

SES 的结构效度层面分析

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【摘 要】层面理论作为一种新的社会科学研究方法, 能将理论构建、研究设计和数据分析全面结合起来。依据映射语句技术, 在社会学的视角下, 构建自尊的映射定义, 并将映射语句与 SES 联系起来, 采用层面理论技术对 SES 的结构效度进行实证分析。结果发现, SES 三个层面结构清晰, 数据与模型拟合较好, SES 三个层面扮演着轴形角色, 结构效度符合心理测量学要求。这些结论对于心理学研究者了解层面理论及其应用具有一定的参考价值。

【关 键 词】自尊问卷 结构 层面分析

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一、引 言

近年来, 自尊(self-esteem)受到了心理学、社会学和教育学等领域学者的高度关注。在国内, 经 CNKI 检索发现, 有超过 5 500 篇关于自尊的研究文献。在其测量方面, 大多数研究仍倾向于采用 Rosenberg 所编制的自尊量表(Self-Esteem Scale, SES), 但忽略了其潜在结构, 对结构效度关注不够, 使研究结果的分析受到了一定的影响。当然, 也有文章提出中文版 SES 中的项目 8(原量表中的项目 2)应予以删除, 其原因在于中西方文化因素存在差异, 但忽略了对项目自身的分析^[1]。国外 McIver 和 Carmines(1981)^[2]对 SES 的研究中指出: SES08 与其他 9 个项目得分及总分均呈低相关, 表明 SES08 与其他项目所测的特质是不相同的。在单因子分析中, SES08 与因子的载荷较低, 表明它与整个量表的关系不大; 而在双因子分析中, 无论采用方差极大旋转还是不旋转, 所得的双因子结构均相同。描述的是自尊量表中的项目, 一半是积极措辞的项目, 另一半则是消极措辞的项目。这种形式上的双因子并不具备任何实际意义。McIver 等人所采用的项目和因子分析并没有充分利用数据的全信息, 这就使得研究需要一种全新的方法, 帮助研究人员对研究目标进行定义及分析其属性的特征和结构。

自尊量表是 M. Rosenberg(1965)采用层面理论技术, 从社会学视角编制的一个 10 项目的 Guttman 量表^[2]。其根据的是被试的行为特征(认知、情感)、社会价值标准(一般行为、特殊才能、开展行动和天赋)及表现方式(外在行为、自我信念)^[3], 并遵循从特殊到一般的顺序关系假设: 若一个人有天赋, 即能开展行动(执行); 同样, 若一个人能开展行动, 表明有特殊才能。故层面 B 扮演轴形角色(Axial Role)——单向顺序关系层面, 将空间划分为条状区域。

本研究在理解自尊的社会学内涵的基础上, 运用层面理论分析自尊量表的潜在结构, 寻找项目 8 予以删除的原因。在国内, 已有研究采用层面理论对艾森克人格问卷的结构效度进行了研究^[4], 显示出层面理论在测验工具结构效度研究中具有特殊效用。

二、层面理论简介

层面理论(Facet theory)是一种多变量研究方法, 常用于心理学和其他一些社会学科研究中^[3], 其独特之处表现在研究内容的构思形成及发现内在规律的独特数据分析上^[5], 即映射语句和最小空间分析。

(一) 映射语句

映射语句(Mapping Sentences)是一种用特定的

词语来代替研究领域里的变量,而这些研究领域是用一系列假设层面归类的^[6]。每一个映射语句都由三个不同类型的集合组成,即目标群体(population)、内容(content)和反应范围(range)。映射语句可以用以下形式表示^[7]:

$$X(ABC, \dots, N) \rightarrow R$$

X 为要研究的目标群体; (ABC, \dots, N) 为研究

变量的一些内容层面; R 为测量或者反应范围。

从每个内容层面(ABC, \dots, N)中抽取一个元素(element)组成一个元素组(profile或structple)。元素组是编制和分析测验项目的依据^[8],如依据a2b1c1构建了项目1。在理解Rosenberg从社会学视角关于自尊的内涵的基础上,构建如图1所示映射语句:

