An Analysis of the Evolving Role of the RD within the Profession of Nutrition and Dietetics using Mind Genomics Cognitive Science

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Abstract

Introduction: In the United States, Registered Dietitians (RDs) aim to establish themselves as the foremost authorities in nutrition and dietetics. This research project aimed to identify the key areas of focus among current RDs in terms of advancing the profession and enhancing public perception of RDs.

Materials and Methods: A cross-sectional online survey was conducted with a sample of 200 RDs in the US. The survey included thirty questions that explored the primary obstacles hindering RDs' success, the level of agreement on RDs being recognized as nutrition experts in the US, and the evaluation of scenarios containing elements that could potentially elevate the profession. Statistical analysis involved ordinary least squares regressions to identify the most significant areas of concern.

Results: The survey respondents expressed a lack of consensus (mean= 2.75 out of 4) regarding the perception that "RDs are universally acknowledged as nutrition experts by the public in the US." One group of respondents emphasized the need to enhance salary accuracy and eliminate the requirement for a graduate degree to progress in the field. Another group focused on areas where The Academy fell short in terms of diversity initiatives, career advancement, RD branding, and transparency with its members. Common challenges included a lack of respect from other healthcare professionals and concerns about the return on investment for graduate education.

Conclusion: These distinct perspectives offer valuable insights for The Academy to consider when developing strategies to promote RDs as nutrition experts and enhance the professional experience for future growth and success.

Keywords: *Dietetics, Mind Genomics, Nutrition, Registered Dietitians*

ABBREVIATIONS: MG = Mind Genomics™; RD = Registered Dietitian

INTRODUCTION

In its second century, the profession of nutrition and dietetics sees Registered Dietitians (RD) at the forefront of efforts to enhance the nation's health and elevate the field through research, leadership, education, and advocacy (The Academy of Nutrition and Dietetics, 2021). Various obstacles preventing RDs from being universally recognized as experts in nutrition and dietetics have been brought to the forefront. These challenges are not new to those in the profession, as initiatives addressing these issues have long been a focus of the Academy of Nutrition and Dietetics, the Commission on Dietetic Registration, and the Accreditation Council for Education in Nutrition and Dietetics.

The obstacles arise early in the educational journey when aspiring dietitians face the requirement of obtaining a master's degree in order to sit for the RD exam (Kicklighter, Cluskey, Hunter, Nyland, Spear, 2013). Additionally, there is a perception that didactic and supervised practice programs lack comprehensive training in multiple skills (Brehm, Smith & Rourke, 2001), and dietetic interns often struggle to effectively utilize evidence-based practice techniques (Hinrichs, 2018). These barriers persist in professional practice, as many dietitians lack sufficient knowledge and expertise to bill for medical nutrition therapy and other nutrition-related services, unlike their counterparts in allied health professions (Jortberg, Parrott, Schofield, Myers, Ayoob, Beseler, Davis, Jimenez, Pavlinac & Smith, 2020).

RDs, despite completing nationally accredited education programs and passing a national exam, face challenges when it comes to licensure and practice laws. The individual states they reside in have the authority to determine these laws, which means that RDs are not uniformly protected as experts in nutrition. In some states, non-credentialed individuals are allowed to provide nutrition information to the public, which undermines the credibility of RDs. This situation has led to accusations that the Academy is attempting to monopolize the market rather than genuinely protecting people from misinformation (Zanteson, 2012).

Furthermore, the lack of diversity among RDs poses a significant barrier to achieving universal expert status in the eyes of the public, lawmakers, and the healthcare industry(Burt, Delgado, Chen & Paul, 2019). This issue gained prominence in 2020, prompting professional initiatives to address it. However, there is still much work to be done, and RDs are not entirely satisfied with the efforts made by the Academy thus far (Krishna, 2020). To gain insights into how current RDs perceive these barriers and identify potential activities that could advance the profession of dietetics, the use of Mind Genomics™ cognitive science can be employed. This approach allows for the quantitative collection and analysis of data, providing valuable information for shaping the future of the RD profession. The objective of this research is to chart the decision-making procedures employed by present-day Registered Dietitians when tasked with determining the crucial factors required to propel RDs forward within the field of nutrition and dietetics, as well as in the healthcare sector, in order to uncover the diverse perspectives on this matter. Additionally, the study will facilitate an examination of disparities in thinking between individuals who already perceive RDs as the ultimate authority on food and nutrition in the United States and those who may hold a different viewpoint.

