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Individualized Health Care:
The Utilization of Individual Design in Traditional
Medicine in Madagascar

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Abstract

This project explores the application of individual design to the treatment of patients within the traditional medical system in Madagascar. I hypothesize that traditional medicine has remained prevalent in Madagascar alongside the allopathic system because of its predisposition to human centered, or individual design. Individual design is an increasingly popular approach to designing new technology with the total consumer experience in mind. Instead of focusing solely on functionality, this approach attempts to also address how the consumer experiences a technology physically, emotionally, and socially. When applied to health care, individual design addresses all aspects of how individuals experience illness and treatment so as to customize health care to best suit their specific needs. This approach is particularly beneficial in developing countries like Madagascar, where poverty, geographic isolation, and social factors may greatly impact the illness experiences of individuals. Through informal and formal interviews with both traditional healers and allopathic health care professionals, the researcher attempted to analyze the use of individualized health care in these two systems by assessing the presence of 5 key factors: healer-patient trust, narrative reasoning, financial flexibility, geographic flexibility, and privacy/comfort. The researcher found that although there is evidence of individual design in the traditional medical system, the country is evolving in such a way that this method may no longer differentiate the two residing health care systems.

Introduction

Individualized Health Care

Design methodology in the modern world is currently trending towards the concept of individualized design. Technology is now being designed as an emotional, physical, and even social experience, and no longer simply in terms of function. This trend in design seeks to tailor products to individualized need in order to give a completely satisfying experience (Unknown, 2012). This trend is most prevalent in tech design capitals like California's Silicon Valley, where the neighboring Stanford University has a graduate school, the D-School, devoted solely to teaching the tenets of human-centered product design (pers. obs).

While this kind of individualized design is most commonly associated with the development of entertainment technology, it also prevalent within health care analysis (Khorman, 2014). Although countless factors contribute to patient experience, the following five factors, developed by the researcher, are thought to most thoroughly describe individual design in health care.

Doctor-Patient Trust

The first factor, doctor-patient trust, is today considered one of the most important elements of good health care as it is directly linked to patient satisfaction. (Ong, Haes, Hoos, & Lammes, 1995, p.903). The importance of this relationship is summed up in *Doctor-Patient Communication* with the statement that, "it involves interactions between individuals of non-equal positions, is often non-voluntary, concerns issues of vital importance, is therefore emotionally laden and requires close cooperation" (Ong et al., 1995, p.903). Studies have shown that patient satisfaction is directly correlated with the

doctor's appearance, mannerisms, and even language, and that doctor's who make an effort to behave more personably with their patients are regarded far more positively than those who do not (Ong et al., 1995, p.911). In an ideal situation, patients are able to choose the doctor and setting with which they are the most comfortable, thereby increasing levels of patient satisfaction.

Narrative Reasoning

Narrative reasoning is an increasing popular understanding of how people come to express, and therefore understand and cope with their experiences (Hyden, 1997, p.49). As described in *Illness and Narrative*, although illness on its own may be standardized and studied, illness as it exists to the individual is a highly personalized experience (Hyden, 1997, p.74). Since the 80's, this form of reasoning has more and more frequently applied to clinical practice as a means by which patients may address their illness experience (Hyden, 1997, p. 49) This kind of personalized approach to understanding the individual's illness experience has been shown to in clinical setting to vastly improve the emotional and physical healing process (Ong 1995). Systems which employ narrative reasoning, which requires more attention to the patient's experience as a whole, and not just the physical symptoms, thereby utilize a more individualized approach to health care.

Financial Flexibility

Financial flexibility, as described by the researcher, describes the ability within health care to choose the treatments and payment plans that best suit the needs of the patient. This decreases finance-related stress, and makes the patient feel more in control of their treatment (pers. obs).

Geographic Flexibility

Geographic flexibility, as described by the researcher, describes the ability within health care to choose where and how to access health care.

Privacy and Comfort

Privacy and comfort are intrinsically related to the presence of the four previous factors. If the patient trusts the doctor, is fully communicating their narrative experience, and feels in control over their financial and geographic options, they should experience a sense of privacy and comfort (pers. obs). These two factors, privacy and comfort, are greatly impacted by the organizational structure of health care systems, as is evident from studies such as *The Role of the Physical Environment of the 21st Century*, which lists privacy and comfort as two of the key goals of hospital design as a means by which to improve patient outcomes (Zimring, Joseph, Choudhary, 2005, p. 13).