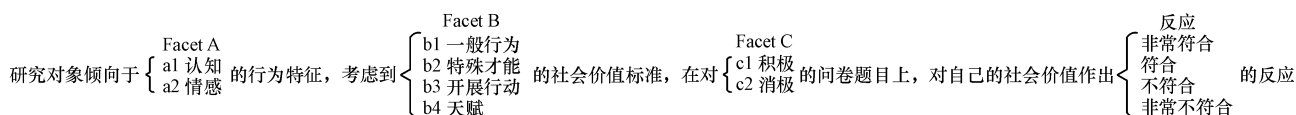


图1 映射语句

在本映射语句中,并没有涉及到被试的表现方式层面,这是由于自尊量表10个项目均是按照自我信念的表现方式编制的,故省略了该层面。

由层面理论的核心技术——映射语句的特性可知,自尊量表中的每个项目应该均含有A、B、C三个层面里的某一个元素,如表1所示。

表1 自尊量表的中英文项目及元素组合

序号	中文题目	英文题目	元素组
EST01	我感到我是一个有价值的人,至少与其他人在同一水平上。	I feel I am a person of worth, at least on an equal plane with others.	a2b1c1
EST02	我感到我有许多好的品质。	I feel I have a number of good qualities.	a2b2c1
EST03	归根结底,我倾向于觉得自己是一个失败者。	All in all, I am inclined to feel that I am a failure.	a2b3c2
EST04	我能像大多数人一样把事情做好。	I am able to do things as well as most other people.	a1b3c1
EST05	我感到自己值得自豪的地方不多。	I feel I do not have much to be proud of.	a2b4c2
EST06	我对自己持肯定态度。	I take a positive attitude toward myself.	a1b1c1
EST07	总的来说,我对自己是满意的。	On the whole, I am satisfied with myself.	a2b1c1
EST08	我希望我能为自己赢得更多尊重。	I wish I could have more respect for myself.	- -
EST09	我确实时常感到毫无用处。	I certainly feel useless at times.	a2b1c2
EST10	我时常认为自己一无是处。	At times I think I am no good at all.	a1b1c2

由上表可知,项目8并没有赋予元素组,这是因为“我希望”并不能从“我感觉”(情感)和“我认为”(认知)两方面区分开来。可以认为,该项目并不是从社会学的角度来测量自尊,或者说该项目测量的目标不是自尊,它与其他9个项目所测的不是同一种属性或心理特质。

(二) 最小空间分析

层面理论的另一核心技术——最小空间分析(Smallest Space Analysis, SSA),是一种非计量多维尺度分析(Non-metric Multi-dimension Scale Analysis)技术,利用数据之间的顺序关系构建空间中点与点的远近,而不考虑其具体的数值大小^[9]。SSA通过分析项目的相关系数矩阵,使各项目的等级顺序关系在欧氏空间里清晰地显示出来。在SSA图中,代表高相关项目的点会更接近^[10]。SSA的维度空间一般在二维至六维之间,较小的维度空

间更容易表达出内部相关关系。异化系数(the coefficient of alienation)则反映了相关系数的顺序关系与SSA所输出的多维空间中研究对象相互关系的一致性程度,是判断图形与数据拟合好差的指标^[11]。一般来说,三维或四维的SSA,其异化系数应小于0.20,小于0.15则更为理想^[12]。

三、实证评估

(一) 评估方法

采用由季益富和于欣(1993)所修订的Rosenberg(1965)自尊量表^[14],对贵州省多所大学的117名在读研究生进行调查。采用四级计分,从“非常符合”到“非常不符合”,分值越高,其自尊水平越高。将所收得数据通过SPSS 11.5进行整理,最后用HUDAP 6.0进行最小空间分析。

表 2 项目相关系数矩阵

	EST01	EST02	EST03	EST04	EST05	EST06	EST07	EST08	EST09	EST10
EST01	1									
EST02	.416	1								
EST03	.084	.189	1							
EST04	.302	.364	.286	1						
EST05	.181	.402	.339	.258	1					
EST06	.236	.499	.410	.396	.238	1				
EST07	.267	.447	.317	.466	.239	.374	1			
EST08	-.167	-.418	-.346	-.252	-.251	-.397	-.346	1		
EST09	.022	.052	.258	.150	-.058	.364	.310	-.139	1	
EST10	.124	-.026	.126	.266	-.068	.329	.394	-.127	.687	1

(二) 数据分析及结果

1. 量表质量分析

由表 2 可知,中文版自尊量表中 EST08 项目与其他项目均呈负相关,表明该项目与其他项目所测的潜在特质并不相同。再如表 3 所示,从项目与总

分的相关可知,唯有 EST08 项目与总分呈负相关。在删掉项目 EST08 后,Alpha 系数达到最高(0.76)。这与 McIver & Carmines 的研究结果一致^[15]。因此,本研究之后的分析都是在删除项目 EST08 的基础上进行的。

表 3 项目分析

项目	量表均值	量表方差	项目与总分相关	α 系数
EST01	18.391	9.956	0.312	0.6251
EST02	18.391	9.480	0.422	0.604
EST03	18.297	9.386	0.379	0.610
EST04	18.469	8.983	0.504	0.584
EST05	17.719	9.634	0.265	0.636
EST06	18.328	8.891	0.569	0.572
EST07	18.266	8.833	0.571	0.571
EST08	16.984	13.317	-0.455	0.760
EST09	18.266	9.055	0.368	0.612
EST10	18.438	9.329	0.399	0.606

