

Physicians' perception regarding brand positioning of antidepressant drugs, a case study of pharmaceutical companies in Bangkok

การรับรู้ของแพทย์ต่อการวางตำแหน่งของยารักษาอาการซึมเศร้า กรณีศึกษาของบริษัทยาในกรุงเทพมหานคร

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Abstract

Depression is a common mood disorder causing disability and burden to the country while antidepressant drugs are needed to treat increasingly. A cross-sectional questionnaire survey was conducted among Thai physicians in particular psychiatrists (N = 120) with correspondence analysis and multidimensional scaling techniques to determine physicians' preference of four antidepressant drugs (agomelatine, bupropion, venlafaxine, and vortioxetine) through brand positioning. Result showed that venlafaxine and vortioxetine were similar whereas agomelatine and bupropion were dissimilar. There were relationship between brand and identified attribute that agomelatine was prominent in sleep component, bupropion and positive affects, venlafaxine with efficacy and vortioxetine with cognitive functions. A meaningful brand positioning of each brand expressed the relevant attributes regarding the physicians' perception can be utilized in an optimizing antidepressants' prescription and be able to find the marketing strategy for improving the brand awareness properly. The integration of the data with other countries especially SEA countries and cluster analysis will enhance benefit of the result in the future research.

Keywords: 1. Perception 2. Brand positioning 3. Perceptual mapping 4. Antidepressant drugs
5. Depression

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บทคัดย่อ

ภาวะซึมเศร้า เป็นความผิดปกติทางอารมณ์ที่พบบ่อยที่เป็นสาเหตุให้เกิดความพิการและเป็นภาระแก่ประเทศในขณะที่ยาต้านซึมเศร้าเป็นสิ่งจำเป็นในการรักษามากขึ้นเรื่อยๆ ได้ทำการสำรวจแพทย์ไทยที่เป็นจิตแพทย์ จำนวน 120 คน โดยใช้แบบสอบถามแบบตัดขวาง การวิเคราะห์การถดถอยและเทคนิคการแบ่งสเกลแบบหลายมิติเพื่อหาแนวทางในการเลือกใช้ยาต้านซึมเศร้า 4 ชนิด ได้แก่ agomelatine, bupropion, venlafaxine และ vortioxetine ผลการศึกษาพบว่า venlafaxine และ vortioxetine มีความคล้ายคลึงกัน แต่ agomelatine และ bupropion มีความแตกต่างกัน มีความสัมพันธ์ระหว่างตราลินค้ำกับคุณลักษณะเฉพาะที่ระบุว่า agomelatine มีบทบาทสำคัญในการนอนหลับ ขณะที่ bupropion ผลในอารมณ์เชิงบวก venlafaxine ในแง่ประสิทธิภาพและ vortioxetine ในแง่การเรียนรู้ ตำแหน่งของตราลินค้ำที่มีความหมายของแต่ละแบรนด์ที่แสดงถึงคุณลักษณะที่เกี่ยวข้องกับการรับรู้ของแพทย์นั้นสามารถนำไปใช้ในการสั่งจ่ายยารักษาอาการซึมเศร้าอย่างสมเหตุสมผล และใช้หากกลยุทธ์ทางการตลาดเพื่อปรับปรุงการรับรู้ต่อตราลินค้ำได้อย่างเหมาะสม การรวมข้อมูลจากประเทศอื่น ๆ เข้ากับข้อมูลของประเทศที่ได้โดยเฉพาะประเทศในกลุ่ม SEA ร่วมกับการวิเคราะห์จัดกลุ่มจะเป็นประโยชน์ต่อผลวิจัยที่ได้สำหรับการวิจัยในอนาคต

คำสำคัญ: การรับรู้ ตำแหน่งตราลินค้ำ แผนที่การรับรู้ ยารักษาภาวะซึมเศร้า ยารักษาอารมณ์ซึมเศร้า ภาวะซึมเศร้า โรคซึมเศร้า

Background

Ever since the 21st century, depression had been among the leading causes for life lost due to suicide and others. Depression had since then become a large burden to that of the society and the country of Thailand, likewise with other countries. The Epidemiology of Mental Disorders National Survey in 2008 found major depressive disorder (MDD) in 3.2% of the Thai population (Wongpakaran, 2014: 217). Depression is the most prevalent mental disorder (3.2%) (Siriwanarangsun et al, 2003: 177) in addition to being ranked first as the largest mental disorder to impact life and shorten a person's lifespan or Disability Adjusted Life Years (DALYs) lost.

