正向计分条目，用以评定自我的价值与自我接纳方面的总体感受，分数越高表明受测者自尊水平越高，Cronbach’s α 系数为 0. 835，重测信度为 0.655。

本文采用翻译的中文版的量表(Core Self- Evaluations scale)(Judge et al., 2003)测量个体的自我评价(杜,2012)，反映参与者对自身能力和价值所持有对最基本对评价。该量表的 Cronbach’s α 系数为 0.83，分半信度为 0.84，表现出较好的内部一致性信度。该量表总分的范围为 10 - 50 分，共 10 个 5 点计分条目，4 个正向计分与 6 个反向计分条目，分数越高表示参与者的核心自我评价的水平越高。

研究参考 Campbell 等(1996)编制的自我概念清晰性量表(Self concept clarity scale)，使用翻译的中文版量表(牛更枫，2016)，中文版的量表的内部

一致性系数 Cronbach’s α 为 0.81。量表采用 5 点计分法，共 12 题，其中 6、11 采用正向计分题，其余题目均需反向计分。总分越高说明自我概念清晰性越高。

研究采用修订的中文版“生活取向测验修订版(LOT-R)”(温娟娟, 2007)，测验总共包含 6 个条目，采用5点计分法，分为乐观与悲观两个维度，将悲观维度反向计分后与乐观维度相加得到个体乐观人格总分。内部一致性系数为 0.78，重测信度为 0.79。

自欺性拔高：Paulhus (1988)编制期待性回答平衡问卷(BIDR)的子量表 ,自欺

性拔高(SDE)的 Cronbach’s α系数为 0.68 - 0.80(汪向东等, 1999)。个体基于诚实作

答，但是做出过分积极的自我陈述的自我中心倾向，认为自己的智力水平与社会

地位高于他人的自我偏差(殷骏, 2022)，表现为较多的控制错觉、高自尊、更多的

自我服务偏差、更少的焦虑与抑郁、更好的适应性(吴燕, 2008)。

操纵印象：Paulhus (1988)编制期待性回答平衡问卷(BIDR)的子量表 , 操纵

印象(IM)的 Cronbach’s α系数为 0.75~0.86(汪向东等, 1999)，测量自我认知方面的

积极的道德偏差。个体夸大自己的社会期望性行为，否认自己存在非社会期望性

冲动，在宜人性、高责任心等方面进行掩饰以迎合他人的表现(吴燕, 2008)。

内在控制源：Levenson (1981)编制了“内控 、权威和机遇控制定向量表”，

该量表被简称为“IPC 量表”。其中，内控性(I)分量表测量个体相信自己能够把

握生活的程度。内控性分量表包含 8 个条目，采用 7 分制评分，评分从-3(很不同

意)到+3(很同意)，计算分析时需要在原始总分的基础上额外加上 24 分，量表的

分值范围为 0 – 48。内控性分量表 Kuder-Richardson 信度为 0.64(汪向东, 1999)，

它的四周后的重测信度为 0.8(肖莉 & 陈仲庚, 1989)。

本研究采用王晓燕(2008)翻译的显性自恋量表(Ames et al., 2006)，内部一致

性信度 Cronbach’s α = 0.71，该问卷包含 16 道单选题，采用二择一的迫选形式，

受测者需要从每道题的两个选项中选择一个更适合自己的描述，内容涉及自我评

价与行为方式，得分范围是从 0 至 16 分，分数越高，个体的显性自恋水平越高。

自恋者具有浮夸膨胀的自我观点，渴望他人的关注，行为上表现为自大、高优越

感和展现欲。

采用过度敏感自恋量表。本研究所使用的过度敏感自恋量表(Hypersensitivity

Narcissistic Scale)为单因素结构自评量表，包含 10 个项目，内容涉及自我评价和

自我的行为倾向。采用 5 点评分法，从 1 分(“*不符合*”)到 5 分(“*符合*”)。 它

反映了过度敏感性和脆弱性，因其基于病理性角度测量隐性自恋，故也被称为脆

弱 敏 感 性 自 恋 。 它 认 为 自 恋 者 自 我 夸 大 但 不 关 注 社 会 认 可 。 Hendin 和

Cheek(1997)报告，过度敏感自恋量表的 Cronbach’s α系数为 0. 76。全量表分数代

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表自恋的隐性维度，得分范围是从 10 到 50 分，分数越高，隐性自恋水平越高。

领域自尊：采用 MacDonald 等(2003)编制的领域自评量表测量被试对自我在

特殊领域的社会信念。被试需要判断与同龄人相比，自己处于哪个水平，量表共

包含 5 个条目，涉及能力，身体吸引，物质财富，社交能力，道德五个领域，评

分从 1~12，1 代表非常低，12 代表非常高，该问卷的信度为 0.76(胡传鹏，2017)。

社会经济地位：本研究采用主观社会经济量表测量主观社会经济地位，该量

表有两个条目，采用十个等级的阶梯，分别测量家庭在整体社会环境中的经济地

位和在学校环境中的社会经济地位。被试需要判断自己的家庭的经济水平在整个

社会处于何种位置，以及与周围同学相比在哪个位置。每个条目中，1 代表主观

的社会经济地位水平最低，10 代表主观的社会经济地位水平最高，分数越高代表

主观社会经济地位越高，1~5 分为低分，6~10 分为高分，量表总分为 20 分。495

名初高中学生在时隔三周后参加重测，重测信度为 0.75，家庭的主观经济地位的

重测信度为 0.76，学校的主观经济地位的重测信度为 0.71(胡牡丽等, 2012)。

Implicit measurement

The implicit tests studied used the common self-referential memory paradigm, the implicit association test, and the associative learning paradigm as implicit measurement tools for self-enhancement.

The vocabulary for the self-referential memory experiment was selected from (Lulu et al., 2023). The self-referential memory experiment used 160 vocabulary words analyzed in the formal experiment with 8 distractor words and 8 practice words. There were 88 trait words for each of the moral and ability domains, and half of the positive and half of the negative words.

The selection of target words for the implicit association test was based on previous research (Cai, 2003), with 6 target words for self and 6 target words for others, and 24 trait words (6 positive morals, 6 negative morals, 6 positive abilities, and 6 negative abilities) from a vocabulary list consisting of the 176 words mentioned above. The associative learning paradigm uses 4 simple geometric shapes: equilateral triangle, square, rhombus, trapezoid, circle, pentagon, ellipse, and hexagon.

Data Analysis Methods

**Discussion**

Key Findings

Data analysis yielded ...... The findings of the study validated ...... the hypothesis of.

The ontology of Self-enhancement

Discuss how findings advance understanding of self-enhancement’s ontology.

Practical Applications

Self-enhancing predictive roles in mental health prevention and treatment.

Limitations

Future Directions

Ontological Studies.

Cross-cultural studies.

**References**

**[1] Judge TA. Erez A, Bono JE，et al.The core self-evaluations scale: Development of a measure.Personnel Psychology,2003，56(2)303-331**

**Appendix**