2. 自尊各层面图

本次数据分析中,采用二维的 SSA 分析,其异化系数为 0.128,低于 0.15,表明其图形与所测数据拟合较好。

(1) A 层面图分析

A 层面图中,分界线以下有项目 4 和项目 10,它们均系认知元素的项目;分界线以上除项目 6 外则皆属于情感元素的项目。项目 6 为“我对自己持肯定态度”,西方将其定义为认知元素的项目,但本研究的结论并不符合西方学者的研究结论^[14]。这可能是所取样本容量小造成的,也可能是因为东方人在以项目 6 评价自己时更多倾向于从情感方面评价,带有更多的情感成分在里面。可见,被试不能区分“我感觉”(情感)和“我认为”(认知),这与 Levy 的研究结果是一致的^[5]。另外,高校学生在考虑问题(有关态度方面)上,更倾向于“我感觉”,而非“我认为”。

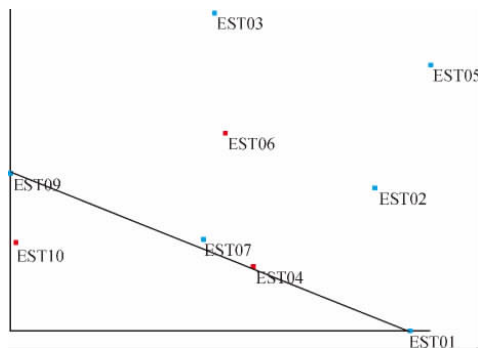


图 2 层面 A

(2) B 层面图分析

层面 B 为社会价值标准,是自尊的核心层面,也是立足于社会学视角的自尊内涵——Rosenberg 关于自尊的理解。由图 3 可知,9 个项目被三条直线分成了四块区域,各区域所对应的就是层面 B 的四个元素。总的来看,大多较拟合其元素组的界定;但项目 4 落在了其他区域。层面 B 的四个元素

从左下往右上呈轴形分布,表明被试在这一层面的元素选择中,更多地倾向于选择第一个元素,即一般行为;而较少选择第四个元素,即天赋。

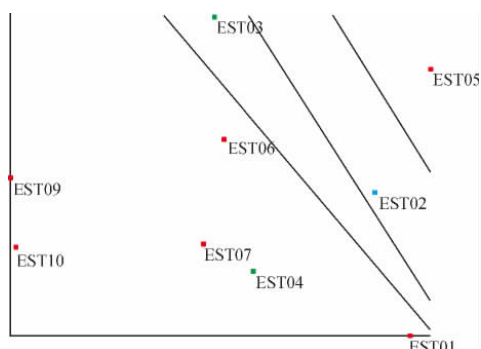


图3 层面B

(3) C 层面图分析

层面C是从项目的措辞上来设计的,即积极和消极两个元素。采用正面和反面两种方式来测试被试对自己的评价。总体而言,其层面元素图与所含元素的项目较拟合。但项目6在C层面的元素为积极,在图中略高于分界线,这可能是因为样本的特殊性(研究被试为在读硕士研究生)所造成的。所以在层面A和层面B中,项目4和项目6的位置特殊。

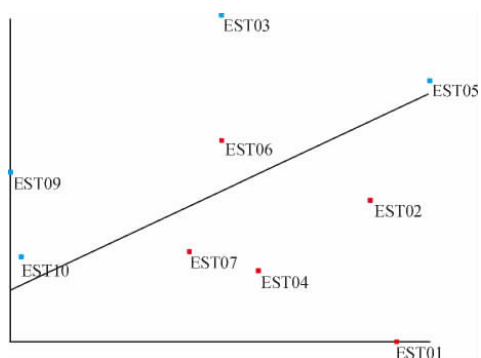


图4 层面C

四、结论

根据以上分析得出以下结论:因子分析以纯数学函数为基础,要求变量呈线性相关,并且得出来的结果几乎与变量的定义系统无关^[15]。按照通常采用的研究方法,项目分析主要依据项目间的相关系数的大小(皮尔逊积差相关),而SSA依据的是项目间相关系数的排序。因此通常采用的项目分析更容易反应被试的个体特殊反应,SSA可以更直观地呈现量表的结构效度是否与研究假设相符。Rosenberg自尊量表删除掉项目EST08更合理,更

符合从社会学的视角测量自尊水平;自尊的层面结构划分与数据拟合较好,表明Rosenberg自尊量表所测的自尊这一特质主要涉及行为特征和社会价值标准两个方面的内容,量表的结构效度较好;自尊各层面均属轴形层面。

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From Science Education to Scientific Education: Modern Natural Science Influences on Education

(by YI Hong-jun)

Abstract: Natural science from the 16th century to the 17th century had made great achievements in all kinds of fields. This achievement had promoted the spread of modern science education and the process of scientific education. The pioneers of science education gave natural science important position in their teaching plans. Meanwhile the development of natural science had given rise to a number of new schools as well as promoting the reform of teaching contents and methods. Under the inspiration of natural science ,educators began to explore the law of education so as to make it more scientific. In brief ,the booming of modern natural science has contributed to the science education and scientific education. It has promoted the development of education scientific theory and practice.

