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Development of Multidimensional Eating Disorder Inventory Information System Framework - Managing Digital Adolescent Healthcare Ecosystem

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Full research paper

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Abstract

Data sources associated with Eating Disorder (ED) events are heterogeneous, and they intensely influence the lives of millions of teenagers. The EDs can lead to obesity or vice versa and succumb to various linked chronic illnesses. We examine the existing research on Eating Disorder Inventory (EDI) to explore connectivity between multiple domains of the healthcare ecosystem. The present study identifies various attribute dimensions of "EDI – M", interpreted as "multidimensional", an egghead idiom to model and integrate with an integrated conceptual framework. The research aims to develop a Multidimensional Eating Disorder Inventory Information System (MEDIIS) to manage the EDI-M attributes, interpreted in various data sources and domains. We further evaluate the EDI metadata to explore the connectivity between multiple attributes dimensions of EDs. The phenomenon of eating-disorder attribute connectivity is confirmable with overweight, obesity and diabetic conditions, articulating EDI-M applicability in the MEDIIS framework.

Keywords: EDI, design science, multidimensional, digital adolescence healthcare

1 Introduction

The scope of Information System (IS) development is underexplored in developing the digital inventory healthcare system (Lofgren and Vullikanto 2016; Milos et al. 2004). Before describing the IS designs and their development in EDI scenarios, we introduce the factual cases relevant to digital healthcare, particularly adolescent healthcare data science. Adolescence food habits, health consciousness and anxiety, may have links with Eating Disorders (EDs); however, obesity may not be the root cause of all EDs (Garner 2004; Gustafsson et al. 2010). The literature suggests obesity in teens may be due to poor eating habits, such as overeating or binging behaviours, lack of physical exercise, including family histories. Studies have proven that EDs can affect adolescent health, irrespective of gender, age and attitude (Randolph 2011). High prevalence rates of EDs are reported among teenaged children, causing great concern for their psychological and behavioural wellbeing. The overweight, obese, or engage in dieting behaviour are at higher risk of developing EDs. EDs are reported as 3rd most chronic condition in teens, after obesity and asthma (Garner and Myerholtz 1998). Teens in many schools and homes are bullied because of weight, shape, and size. Obesity and EDs can steer to low self-esteem, depression, blood pressure, diabetes and other mental health disorders. We identify and interpret hundreds of attribute dimensions in diverse domains from histories of EDs, based on which heterogeneity is interpretable with physiological medical conditions. Several attributes and their names are published in Garner and Myerholtz (1998). We develop IS articulations as a part of digital framework development for ED management.

A detailed study with IS guided multidimensional attribute modelling is missing in the EDI development process. Knowledge-based attribute models are prerequisites for a remedial measure of healthcare challenges through EDI. For multidimensional attribute modelling, items listed in the EDI scales, including sub-items, are characterized as dimensions (Nimmagadda 2015). Among them, the attitude and behaviour related attributes, “weight”, “eating” and “body shape” are categorized as a subtype of super-type EDI. Previous researchers have done reliability, factor analysis and correlational analysis on these traits (Stanford and Lemberg 2012). The current study strategises the EDI dimensions to represent significant knowledge-based attributes to consider them in dimensional modelling techniques. Various models are presentable that can test and validate eating disorders in clinical analysis (Randolph 2011). We intend to add a flavour of IS design through MEDIIS development, making it more digitally networked and interoperable.

The introduction motivates us to describe the research purpose of EDI design and management. Before describing the research purpose, we have reviewed the existing EDI models to identify the research gaps with a scope of IS guided integrated framework design, development and implementation. The objective is to envisage the digital connectivity between different EDI items, scores, and magnitudes among ethnic groups through multidimensional data relationship categories. We explore the scope of EDI-M with new opportunities of attribute dimensions and their modelling in ED management. Since EDI is mature research, we propose carrying out a wide-ranging review of articles, examining the existing EDI models, and proposing new digital healthcare remedial measures with new IS articulations.

The article is structured as follows. The authors examine previous research on the existing EDI models in Section 2 and discuss how obesity is mitigated through the clinical diagnosis of the BMI. In addition, the need for new IS articulations is explored for managing and analysing EDs. In Section 3, the motivational aspects of designing and developing an IS guided multidimensional EDI framework, and their significance are discussed. In Section 4, the IS design research issues and challenges are discussed in articulating an integrated framework for managing the EDs, with research questions and objectives. The research methodology and articulation of design-science guided multidimensional framework are described in support of the EDI-M repository system in Section 5. Implementation challenges of the EDI-M are discussed in Section 6. The findings of the research with analysis and discussions are given in Section 7. In Section 8, the contribution and limitations are discussed. The research is concluded with an outlook of the EDI-M implications in chronic illness remedies in Section 9.