Bangkok, the capital of Thailand, has a risk of the highest stress comparing with other provinces due to a result in financial problems, competitive environment, family and social issues including economic and political conditions (Na Bangchang, 2012: Online). Moreover, Thailand is a growing and expanding market with economic power from interconnection among the ASEAN members, called the ASEAN Economic Community (AEC) from 2015 onwards. Therefore, several industries have interest to invest and expand their organizations into Thailand. More than 30 pharmacotherapy options are available to treat depression besides combination with other treatments (e.g. self-treatment, behavioral therapy, and counseling).

Antidepressant drugs can improve mood disorders by affecting unbalanced chemicals in the brain due to a deficiency in serotonin or norepinephrine neurotransmission as monoamine hypothesis in order to reduce mortality and improve quality of life. This research is conducted to seek brand positioning of antidepressant drugs within the Thailand market in particular four antidepressant drugs; consists of Venlafaxine (SNRI), Bupropion (NDRI), Agomelatine and Vortioxetine (Miscellaneous antidepressants) without generic competition at present to treat mood disorders according to mechanism of action of antidepressants.

Brand positioning is an essential part of business strategy, as making the right marketing strategic planning and decisions will greatly influence the outcome of the business. Based on intended customer's perception, the marketing messages and activities can reflect the effective product positioning and at last turn into consumer purchase behavior. Positioning strategy depends on the characteristics of the product, market segmentation bases used, the competition, and the type of mental associations that is wanted of the targeted consumers (Kardes, 2008: 55). Consumer brand perception as pointed out in Strizhakova, Coulter, and Price (2011), is an important point to understand consumer choices through brand and consumers, which lead to consumer purchase behavior. Accordingly, consumers must identify one or more determinant attributes, characteristics of a product that are most likely to affect the buyer's final choice. Determinant attributes can be described according to their importance and uniqueness (Kardes, 2008: 221). Thus measuring consumer perceptions is an important part of positioning strategy. The attributes use in this research is of intrinsic product attributes which consisted of conformance, features, and reliability. These attributes derive from the eight dimension of quality (Garvin, 1987: 104). In the same way, specific features and benefits comparison across brands lead to decreases price sensitivity and encourages consumers to purchase the higher quality brand (Mitra & Lynch, 1995: 658; Mitra & Lynch, 1996: 19).

Five features which are specified with this research are mechanism of action, positive affects, sleep components, cognitive function and drug interaction.

Mechanism of action or MOA states the fact in which a drug creates its pharmacological effect by the specific biochemical interaction (Spratto & Woods, 2011: 10). This usually includes the specific molecular targets in which the drug binds onto, like with receptors or enzymes (Grant et al, 2010: 204).

Positive affect is another dominant dimension of mood as a state or trait to report by self individually (Watson & Tellegen, 1985: 219). High positive affect can reflect high energy level, enthusiasm, mental alertness, interest, and joy while low positive affects reflects lethargy and fatigue in which negative affect shows negative mood states such as sadness and loneliness associated with depression (Watson et al, 1988: 347).

Sleep components are common problematic symptoms associated with mental health disorders especially depression in a wide range of sleeping disorders from insomnia to hypersomnia (APA, 2016: Online; Miadich, 2010: 11). Sleep problem is also associated with the incremental of the risk for depression, guilt and poor concentration (Baglioni et al, 2011: 9).

Cognitive function involves several processes to obtain and understand the knowledge or information. Impairment in cognition shows with different areas such as executive functions, attention, memory and psychomotor speed (Hammar & Ardal, 2009: 3).