MATERIALS AND METHODS

Mind Genomics Cognitive Science

Mind Genomics™ (MG) is a psychological science that focuses on analyzing the decision-making processes of individuals in order to determine their true preferences in various areas such as purchasing, fashion, reading, and entertainment (Moskowitz, Gofman, Beckley, Ashman, 2006). Introduced by Howard Moskowitz in the 1980s, this field of study is currently being advanced by his company, MindCart AI. MindCart AI provides training to researchers on how to effectively utilize the BimiLeap app and the associated statistical tools in their chosen field of research. By employing MG to evaluate the opinions of dietitians, it becomes possible to identify the key factors that can drive advancements in the field of dietetics. This approach offers a non-invasive and straightforward method to uncover the underlying patterns and segments of thinking in the brain, which can serve as a foundation for potential solutions to pressing issues.

Survey Development

The survey aimed to explore the advancement of the role of RDs in the next three to five years. To achieve this, a literature-driven set of elements were transformed into 16 distinct elements categorized into four themes. The survey consisted of 30 questions, including three demographic questions (sex, age range, and birthday), one 4-point Likert-scale preparation item (*"How much do you agree with the statement: Registered Dietitians are considered the universal expert in nutrition and dietetics in the eyes of the general public in the United States."*) and 24 vignettes presenting a selection of the 16 elements (Table 1). The one open-ended qualitative question was, "*What do you consider the number one barrier to RD's advancing as a profession in the United States?*" The survey platform used was BimiLeap, the official and exclusive online survey system for conducting MG studies. The Principal Investigator received training in the science of MG from the creator, Howard Moskowitz, and had access to the MindCart AI team for troubleshooting and general inquiries. In order to obtain further information, a Qualtrics survey was employed to gather demographic information that BimiLeap did not address. The survey consisted of 14 inquiries pertaining to years of experience, income bracket, field of expertise, membership in the Academy of Nutrition and Dietetics, as well as questions regarding career satisfaction and the work of The Academy. The original survey link queued to Qualtrics first, then connected to BimiLeap for the remainder of the survey.

Statistical Design

The data obtained will undergo cluster analysis for case segmentation and ordinary least squares regressions to identify distinct segments of thinking regarding panic buying, including top desired and least desired elements. BimiLeap provides an Excel data spreadsheet that can be imported into SPSS for result validation and running of multiple regressions. MG's creators view each participant as 24 data points, shedding light on consumer motivations and obstacles related to panic buying or pandemic preparation. Further regressions and ANOVAs (across demographics) have the potential to unveil over 6,000 unique narratives.

Table 1. The quadrants and sixteen elements examined to evaluate the role of the RD in the US.

The Academy itself	Education/Training/Advanced Credentials
The Academy brands RDs as THE expert in nutrition	Graduate degree requirement removed
The Academy is more transparent	Increase accuracy of salary and benefit resources
The Academy improves its diversity efforts	Increase emphasis on multi-skilled training (nutrition + additional healthcare field)
The Academy focuses on both job growth and education expansion simultaneously	Simplify the credentialing and recertification process
Licensure & Privileges	**Coding/Billing/Charging for Services**
National RD/RDN licensure	Insurance billing for services by-the-minute
Stricter state licensure laws	Increase billable services

Improve state laws to include the RD in the order writing/approval process	Improve coding/billing and negotiation resources
Increase education of lawmakers on vital role of RD in healthcare	Increase evidence-based practice research funding to increase output of new guidelines

Sample Recruitment

A sample of present Registered Dietitians in the United States was selected to take part in a cross-sectional survey. Eligible participants were required to be at least 18 years old, possess an RD credential in the United States, and have internet access along with a web browser to fill out the online survey. The study details and survey link were shared across various platforms including Academy of Nutrition and Dietetics practice group email listservs, message boards, and Facebook group pages. It is important to note that the participating RDs did not receive any compensation for their time and the survey did not pose any additional risks beyond those encountered in everyday life. This study was approved by the LSU AgCenter IRB (IRBAG-21-0101).

RESULTS AND DISCUSSION

There were 200 Registered Dietitians included in the study, with 7% being male and 93% being female. The age range of the participants was from 23 to 81 years, with an average age of 42.5 years. Approximately 86% of the participants identified as white, while the remaining participants identified as black, Asian, or American Indian/Alaska Native. On average, the participants had 15.6 years of experience in the field of nutrition and dietetics, with a range of 1 to 53 years (Table 2). These demographic characteristics of the sample accurately reflect the current demographic breakdown of the profession.