2 Literature Review

Before presenting the discussion on IS design and development in the EDI contexts, we review the existing literature in this section. The literature review process involves searching keywords. Bennet and Stevens (1995) describe the original internal structure of the ED inventory system. Clausen et al. (2011) manage EDI for clinical research to validate cases of eating disorders (EDI-3). Cumella (2006) reviews the Eating Disorder Inventory-3 (EDI-3) version, providing the contexts of age, Body Mass

Index (BMI) and associated female groups who completed the EDI-3 assessments. The author describes an extensive use of diagnostic, treatment planning, outcome evaluation, including eating disorder screening with nonclinical groups. Compared with EDI-2, the EDI-3 has accommodated different age groups and BMI clinical cases by diagnosis, reflecting large populations. Garner and Myerholtz (1998) present Eating Attitudes Test (EAT) to measure ED symptoms. Overeating, putting up weight and shape, and psychological traits are relevant to ED attribute dimensions. The authors have also discussed different methods to assess psychopathology linked with EDs. EAT and EDI entities have good psychometric properties and sensitive to treatment effects, in which the psychological profile can be valuable in clinical trials. However, the study lacks a systematic analysis of EDs and their management. We explore new opportunities of IS design articulations in terms of their data modelling, with a conceptual representation of data objects and their association with modelling rules (Coronel and Morris, 2019). Bennett and Stevens (1997) have done a factor analysis of EDs, from which different attributes are extracted for statistical analysis. Sentiment analysis is done on factual rules to conclude the efficacy of the subscale structure with women who are not ED patients. Gustafsson et al. (2010) examine the role of longitudinal characteristics, measured in the EDI-Child version and find its predictors to manage protective factors in the development of EDs. Social-psychological perspectives are explained, how they can drive the management of eating disorder ailments and their manifestation in the EDI-M development.

For proposing the EDI-M, we analyse the multidimensionality challenges of how IS designs fit into digital EDI articulation. The eating attitude tests and eating disorder inventory are developed to measure abnormal eating attitudes and behaviours in patients of EDs (Randolph 2011; Rickey 1987). The report describes a self-report questionnaire and outlines functions, including their limitations. Espelage et al. (2003) examine the construct validity for hundreds of women samples through interviews in the EDI contexts. Confirmatory factor analysis was done to establish the connectivity between depression and obesity occurrences, covering the EDI scores. Machado et al. (2001) describe the Portuguese Version of the EDI for evaluating the psychometric properties within the contexts of EDI scales and scores. Garner (2004); Stanford and Lemberg (2012) treat EDI as an assessment tool in the updated EDI-3 eating disorders. We offer predictive models of eating disorders using IS articulations and logistical regression analysis of data sources associated with EDs. Zucker et al. (2009) address important issues relevant to symptomatic expressions in children and adolescents that manifest differently in adults due to developmental influences on cognition and physical maturation. However, the strategies lack connectable data models that make the case- study weaker. Scanes (2012) evaluates the existing EDI and its existing treatment programs, including symptomatology, for which the author analyses the adult population data. The author discusses various limitations of the study, especially the test and validity, including the measures taken while integrating eating disorders with external sources and treatment programs that influenced the participant involvement.

3 Motivation and Significance

Early intervention is vital in motivating teens and restoring health from developing eating disorders (Gleaves et al. 2014). Creating awareness, teaching healthy eating habits, nutritious food since early childhood are other attributes considered in the modelling. EDI is an easily administered self-report measure that provides standardized subscale scores on eight attribute dimensions clinically relevant to eating disorders. The original inventory EDI comprises three sub-scale dimensions assessing attitudes and behaviours concerning eating, weight, and shape (the drive for thinness, Bulimia, Body Dissatisfaction), and five subscales with a motivation to organize constructs or psychological traits. The IS articulations and their standards can strengthen the qualitative and quantitative analysis of EDs. In our proposed multidimensional EDI-M architecture, EDs are interpreted as knowledge-based attribute dimensions. The EDI was initially developed (Lofgren and Vullikanti 2016; Shimura et al. 2003) with the notion of a shared repository by many clinicians and researchers, but we interpret eating disorders as multi-determined and multidimensional, from which we construe an idiom, conceptualized as EDI-M. In clinical settings, the EDI-M can provide information helpful in understanding the patient, planning treatment, and assessing the progress. The inventory requires managing the individual patient profiles, with added eating disorders and their treatments. Both descriptive and interpretative informatics solutions are expected to manage the heterogeneity in psychopathology-associated eating disorders (Yirga et al. 2016). The clinical status, patients' treatment and their responses are added information in the repository systems. Big data characteristics have relevance in the current study, because of data sources in spatial dimensions. The data sources of eating disorders collected are from multiple spatial dimensions, characteristic of country populations. Big data have a role to play in ED data analytics, including data science.

4 Research Issues and Objectives

The eating disorder is a growing phenomenon among young women, including children community-wellbeing affected by obesity worldwide in spatial dimensions. We envisage the involvement of Big Data when considering data in spatial dimensions. Besides, vigorous weight loss and avoiding binge eating are other lifestyle data attributes realistic in younger generations. The anorexia nervosa (AN) and bulimia nervosa (BN) are disorders of high socioeconomic classes, more common in middle and even lower social groups. The AN and BN may result in as many as 1% to 4% of female high school students (Gustafsson et al. 2010; Lampard et al. 2012). They may occur in 12-15% among graduate medical students. To maintain the shape of the body and its physiology, the ballet students, professional dancers, swimmers and skaters have aggravated pressures on their diet. The analysis of an eating disorder and valuation of symptomatology have two different dimensions in identifying attributes and modelling their associations. The Eating Disorder Inventory (EDI) aims to delineate certain psychological traits or symptom clusters precisely. The EDI provides an initial query and psychological profile that may cross-examine eating disorders, interpreted as heterogeneous syndromes (Garner 2004). A framework is necessitated to manage multidimensional attributes of the EDI. A Multidimensional EDI Information System (MEDIIS) framework is proposed to support and simulate EDI-M repository articulations. The introduction and literature review have motivated us to draw the research purpose and design the research questions. Observation is a mere interpretation of insights of deficiencies in the existing research. The integration process needs systematic modelling to interconnect diverse attributes of the EDI and various IS articulations to design and evaluate EDI-M.