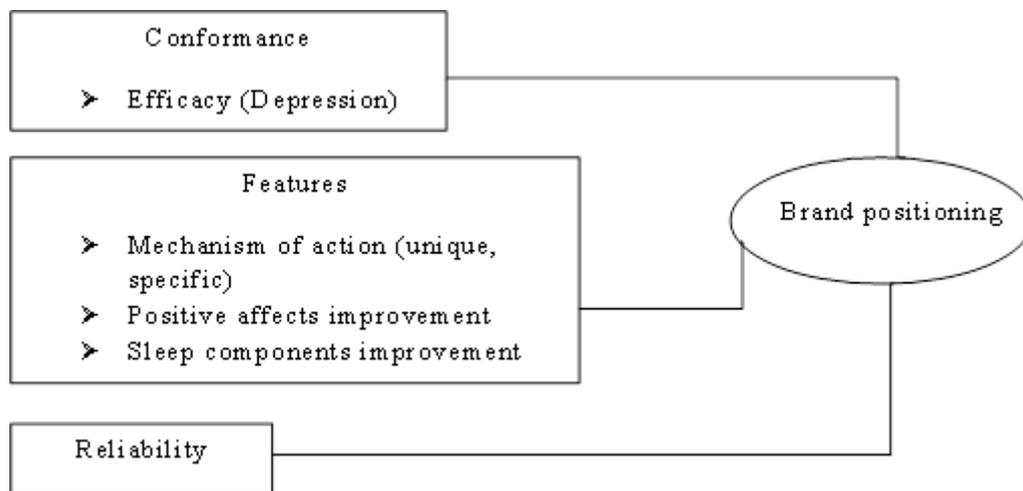
Drug interaction is interaction of drug's activity on the body when the person is taking one drug and another drug together which can cause interactions between drugs such as increased or decreased effect of drug level leads to change in pharmacokinetic or pharmacodynamics properties even induce serious side effects to the patient (Bushra et al, 2011: 81).

Subsequently, significant attributes of major antidepressant drugs associated with physicians' prescription in Thai market are essential to understand as well as relationship between those attributes and Thai physicians' perception.

Conceptual Model

This exploratory research examines the preliminary information of brand positioning by using objective measures in dimensions of brand quality that will help define the further problems and suggest the further hypotheses. The perception in brand positioning of antidepressant drugs that has not been studied more clearly leads to the aim of this exploratory research. The conceptual model purposes to organize research structure and key attributes based on scientific context. Three objectives were set; the first objective is to address point of difference in terms of similarity and dissimilarity physicians' perception in the studied area, the next is to determine what product attributes of antidepressants related with physicians' perception in the studied area, and the third objective is to investigate physicians' preference towards the brand. Conceptual model (Figure 1) of this research explains the selected dimensions or attributes relationship with brand positioning of four products based on physicians' perception to be in line with objectives as set.

Figure 1: Conceptual model



Methods

This research is a cross-sectional, quantitative method for exploratory research in brand positioning by collecting information and statistical data on physicians' perception of four brands of antidepressants. Regarding to the sampling process and Thailand data from Department of Mental Health in 2014, 484 licensed psychiatrists practice in Thailand and 171 psychiatrists were in Bangkok (Suraaroonsamrit & Panyayong, 2014: 147). The sample chosen are Thai physicians in the Bangkok area who have experienced to treat depression, which is a subset of the target population as they are the accessible population and self-administered questionnaires voluntarily. The size of sample group in this study through Systematic Uniform Random Sampling (SURS) technique to recruit size of the population in Bangkok by using Taro Yamane equation. The results from the survey will be analyzed by commercial software implementation (SPSS, Version 21.0). Lastly, perceptual mapping will be developed by utilizing statistical visualization method (Correspondence analysis) and similarity-based method (Multi-dimensional scaling).

Results

Demographic information

Data of one hundred and twenty respondents according to sampling plan were reviewed, coded and analyzed by SPSS. The majority of respondents are primarily female, which were 69 people (57.5 %) followed by male, which were 51 people (42.5%) respectively. Seventy three psychiatrists (60.8%) were main respondents and residents in psychiatry were the rest. The highest age group, who accepted to provide the answers derived from young physicians with the age groups below 36 years old (53.3%), followed by aged between 36 and 40 years old (25%). With respect to work experience, the respondents were over five years' experience in 46.7%, followed by 1-3 years and 3-5 years of work experience (39.2%, 14.2%).

Non-attribute based Approach

Physicians perceived venlafaxine and vortioxetine to be similar while agomelatine and bupropion were considered as dissimilar (or perceptual distances) to the other brands located at the edge of Figure 2. Therefore, brands located closely can be assessed to compete aggressively whereas the distant brands revealed a unique image and stronger characteristics differently from the closer brands (Malhotra, 2010: 664). The Figure 2 displayed in the form of contingency table to grouping the attributes and brands from respondents in the same multidimensional space (Malhotra, 2010: 668).