Individualized Health Care in the Allopathic System

The field of medical anthropology recognizes that different medical systems vary in their inherent ability to accommodate individual's personal and specific needs. Medical anthropology also recognizes that individualized care may strongly improve patient outcomes and quality of care (Khorman, 2014). For example, today much of the allopathic health care system is under fire for a lack of attention to the same kind of individualized care that is becoming standard for the consumer experience in much of the modern world (Khorman, 2014). Allopathic medicine, as the product of naturalist philosophy, is governed by an adherence to objectivity whenever possible. This kind of methodology is highly conducive to scientific research, data collection, and the standardization of care, but also results in patient objectification and a lack of the

flexibility required to accommodate individuals physical, cultural, social, and emotional needs (Khorman, 2014).

The allopathic system's inherent struggle to cater to the individual needs of patients is particularly problematic within the developing world. Poverty and geographic isolation severely limits patients' health care access. Because fewer health care options are accessible in these kinds of environments, patients have fewer options when choosing a health care provider to meet not only their physical, but emotional, social, and cultural needs (Khorman, 2014). A strong case for the benefits of individualized health care in the developing world is particularly evident with regard to the treatment of tuberculosis (TB).

As Paul Farmer (2001) describes in his article, *Infections and Inequalities*, TB is currently "the world's leading infectious cause of preventable deaths in adults," disproportionately impacting the poor (p.185). Tuberculosis treatment requires strict drug regimens, numerous check ups, and life-style changes such as rest and higher quality air. In places where TB is prevalent, like rural Haiti, the typical patient is unable to afford complete drug regimens, obtain transport to attend check-ups, or afford to take time off from work to rest and recover. These patients are labeled "non-compliant" by the allopathic system, negatively impacting their social experience with their caregivers (Farmer, 2001, p.192). However, Farmer also describes several instances where clinics were able to drastically increase patient outcomes by employing principles of individualized care. The first, *Proje Veye Sante*, which attempted to cover patient needs more comprehensively, included, "financial aid and regular visits from community health workers... for poor and hungry people with tuberculosis who receive shabby care wherever they go." (Farmer, 2001, p 189).

Individualized Health Care in Madagascar's Traditional Medical System

While the allopathic system as it exists in Madagascar is inherently susceptible to the lack of individualized care describe previously, there exists a second health care system in this developing country. Traditional medicine has remained relevant to over 80% of the African population, despite significant historical adversity and the influence of globalization (Andriamparany, 2014). As traditional medicine shares no common origin with allopathic medicine and is founded in cultural beliefs, it may be inherently more individualistic. As the research conducted in this paper describes, the same attention to individual health care that has aided in the treatment TB in developing countries appears be inherently present in Madagascar's traditional medical system.

Keywords: individual design, traditional medicine, doctor-patient trust, narrative reasoning, geographic flexibility, financial flexibility, comfort and privacy

Methodology

As described previously, research to explore the presence of individual design in Madagascar's traditional medical system was conducted through both formal and informal interviews with traditional healers and health care professionals. Included in the interviews with traditional practitioners were three traditional birth attendants in the rural community of Andasibe, colloquially described as "reninjaza," two traditional light healers, and a healing attendant at the sacred site of Doany Kingory. For comparison, three professionals within the allopathic system were also consulted, including an administrator at Befelatana Maternity and Obstetrics in Antananarivo, an administrator at a Christian affiliated dispensary in Antananarivo, and a doctor at the Andasibe community clinic. These interviewees are categorized and coded in the following table.