Key words: modern times; natural science; science education; scientific education.

Reflections on Historical Memory of the New Culture Movement: A Study of Zhili Number 1 Girls' Normal School

(by LI Jing-fang)

Abstract: The new public girls' schools encouraged female students to learn Chinese traditional culture through multi ways during the New Culture Movement. Explanation and inheritance of traditional cultural Classics were conducted by both teachers and students ,which challenged authority of male elites on analysis of Classics from gender perspective. Under the national crisis in Modern China ,nationalism had enormous influence on their views and discourses of Chinese traditional culture. Teachers and students of Zhili Number 1 Girls' Normal School intended to save the nation by emphasizing the permanent value and current significance of traditional cultural Classics. They also expressed their anxieties about disorder of Chinese society through debates , poems , diaries and etc. The news media in Modern China played an important role in formation and communication of historical memory during the New Culture Movement. Free and open discussions about Chinese traditional culture on newspapers and periodicals reflected different opinions on the nation's future. Women's participation in these discussions created their images and strengthened their subjectivities in public space.

Key words: the New Culture Movement; traditional culture; Zhili Number 1 Girls' Normal School; women's education; gender.

Nationalism and Cultural Movement: The Rising of Simple-literacy Primary Schools (Xueshu) in the Late Qing Dynasty

(by CAI Yu-long)

Abstract: In the late Qing Dynasty ,considering the text applicability under the instrumental rationality ,the desire for preservation of national culture and enlightenment under the demands of nationalism ,and the qualifications of "constitutionalism" voters ,the Qing dynasty and the literati elite began to focus on the lower people's literacy issues. From 1908 ,the Qing dynasty carried out a simple-literacy movement. The movement showed people's cultural and political ideals from enactment of simple literacy to urging and assessing the actual operation of the provinces. Though the local governments showed certain rapid progression in implementing the policy and there appeared some false phenomenon in reported results ,the deep social background , positive operational measures ,and the larger achievements all inspired the later generations.

Key words: nationalism; cultural movement; simple-literacy primary schools (Xueshu) ; the Late Qing Dynasty.

The Influence of Organizational Justice on Turnover Intentions

(by MA Chao , XUE Dian-fang , MAO Chong-lin)

Abstract: Organizational justice describes the individuals' (or groups') perception of the fairness of treatment on system , policy and strategy which are related with personal interests and received from an organization. If an employee feels unfair , he will linger over his work , and he may even have the turnover intention and quit his job. The study in China's cultural background aims to construct organizational justice questionnaire by down-top strategy , discusses the structure of organizational justice and the mechanism of organizational justice on turnover intentions. Firstly , the result of exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) indicated that the structure of organizational justice in China comprises three factors "procedural justice" , "distributive justice" , and "leader justice". Secondly , the results of linear regression indicated that the organization justice had significant negative effects on turnover intentions and the strongest prediction of leader justice to organizational consequence variables compared to procedural justice and distributive justice. Thirdly , the results of structural equation model (SEM) indicated organizational commitment acts as partial mediator between leader justice and turnover intentions , while acts as total mediator between procedural justice and turnover intentions. Besides , job satisfaction acts as part mediator between distributive justice and turnover intentions.

Key words: Organizational justice; multiple needs model; job satisfaction; organizational commitment; locus of control; turnover intentions.

Facet Analysis of the SES's Structure Validity by Facet Theory Approach (by YANG Jian-yuan , CHEN Wei , ZHAO Shou-ying)

Abstract: Facet Theory , a new research method about social science , integrates theory construction , research design , and data analysis in a systematic way. A mapping sentence for SES was constructed , taking into account of the technology of mapping sentence and the faceted definition of self-esteem in view of the sociology. The research hypothesis was tested by the practical investment. In this study the construct validity of SES was empirically tested by facet theory approach and the results indicated that SES has ideal construct validity , every facet was clearly represented in the scalogram of SSA. The three facets played the axial roles and a two-dimensional SSA resulted in an acceptable coefficient of alienation of $k=0.128$. The study also presented a new exemplar to illustrate the utility of Facet Approach by questionnaire design and data analysis of the psychology research as a valuable reference for the researchers interested in Facet theory.

Key words: SES; structure; facet analysis.