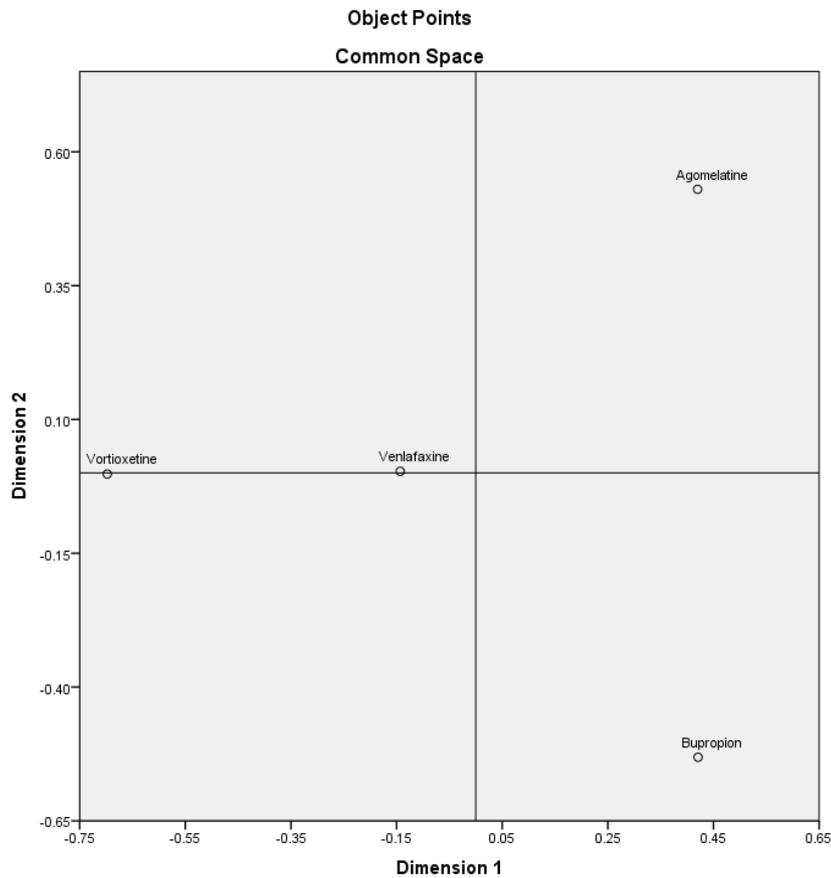


Figure 2: Brands similarity and dissimilarity

Attribute based Approach

Whereas perceptual mapping in Figure 3 shows the relevant attributes of each brand; agomelatine is prominent in sleep component, safety, and drug-drug interaction. Bupropion is in relevance with positive affects and mechanism of action. Venlafaxine provides the higher value in efficacy and reliability. Cognitive function and mechanism of action are preferred from Vortioxetine.