The participants in the study expressed a generally positive level of satisfaction with their career as Dietitians (mean = 3.91±.87, range 1-5). However, their responses were slightly less positive when rating the effectiveness of The Academy in advancing the field of nutrition and dietetics (mean = 2.87±1.08, range 1-5). The data collected indicated disagreement with the statement "*RDs are perceived as the ultimate authority on nutrition by the general public in the United States*" (mean= 2.75±.81, range 1-4). Common barriers to RD success mentioned by the sample included lack of respect from other healthcare providers, nutrition misinformation on the internet undermining professionals, and Insufficient reimbursement for healthcare services by insurance providers.

Table 2. Demographic snapshot of study sample

Demographic Item	Frequency (n)	Percentage (%)
Gender Male Female	 14 186	 7.0 93.0
Race White Black or African American Asian American Indian/Alaska Native	 172 8 10 10	 86.0 4.0 5.0 5.0
Area of Dietetic Practice Community/Public Health Nutrition Clinical Nutrition Education Research Other	 60 49 40 36 12	 30.0 24.5 20.0 18.0 7.5
Income Range Less than $20,000 $20,000 to $34,999 $35,000 to $49,999 $50,000 to $74,999 $75,000 to $99,999 Over $100,000 Prefer not to answer	 4 11 24 82 34 37 8	 2.0 5.5 12.0 41.0 17.0 18.3 4.2

Mindset 1: RDs are Overeducated and Underpaid

A particular perspective focused on enhancing the precision of salary data and eliminating the necessity of a graduate degree to progress in the field. A notable concern revolves around the wage gap between RDs and other healthcare occupations. In comparison, the current salary for RDs is disheartening, and it is imperative to address this issue to guarantee equitable remuneration for their skills and contributions. The substantial worry lies in the expenses associated with education and licensing in contrast to the income earned. It is of utmost importance to raise awareness among legislators and the general public regarding the health advantages of this profession and the potential for cost savings through RD interventions.

Mindset 2: The Academy can do More for Members

The second perspective revolves around The Academy's failure to meet expectations in terms of diversity efforts, job growth, branding of RDs, and transparency with membership. The inability to establish RDs as the foremost experts in medical nutrition therapy has resulted in their role being undermined by other 'nutritionists'. The general public lacks awareness regarding the role and value of dietitians, and it is the responsibility of The Academy as the professional spokesperson to enhance their marketing efforts. Addressing this lack of understanding requires educational initiatives and awareness campaigns.

It is widely known that the field of nutrition and dietetics lacks diversity in terms of gender, gender identity, race, and ethnicity. Despite the Academy's limited efforts to improve diversity within its membership and profession, the changes in the requirements for obtaining the RD credential have contributed to this issue. It was suggested by one participant that The Academy of Nutrition and Dietetics would benefit from considering the practices of other medical professional organizations, like the American Academy of Pediatrics, and incorporate similar criteria for their professional and public education.

Limitations

The sample of participants in this study is not a complete representation of all Registered Dietitians in the United States. Although the Qualtrics survey offered valuable insights into the sample, challenges in linking datasets between Qualtrics and BimiLeap hindered a comprehensive case-by-case analysis. There were no correlations or comparisons made based on mindset or demographics. MG was created for product/service developers to improve product design and marketing, and its utilization in health-related subjects and behavioral theory is still in the initial phases.

CONCLUSION

This initial investigation of Mind Genomics™ explores the viewpoints of Registered Dietitians in the United States regarding the potential obstacles faced by the profession and its practitioners in the country. Future research endeavors could merge MG and BimiLeap methodologies or attempt to replicate similar approaches using predetermined scenarios, followed by cluster analysis that incorporates case segmentation and ordinary least squares regressions in an alternative statistical software. This approach would facilitate the inclusion of additional demographic inquiries or relevant variables in a single survey, resulting in a consolidated dataset for more advanced analysis. The developers of BimiLeap are working towards enhancing the platform to provide researchers with greater flexibility in incorporating supplementary questions, albeit at an increased study cost.

The field of nutrition and dietetics, along with The Academy, must consider these perspectives when formulating plans to elevate the status of Registered Dietitians (RDs) as authorities in nutrition and enhance their overall satisfaction in the profession. Although clinical dietetics and maintaining control over medical nutrition therapy are crucial, the Academy should also prioritize reshaping the profession's image to the general public. It is essential to recognize that the future of this industry extends beyond hospitals. RDs possess the potential to create a significant influence in various environments, and this potential should be acknowledged and promoted.

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