Name	Traditional/ Allopathic	Interview Setting	Date	Language/ Translation	Notes
Reninjaza A	Traditional	Healer's home, Andasibe	6/30/2014	Malagasy translated to English	No longer practicing
Reninjaza B	Traditional	Healer's home and workplace, Andasibe	7/1/2014	Malagasy translated to English	N/A
Reninjaza C	Traditional	Classroom Lecture, Andasibe	7/3/2014	Malagasy translated to English	N/A
Mirror Healer	Traditional	Healer's home and workplace, Antananarivo	6/13/2014	Malagasy translated to English	N/A
Light Healer	Traditional	Healer's home and workplace, Antananarivo	6/23/2014	Malagasy translated to English	N/A
Kingory Attendant	Traditional	Doany Kingory, sacred site of ancestral tombs	6/23/2014	Malagasy translated to English	Not a practicing healer, attendant of a healing site. Tour of facility offered
Befelatana Admin.	Allopathic	Befelatana Maternity and Obstetrics Hospital	6/20/2014	Presented in English, but limited understanding of the language required the assistance of a translator	Tour of facility offered
HJRA Admin	Allopathic	Antananarivo dispensary	6/20/2014	Malagasy translated to English	Tour of facility offered
CSB Admin	Allopathic	Andasibe clinic	7/3/2014	Malagasy translated to English	

Also essential to the research process were tours of the allopathic facilities, and researcher observations within the homes of the traditional healers and the sacred site of Doany Kingory. Environmental cues may greatly impact patient experience in terms of comfort during treatment, and observation of these sites may be highly informative when making inferences about patient experience in the different setting (pers. obs).

Five Key Factors

In order to assess the presence of individual design within the health care services investigated, the five key factors listed below and defined previously were assessed through targeted interview questions, often with the aid of a translator, and through researcher observation. Because these interviews were conducted within a group setting, interview questions could not be standardized, although samples of relevant question are categorized by topic below.

1) Patient-Doctor Trust: Doctor-patient trust was assessed by encouraging the healer to discuss their relationship with their patients and their presence or reputation within the local community.

Sample Relevant Questions

Do you interact with any of your patients outside of treatment?

Do you know most of the people you treat?

Have you always worked in this community?

How long have you worked in this community?

Do you have patients who come to you for treatment multiple times? Or who refer family members?

Relevant Observations

What is the healer's demeanor like?

Are they intimidating? Do they seem relatable or comforting?

Are there religious or spiritual symbols present?

Is the environment relatable? Does it remind me of my own home?

2) Narrative Reasoning: The use of narrative reasoning was assessed by encouraging the healer to discuss their dialogue with the patient and the information used in diagnosis.

Sample Relevant Questions

Can you describe a typical interaction with your patients?

How do you assess your patients?

Do you talk to your patients about things other than their illness?

3) Financial Flexibility: Financial flexibility was assessed by asking about compensation for treatment.

Sample Relevant Questions

Do you ask for compensation for your services?

How do your patients pay you?

What happens if someone cannot pay for treatment?

Is your role as a traditional healer profitable?

Relevant Observations

Does the healer appear to be wealthy?

4) Geographic Flexibility: This factor was assessed by discussing how the healer comes to be in close proximity to their patients and what kind of travel is required.

Sample Relevant Questions

Where do most of your patients live?

Do your patients come to you?

Do you ever visit your patients in their homes?

Where does treatment take place?

Within how large of a geographic area do you work?

Relevant Observations

How difficult is it to access the healer's place of work?

Is the surrounding area rural? Urban?

5) Privacy and Comfort: This factor was assessed by discussing where and how the patient was treated, and through observation of the treatment setting.

Sample Relevant Questions

Do you work with multiple patients at the same time?

Where do your patients receive treatment?
Do you treat patients in their home, or yours?

Relevant Observations

What is the treatment environment like?
Does it feel professional?
Does it feel like a home?

Limitations

Due to a lack of time and resources, the scope of this research was severely limited. The six traditional healers and three allopathic representatives interviewed, although helpful, do not make up an adequate sample size. Furthermore, these interviewees were limited to two communities, Antananarivo and Andasibe. As Madagascar is a large and diverse country, the results of this study should not be applied universally to the entire existing medical system. Furthermore, interviews were conducted, for the most part, with the use of a translator. Interviews were conducted in Malagasy or French, and then translated to English. However, as the translator's first language was not English, there were several miscommunications between the translator and researchers during the interview process, and interview questions were not always interpreted according to the researcher's original intent. It should also be noted that Malagasy and English share no common origin, and that direct translation between the two languages is often difficult, especially when collecting predominately quantitative data.