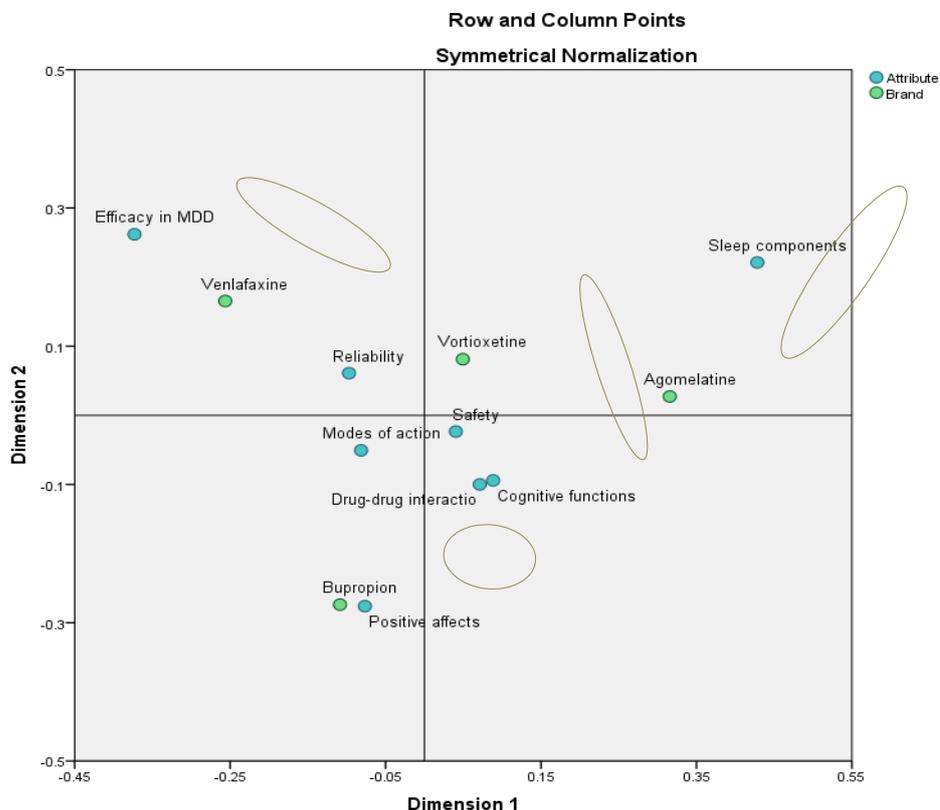


Figure 3: Perceptual mapping of all brands; by rating of brands on attributes

This perceptual mapping has four sets of brands identified and related attributes. This is on the basis of the natural clustering of the brands that have occurred on the map. Agomelatine correlates with the sleep components thus it does not share this attribute with other brands nearby this point. The closed correlation of bupropion with positive affects and venlafaxine with efficacy in major depressive disorders (MDD) are presented in the same way as agomelatine. However, vortioxetine does not present its dominant attribute separately even though cognitive functions are closely than other specified attributes that revealed on the map.

Discussion

In choosing an antidepressant, physicians will likely consider the drug based on guideline, their knowledge and experience to tailor drug choices with particular situation then ultimately balancing with symptomatic relief, side effects and cost.

This exploratory research used a quantitative method to determine the perception of physicians as customers of four antidepressant drugs in Thai market through the identified attributes dimensions of brand quality. The research was designed and processed to meet the objectives of the research.

Venlafaxine and vortioxetine were perceived relative similarity whereas agomelatine and bupropion show dissimilarity against others scattered around the map. These results can address the point of difference in terms of similarity and dissimilarity among four brands through correspondence analysis technique according to the first objective.

Perceptual mapping determines the distinctive attributes of each brand based on respondents' judgement. Significant attributes that physicians preferred are sleep components, positive affects and efficacy in MDD which can be differentiated among brands leading to the reason for drug prescription. The second objective achieved to determine what product attributes of antidepressants related with physicians' perception by MDS technique.

Position of each brand is identified on the perceptual mapping as the third objective to describe the results of physicians' preference towards the brand with CA and MDS techniques for all four brands incorporated with the identified attributes. The finding of each brand shows that agomelatine linked with sleep components, bupropion linked with positive affects, venlafaxine linked with efficacy in MDD, and vortioxetine linked with cognitive functions. This research concluded that brand positioning of four antidepressant drugs in Bangkok is well determined with perceptual mapping via the physicians' perception.

Even though there are some limitations to this research in particular with the sample size. The population to be a sampling unit is a limited number of physicians (licensed psychiatrists) and difficult to perform likewise. Consequently, the pretest was performed with non-psychiatrists as respondents which not affect to the number of sampling plan when assessing the reliability of the questionnaire.

Benefits with this research can clarify in several ways. Academic advantage is perceptual mapping which lack of data or research in this field as a resource or reference. While communities can refer this research as a local data in antidepressant drugs in order to better understand the insight of customers and consider how to choose this drug group for our population properly according to the significant attributes and positional mapping. Moreover, industry can also utilize the perceptual mapping results for identifying competitive sets and shared attributes, degree of differentiation, associating with the key attributes to understand the strengths and weaknesses of each product not only ideal positions, market

gaps but also market opportunity for the further brand direction and strategy. Subsequently, the right strategy, marketing campaigns and activities to serve customer need are able to improve brand awareness leading to change in customer behavior.

Additionally, this exploratory research provides the brand opportunities in several ways. Brand position on the map of four brands can identify the competitive sets, the extent of differentiation, gaps in the market and also give information to repositioning shifts or opportunities for competitive advantage to utilize. Physicians' perception can help to reshape communication and improve brand perception onward.