Research questions: (1) How do we map and model data sources of EDI-M and their attributes? (2) How do we connect the attribute dimensions in IS guided EDI-M architecture and evaluate the adolescent digital healthcare system using the connectivity attributes between overweight, obesity and diabetic disorders? ***Research objectives:*** (1) Examine and identify the attribute dimensions and their fact instances of EDs for modelling (2) develop ontologies to explore and make connections between attribute dimensions, integrate and evaluate the metadata of EDI-M architecture in diverse geographies.

5 Research Methodology and MEDIIS Framework Articulations

The MEDIIS is a design-science guided multidimensional framework simulated to support EDI-M repository system. We carry out empirical and observation research for which secondary data sources that represent EDs are examined.

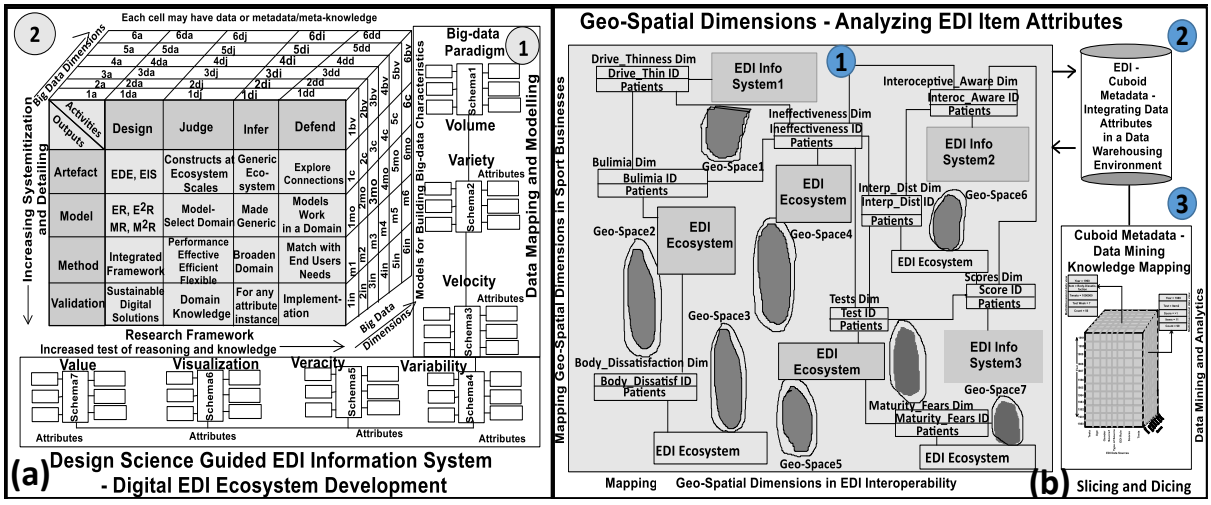

Figure 1: Digital MEDIIS ecosystem development (a) design science guided EDI-M IS architecture (b) Interoperability assessment of EDI attributes (Research Objective 1)

Components of specific research in design science are described in Figure 1a. Systematic data modelling approaches include construct and model design, development of method and evaluation through instantiation process. We adopt a design science approach to articulate, systematize the knowledge-based attribute dimensions and interconnect them through domain ontologies (Sidhu et al. 2009; Venable et al. 2016). As demonstrated in Figure 1a, big data envelopment is envisaged, particularly when the interoperability of EDs are assessable in various geographies (Figure 1b). As demonstrated in Figure 1a, we use a systematic *design, judge, infer and defend* as design activities; *construct/artefact,*

model, method and instantiation as outcomes of the Design Science guided EDI –M. In the Big Data scale, we ascertain the connectivity between different stages of EDs management and components of the design science method articulated in geographic contexts, as explained in Figure 1a. The interoperability of structural elements of EDI with associated ecosystems is interpreted in stage (1), as shown in Figure 1b. EDI – M cuboid metadata is generated in a warehouse repository in (2). Data mining and visualisation are other artefacts used in phase (3). Various subscale descriptions are provided in geographic contexts to demonstrate the interoperability of data structures in EDI repositories. Cuboid metadata are representative in the warehouse system, as described in Figure 1b. Adolescence healthcare science is an integrative process; for the content of design strategy, the design-science method emerges as a robust conceptual modelling approach with design guidelines (Peffers et al. 2007; Weber 2010). The ED- attributed IS artefacts, how they can fit into a design-science guided Eating Disorder Inventory System, EDI-M, is described in integrated methodologies in Figure 1.

To motivate the EDI-related eating disorder data-science further, we construct different schemas with hundreds of attributes, their instances and comprehend their suitability in the MEDIIS framework. As a multidimensional metadata representation of MEDIIS, the EDI-M can influence the development of knowledge-based conceptual, logical and physical schemas that may emerge in different ED episodes.