Results

The information collected on the presence of individual design in the health care systems examined has been sorted in the data presented below. Data is organized according to the five key factors, with a summation of evidence below a lengthier

description. If information is not attributed to a source, it is a personal observation on behalf of the researcher.

Patient-Doctor Trust

An important element of Patient-Doctor trust, familiarity, was very clearly evident throughout the research process. Interviews with traditional healers revealed significant immobility, as most have resided and practiced in the same community for their entire lives. The five traditional healers who practiced from their homes, as opposed to the healers of Doany Kingory, are therefore established members of the communities they treat. Furthermore, the inheritance process and passing down of healing ability is highly conducive to life-long practice. Healing ability is passed from the elders to the young people, according to the advice of the ancestors, and once inherited, may not be ignored. According to academic Nat Quansah (2014), who served as translator throughout the interview process, there are thought to be severe spiritual repercussions for anyone who inherits the healing ability but refuses to practice. There are exceptions to these rules, as was the case with Reninjaza A (2014), who refuses to practice for fear of legal repercussions, and Reninjaza B (2014), who only inherited her general healing abilities, but prayed to the spirits for her abilities as a birth attendant. The five healers interviewed all inherited healing in either childhood or young adulthood, and with the exception of Reninjaza A (2014), are lifelong practitioners. For example, Reninjaza B (2014) inherited her gift in 1952 at the age of 26, and has practiced for the last 62 years.

In accordance with the prevalence of life-long practice, many of the healers interviewed noted that their patients choose them based on their well-known reputations. Patients come to be treated either because the healer's reputation has spread over many

years of practice, or because they are familiar as community members. On this topic, Reninjaza C (2014) noted that she often treats entire families and Reninjaza A (2014) noted that her patients often refer friends and family to her after treatment. In evidence of the importance of reputation to patients, Reninjaza B (2014) told the researcher that her daughter, also a healer, had traveled 4 hours from Andasibe to Antananarivo to treat a patient who had requested her based on her reputation.

The inheritance process of healing ability itself is also conducive to doctor-patient trust. All of the healers consulted were chosen by spiritual ancestors in order to inherit their healing abilities and are able to consult the spirits at will in a manner that non-healers are unable to do so. For example, Reninjaza C (2014) has visions of the ancestral spirits that guide her practice, and is able to consult them at will. For patients who believe in the importance of the spiritual ancestors, this instills the healers with significant validity, encouraging trust in their abilities.

Summation of Key Points of Evidence of Doctor-Patient Trust:

- Familiarity between patient and healer because of physical proximity.
- Familiarity between patient and healer because of long-term practice.
- Patient chooses the healer based on personal knowledge of the healer.
- Healers have spiritual/cultural validity.

Narrative Reasoning

When asked to describe their diagnosis procedure, all of the doctors noted both a verbal and spiritual process. This practice encourages a full evaluation of patients, including factors outside of physical illness. For example, the Mirror Healer (2014) asks his patients to describe their problem, but also assesses their spiritual status by examining

them through a mirror. In the case of the Light Healer (2014), patients describe their problems after lighting a candle that serves as a tangible representative of their spirit. This kind of evaluation encourages patients to discuss their lives in full, as aspects outside of physical health are considered equally important.

For example, at Doany Kingory, patients and visitors come to consult spirits and spiritual healers about all aspects of their lives (Kingory Attendant 2014). As was described to us by the Kingory Attendant, visitors may come for aid to find a lost love one, or maybe to ask for good fortune in finance, in addition for aid in health care. This demonstrates that personal lives and physical health are not as distinctly separate in Malagasy culture and traditional practice as they are in the allopathic system.

Furthermore, because patients are often familiar with community healers outside of the healing setting, they are more likely to discuss all aspects of their lives, giving a more complete picture of their experience with illness. Also, the intimate one on one environment created within the healer's homes, often the place of treatment, is more conducive to open dialogue.

Summation of Key Points of Evidence of Narrative Reasoning:

- One on one communication process.
- Personal dialogue, outside of direct communication with regard to illness, is prevalent.
- Patient is encouraged to describe entire experience, physical, social, emotional.