Implications for Future Research

The future research could be conducted either academic or industry in addition to routine clinical research of prescription drugs in the same way. The recommendations for the research have three points of interest;

Sample size: As if the base of the population and sample size in future (e.g. ten year in the future) are big enough to separate group or customer segment in order to be fully analyzed.

Demographic: This research did not utilize demographic information thoroughly because sample size does not adequate to show differently within selected group. In the future research, integrating data with other countries especially SEA countries will be benefit to show how different of any selected group or customer segment.

Cluster analysis: Another research that will be done to show how much the significant attributes could be integrated is cluster analysis. Group or cluster of attributes for variety purposes can meet the customers' decision through the benefits of brands according to segmenting the market (Malhotra, 2010: 669).

References

- APA (American Psychological Association). (2016). "Depression." Accessed December 2017.
Available from <http://www.apa.org>
- Baglioni C., Battagliese G., Feige B., et al. (2011). "Insomnia as a predictor of depression: A meta-analytic evaluation of longitudinal epidemiological studies." *J Affect Disord*, 135: 10-19.
- Bushra, R., Aslam, N., Khan, A.Y. (2011). "Food-Drug Interactions." *Oman Medical Journal*, 26(2): 77-83.
- Garvin, D. (1987). "Competing on the Eight Dimensions of Quality." *Harvard Business Review*, 65(6): 101-109.
- Grant, R.L., Combs, A.B., Acosta, D. (2010). "Experimental Models for the Investigation of Toxicological Mechanisms." In McQueen CA. *Comprehensive Toxicology* (2nd ed.). Oxford: Elsevier: 204
- Hammar, A., and Ardal, G. (2009). "Cognitive functioning in major depression –a summary." *Frontiers in Human Neuroscience*, 3(26): 1-7.
- Kardes, F.R. (2008). *Consumer Behavior*. Cengage Learning.
- Malhotra, N. K. (2010). *Marketing research: An applied orientation*. Upper Saddle River, NJ: Pearson/Prentice Hall.
- Miadich, S. (2010, July). The relations between sleep, depression, and anxiety in a college population. Ball State University, Indiana : 1-65.
- Mitra, A. & Lynch, J. G. (1995). "Toward a Reconciliation of Market Power and Information Theories of Advertising Effects on Price Elasticity." *Journal of Consumer Research*, 21: 644–659.
- Mitra, A. & Lynch, J. G. (1996). "Advertising Effects on Consumer Welfare: Prices Paid and Liking for Brands Selected." *Marketing Letters*, 7: 19–29.
- Na Bangchang, J. (2012). "World Mental Health Day and mental health in the current situation. Accessed December 2017." Available from <http://www.bangkokhealth.com>
- Siriwanarangsun P., Kongsuk T., Arunpongpaisan S., Kittirattanapaiboon P., Charatsingha A. (2004). "Prevalence of mental disorders in Thailand: A national survey 2003." *Journal of Mental Health of Thailand*, 12: 177-85.
- Spratto, G.R., Woods, A.L. (2011). *Delmar Nurse's Drug Handbook: Special 20 Year Anniversary*. Cengage Learning.
- Strizhakova, Y, et al. (2011). "Branding in a global marketplace: The mediating effects of quality and self-identity brand signals. Intern." *J. of Research in Marketing*, 28: 342–351.
- Suraaroonsamrit B & Panyayong B. (2014). "The development of mental health and psychiatric service in health areas." *Journal of Mental Health of Thailand*, 22(3): 142-156.

Watson, D., Clark, L.A., and Carey, G. (1988). "Positive and Negative Affectivity and their Relation to Anxiety and Depressive Disorders." *Journal of Abnormal Psychology*, 97(3): 346-353.

Watson, D. & Tellegen, A. (1985). "Toward a consensual structure of mood." *Psychological Bulletin*, 98: 219-235.

Wongpakaran, et al. (2014). "Baseline characteristics of depressive disorders in Thai outpatients: findings from the Thai Research of Affective Disorders." *Neuropsychiatric Disease and Treatment*, 10: 217–223.

Yamane, T. (1973). *Statistics: an introductory analysis*. New York: Harper & Row.