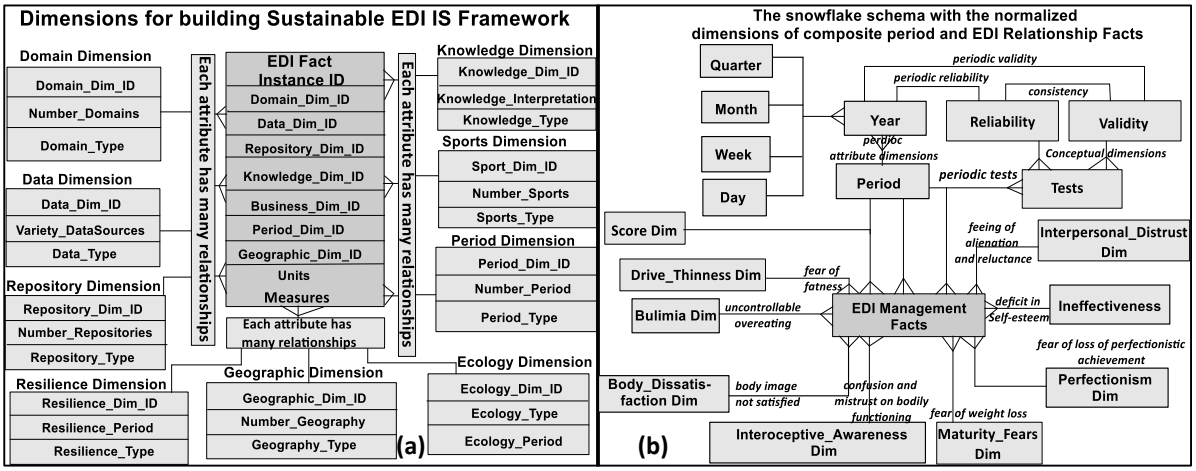

Figure 2: (a) Dimension attributes used in the EDI IS Schema; (b) EDI-M representation in a snowflake schema (Research Objective 1)

As per Research Objective 1, we envisage different attribute dimensions to formulate the EDI and its linked artefacts, initially in a broad schema, as shown in Figure 2. With several domains, data-modelling, repository and its resilience and domain knowledge, including the ecology of EDs, as interpreted in Figure 2, we conceptualize the EDI-M IS architecture in the forthcoming sections. Several connections are interpretable among attributes in the design of EDI schemas. For sustainable development of the MEDIIS digital framework (Figure 1), we ensure the attribute dimensions are connectable in the schema with new knowledge of EDs as demonstrated in Figures 2a and 2b.

The authors explore different groups of normal weight bulimic women, obese and normal weight in clinical trials, ascertaining the potential alternative to the EDI approach. The design-science supports the rigour of data science of EDI-M and its linked metadata. The EDI worksheet is a tool for additional information on the frequency of specific eating symptoms, binge-eating, self-induced vomiting, and use of laxatives, diet pills, diuretics, and exercise patterns deeming weight, weight and menstrual histories of patients, all construed as attribute dimensions in a repository system. The data integration process has significance in repository systems when multidimensional attributes need interconnectivity. The interoperability of models is an added artefact utility property that necessitates the connectivity process during the implementation of the EDI metadata. The authors ensure the artefact designability and its sustainability in diverse geographic and periodic contexts. Even the real-time events of EDs can be documented in the EDI-M data storage systems, as discussed in the forthcoming sections.

We describe a systematic procedure to build ontologies in the contexts of EDI-M formulation, as shown in Figure 3a. Initially, various stages are interpreted, such as “identify” to itemize entities, dimensions and objects in the EDI-M. The conceptualized and contextualized attributes are incorporated in taxonomies. Next stage, we describe identifying “relationships” between dimensions (even in between entities). Various characteristics are identified in the form of “attributes” in the next stage.

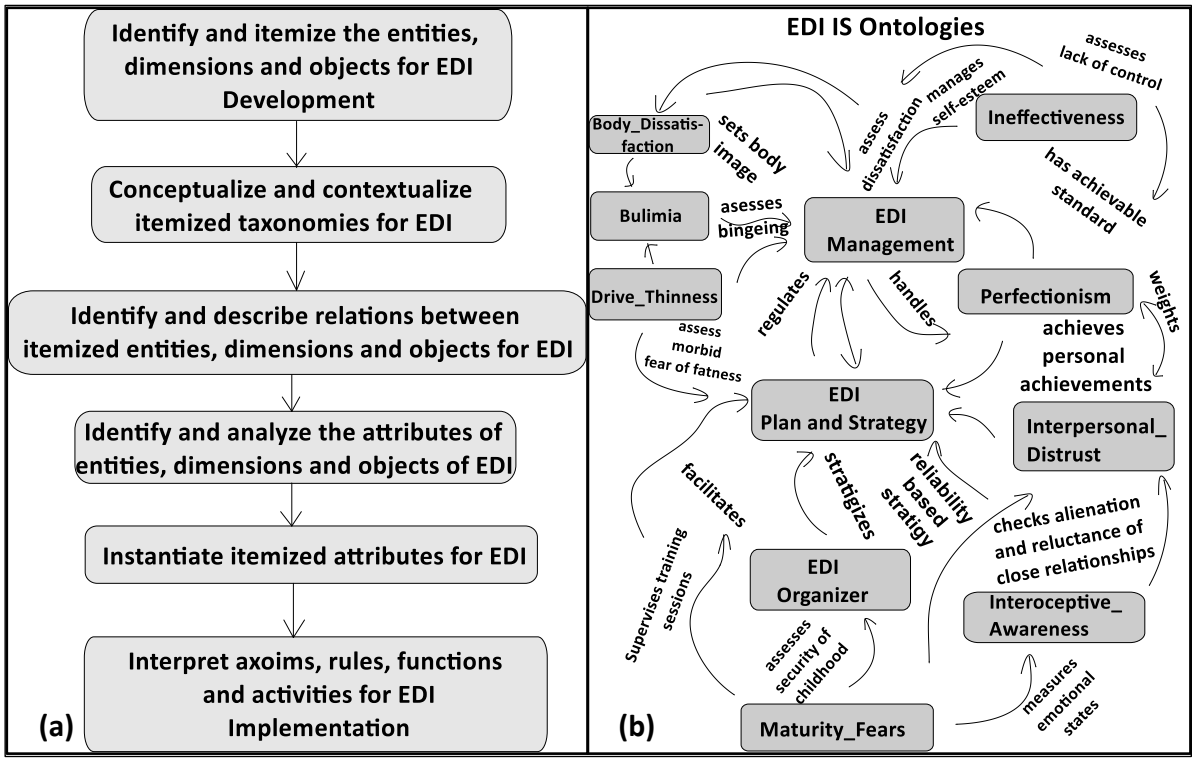

Figure 3: Ontology development for EDI IS (Research Objective 1)

As discussed in Figures 2 and 3, ontology development is a critical criterion for interconnecting different entities and dimensions of attributed interpreted in EDI development. Several attributes interpreted in Garner and Myerholtz (1998) are used in the models to articulate the connectivity in Figures 2 and 3 that are evaluable with ED data instances. We validate the attributes through the "instantiation" process (Peffers et al. 2007), ensuring the use of real data instances or even historical occurrences of EDs in periodic and geographic contexts is justified during the development of multidimensional modelling procedure. Ultimately, the objective is to "interpret" the models and their implementations in the EDI contexts. As shown in Figure 3b, for demonstrating the interconnectivity between attribute dimensions, we propose "ontologies", building relationships between multidimensional attributes and their schemas. Additionally, multiple hierarchies of ED data sources can be decomposed into snowflake structures. As demonstrated in Figure 3a, the normalized data models are used to optimize the EDI IS storage space. It explores the connectivity between attribute dimensions, as their congruence is vital in the EDI-M development process EDI IS ontology descriptions shown in Figure 3b make connections between scale and subscale attribute dimensions, with relationships interpreted through domain ontologies. Two factors dominate in the construct of EDI-M IS, especially in EDI informatics domains: (1) The growth of raw data is observed from the checklists (2) Successful application in EDs management requires careful, with factually annotated EDI databanks and their administration. The conceptualization and contextualization features interpreted as several attribute dimensions contribute to Big Data volumes and varieties in geographic scales. The dimensions of the EDI repository, including related items, must motivate the user community to connect to various geographies and demography. The ontologies (data relationship descriptions) discussed in Figures 2-4 support the connectivity and integration process.

6 Implementation of EDI-M

The secondary data are from World Health Organization (WHO), Statista and Our World in Data sources (SDS 2020). Initially, we identify various attributes and their data instances of BMI that directly affected the EDs among adolescents aged 5-19 years in different spatial-temporal contexts. For this purpose, we analyse the existing data attribute for overweight for several countries and various periodic times. Thus, we have arrived at a schematic view of the EDI-M implementation, shown in Figure 4a. We map and model various associated ecosystems relevant to the EDI to interconnect geospatial dimension attributes with domain ontologies and snowflake data structures. However, the data structures may emerge with the implementation of the EDI-M in various EDs and geographic contexts.

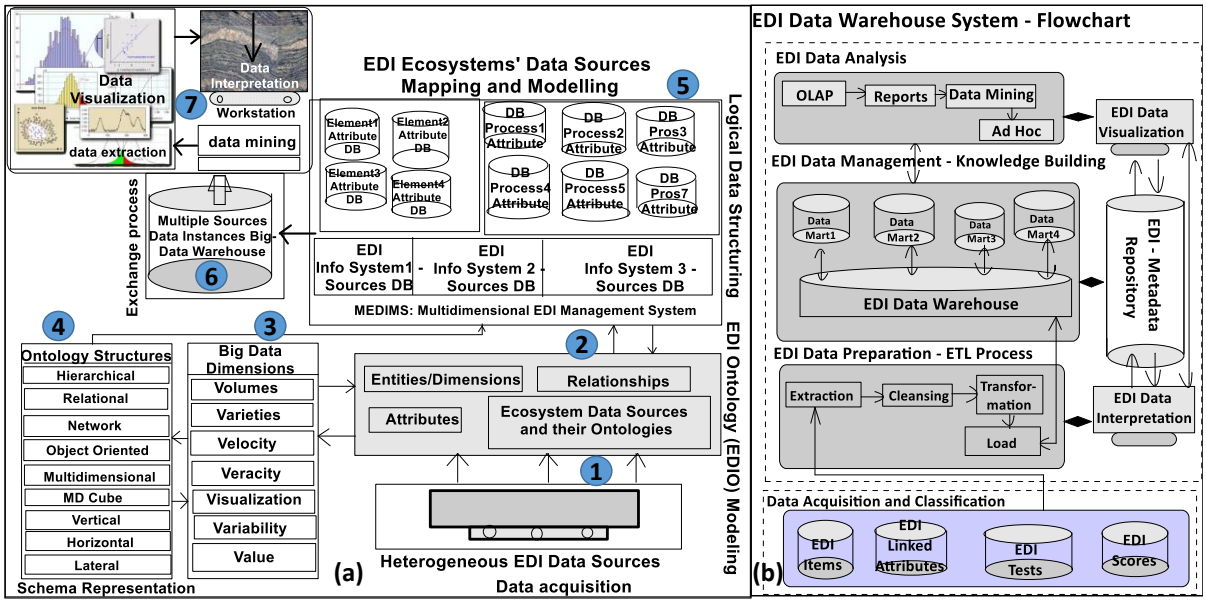

Figure 4: EDI-M implementation (a) EDI ecosystem mapping and modelling (b) EDI- M storage modelling process (Research Objective 1)

EDs, when considered in spatial dimensions, are extremely large in datasets, demanding high-performance computing to reveal data trends and associations, especially relating to eating disorders and their interactions with other chronic diseases. As described in Figure 4, the historical events and their views of the adolescent healthcare system are modelled using a snowflake schema. The EDI data are structured, minimizing the ambiguities associated with semantics. As shown in Figure 4a, a general schematic view of the implementation framework is described with the mapping and modelling of EDs. The artefacts are (1) data acquisition, (2) identification of EDs (3) big data attributes (if the data sources characterize large scale with varieties of EDs), (4) data structuring methods, (5) mapping and modelling process, (6) data warehouse repository and (7) data analysis. Figure 4b is a demonstration of storable ontology models and their associated databases. To summarize, the artefacts described are part of the EDI Data Warehouse System, as shown in a flowchart in Figure 4b. EDI data management, Extract, Transform, and Load (ETL), EDI data analysis, and knowledge-building process through data visualisation and interpretation are other specifics of the artefacts (Nimmagadda 2015).

7 Findings, Analysis and Discussions

Research objective 2 is elaborated in this section. Consumption of large quantities of food in a short period of time, called binge eating, is considered one of the EDs, often affects the Body Mass Index (BMI) (Lampard et al. 2012). In our study, initially, we presume BMI instances are correlatable with instances of obesity data. Our research has proven that they are interrelated, as demonstrated in the modelling and mapping process (Figure 4a). We evaluate the artefacts to resolve the multidimensionality challenges through logical data models and their integration in the MEDIIS. The primary purpose of the MEDIIS is to build the EDI-M repository for clinical evaluation of symptomatology-associated eating disorders. The repository provides valuable information regarding symptomatology and thematic psychological attributes with their instances that are relevant to individual ED patients. The EDI-M documentation is crucial for understanding the ED traits. In addition, implementation of MEDIIS relies on evaluable data mining, visualisation and interpretation artefacts, besides assessing the patient's relative subscale score instances through IS implementation and obtaining an overall picture of pertinent thematic views (Shimura et al. 2003).

Various mapping and modelling solutions are used to build data mining and visualisation models. Various bubble plots and map views are extracted using graphic solutions to explore the eating disorder events in different item dimensions with subscale correlations, including their association with spatial-temporal attributes. Regression equations are computed to examine outliers as interpreted in the plots. The outliers may be due to poor correlations among reliability tests. The implementation of the MEDIIS and its linked repository models depends on the quality of data views extracted from the EDI metadata and its successful interpretation with symptomology related eating disorders. The authors ascertain the strengths and make-up of relationships between dependent and independent variables. Weight prevalence attribute, BMI by average age, number of obese hospital admissions, obesity medication

attribute, including obesity prevalence attributes and their instances, are analysed as shown in the album in Figure 5. Figures 5 and 6 are the products of Figure 4b. The metadata deduced from the storage systems can extract various data views (through slicing and dicing of data cubes). Figures 5 and 6 are the result of these data views. The relevance of body physiology (BMI measurement), including its connected obesity illness, is examined.

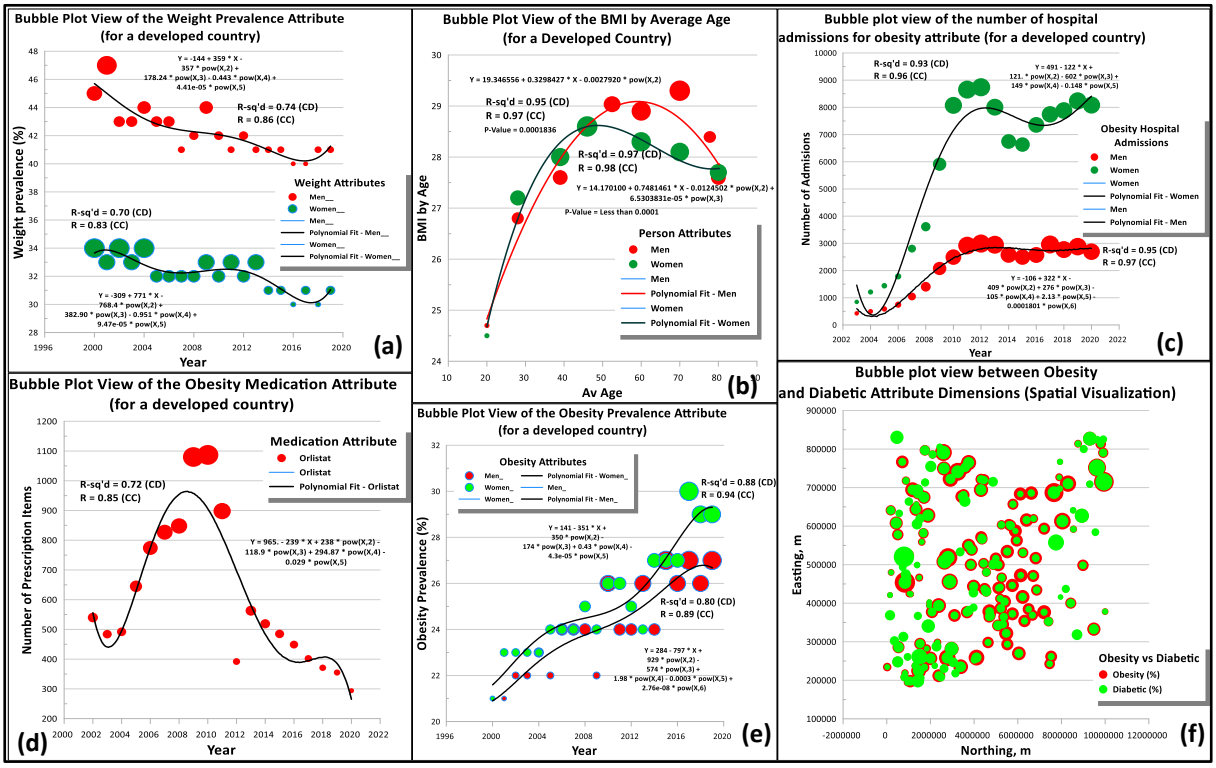

Figure 5: An Album of IS articulated cuboid data views and their regressions (a) Weight prevalence attribute for men and women (b) BMI by average age (c) number of hospital admissions for obesity (d) Obesity medication attribute (e) Obesity prevalence in developed country (f) Comparison between obesity and diabetic attributes (Research Objective 2)

Figure 5f is the highlight of the album that explains the consequence of obesity as diabetic situations. It is spatial visualisation plotted between northing and easting coordinate data. The data views or slices drawn from EDI-M cuboid metadata are analysed in various eating disorder patients as symptomized with BMI dimensional characteristic properties (Figures 5a and 5b). As shown in Figure 5, the BMI and prevalence of obesity are interpreted, correlating their coexistence. Figure 5a describes the periodic change of overweight prevalence and the attribute relationship between men and women in a developed country. In general, the decrease in overweight is observed with the period. BMI and average age attributes are plotted in Figure 5b to compare the age-related BMI occurrences between men and women. A periodic number of hospital admissions is plotted for men and women, and it is interesting to observe that the hospital admission rate in women is more than that of men. Obesity medication attribute is plotted with periodic dimension in Figure 5d, the medication used between 2004 and 2016 with maximum observed in 2010. In Figure 5e, the obesity attribute is plotted between men and women. A periodic increase in obesity is observed in both men and women; the attribute strength is more in women. In Figure 5e, geographic occurrences of obesity and diabetes (superimposed) are plotted to demonstrate the connectivity between obesity and diabetic occurrences. Being overweight and obese can show other adverse metabolic changes in blood pressure, cholesterol, triglycerides and insulin resistance, as interpretable in the EDI-M metadata. Coronary heart disease, ischemic stroke and type-2 diabetic Mellitus steadily increase with increasing overweight. The study corroborates that elevated BMI instances increase the risk of cancer of the breast, colon, prostate, endometrium, kidney, and gall bladder (Fruh 2017; Kyrou et al. 2018). Mortality rates increase with increasing degrees of overweight, as measured by BMI. To achieve optimum health, the median BMI for an adult population should be in the range of 18.5 to 24.9kg/m².

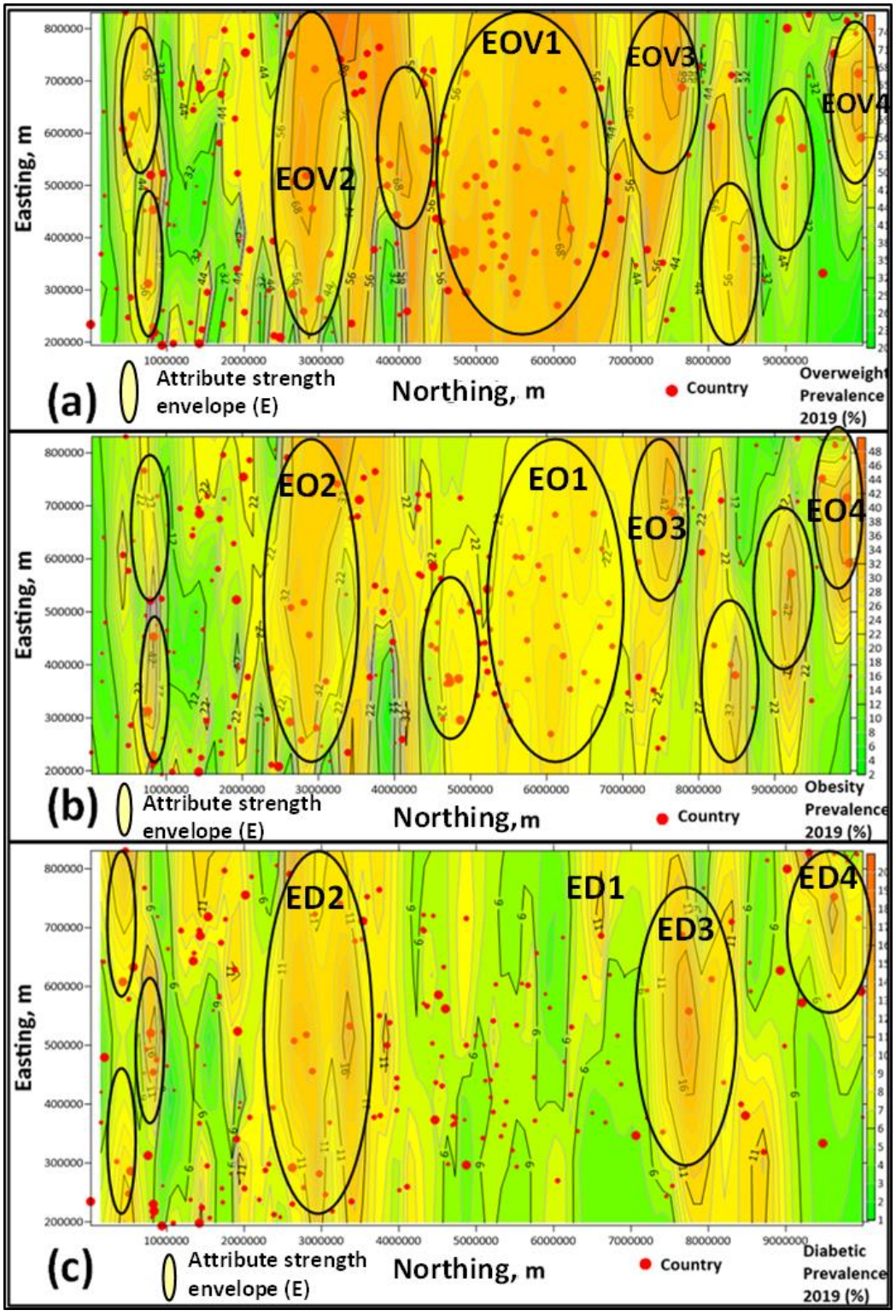

Figure 6: Map Views extracted from metadata, attribute strength envelopes interpreted

The spatial-temporal analysis of binge-eating and behavioural change attributes occurred because of weight, body shape and height are interpreted in the data views extracted from the EDI-M metadata. Map views presented in Figure 6 are interpretable with cases of EDs in the spatial domain. Map views are presented in Figure 6 to demonstrate and establish the connectivity between overweight, obesity and diabetic prevalence attributes. X and Y axes are respectively are Northing and Easting spatial attributes. The yellow coloured envelopes indicate the attribute strengths, and the green coloured areas show poor attribute strengths, suggesting fewer occurrences of overweight, obese and diabetic countries. EOV, EO and ED attribute strengths match as shown in Figure 6.

8 Contribution and Limitations

The contribution of the paper is twofold; (1) development of design-science guided MEDIIS, articulated with various IS artefacts; (2) its evaluation and implementation in various EDI contexts. The repository system EDI-M is a self-reporting scheme that can identify and examine patients of EDs in different ranges. It is an empirically derived scheme, differentiating groups of EDs and non-EDs. The repository architecture provides cognizant facts of patients, including doctors' notes on EDs, as their interpretations are paramount for clinicians and paediatricians. However, the overweight instances are correlatable with EDs, as demonstrated in Figures 5 and 6. Poor data qualities, information reporting in the absence of domain experts and maintenance of large size models and limited documentation procedures for Big ED Data volumes are constraints.

9 Conclusions and Future Vision

We defend our research in the section, examining the knowledge-based multiple attribute dimensions of the EDs through conceptual framework development. The design-science guided artefacts are effective in articulating the EDI-M repository system. We simulate the EDI-M artefacts in MEDIIS integrated framework and evaluate its metadata through different data views. The contribution of the research describes how IS architecture can manage the multidimensionality and heterogeneity challenges of EDs at various geographic locations. The ontologies and their descriptions are valuable in the development of the digital adolescent healthcare system. The MEDIIS simulated framework and its linked EDI-M can be administered in schools, athletic camps, or institutional settings to screen for eating disorder symptomatology and other areas of distress. A review of several research articles indicates that the EDI-M is a valuable investigative solution for professionals, academics and clinical practitioners. For tracking psychological functioning and mental health, EDI-M can be a useful tool. Documentation of ED occurrences is helpful to select or define groups in studies of body satisfaction/dissatisfaction, weight occupation and perfectionism, as comparable with BMI, obesity and other chronic diseases. EDI data warehouse systems can assess clinically eating disorder patients and their experiences that have significance in MEDIIS implementation. There is consistent evidence that the EDI-M is sensitive to clinical change and may play a valuable role in medical evaluations of eating disorder patients who are obese or those suspected of other associated illnesses. EDI is not necessarily an appliance, but it is an information-system repository solution, from which several data views are made available to symptomologists and clinical psychologists. Attribute dimensions and their instances that detect obesity are interpretative with knowledge-based EDI metadata structure. The systematic IS approach aims to evaluate the artefacts built based on EDs and existing data sources in multiple domains. In addition, the links between BMI, obesity and diabetic conditions of ED patients are critical to examine in the research.

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