Financial Flexibility

Interviews with the traditional healers revealed that their practice is not meant to serve as a source of revenue. As was the case with the Mirror Healer (2014), many of

them have, or have had in the past, jobs aside from their healing practice in order to support themselves. Methods of compensation varied from healer to healer, and are organized in the table below. The highest cost of care was 2,000 ariary for massage and herbal remedies from Reninjaza C (2014). However, Reninjaza C also noted that she is willing to treat people who she knows will not be able to pay her, or who have been unable to pay in the past.

HEALER	COMPENSATION	NOTES
Reninjaza A	Ritual where a raopolo (20 ariary) coin is placed in her palm.	N/A
Reninjaza B	Does not charge, except when patients are given a medicinal remedy after she assists a birth. 3 months later she is paid with a small chick, or with money to buy a small chick.	N/A
Reninjaza C	Massage is 1,000 ariary, medicinal remedies are 1,000 ariary.	Stated that she will treat people who she knows will be unable to pay her, or who have not paid in the past.
Mirror Healer	Charges a flat fee of 200 ariary per consultation.	Has a job outside of traditional medicine in order to support himself.
Light Healer	N/A	Is retired, but has held a job outside of traditional medicine in order to support himself.
Kingory Attendant	Donations to appease the ancestral spirits, but no payment to the healers themselves. At most, sacrifice of a cow. Most often gifts of candy and soda.	Donations to the healers themselves are common. Our group compensated the attendant for his time, although there was no official charge

Summation of Key Points of Evidence of Financial Flexibility:

- Materials used in treatment easily accessible and inexpensive (plants, animals, household objects).
- Healer does not personally profit from his or her trade.
- Donation based payment common.
- No repercussions if unable to pay for treatment.

Geographic Flexibility

The traditional healers interviewed, with the exception of the Kingory Attendant, were located within the communities that they served, living alongside many of their patients. They all worked out of their own homes, and several noted that they were willing to visit the patient's homes under certain circumstances. For example, as was noted earlier, the daughter of Reninjaza B (2014) was willing to travel a great distance from Andasibe to Antananarivo to treat a patient. The Mirror Healer (2014) also noted that he was willing to visit patients if the patient was unable to come to him. Furthermore, although the Doany Kingory site is physically arduous to access, as the roadway is inaccessible to cars, the residing healers are willing to travel to meet their patients. For example, at the time of our interview with the Kingory Attendant, the high priest and priestess of the site were away in order to perform an exorcism.

Summation of Key Points of Evidence of Geographic Flexibility:

- Healers are prevalent in rural communities. (3 reninjaza in Kingory alone)
- Healer population ratio is much higher than in the allopathic system.
- Healers are often willing to visit patients in their homes.

Privacy and Comfort

As was noted in the prior section, the traditional healers all worked in a home setting. When visiting the traditional healers, the researcher was able to conduct interviews within the space where patients are given consultations. The homes visited all appeared to be typical Malagasy homes, and were adorned with personal items like photos, religious symbols, decoration, furniture, and even beds. The three reninjaza all treated their patients within the living space of the home that they themselves used, but the Mirror Healer and the Light Healer both had specific workrooms for diagnosing their patients. In general, the treatment setting was highly informal, and comforting in the sense that it did not differ from a traditional home setting.

In terms of privacy, the patients are treated in a very individualized setting. There are never multiple patients receiving treatment at the same time, and although a healer in training often accompanies the traditional healer, the traditional healer is the only one administering care. In contrast with the wards observed in the Befelatana Hospital, the setting seemed far more comfortable and private. Although Befelatana offered private rooms, these rooms were expensive (15,000 ariary), and most of the patients were crowded into small rooms with up to nine people, even while in labor (Befelatana Admin. 2014).

While the informal setting of the traditional healer's homes created a very informal and comforting environment, it is worth noting that sanitation did not seem to be a high priority. The healer's homes, particularly the treatment rooms of the reninjaza, did not appear to be subject to the same sanitary regulations that resources like Befelatana, the Antananarivo dispensary, or the Andasibe clinic appeared to follow. The surfaces and tools used did not appear to be disposable or easily cleaned.

Summation of Key Points of Evidence of Privacy and Comfort:

- Private setting, often within the healers home.
- Markedly informal environment.
- One on one treatment by traditional healers.
- Little evidence of attention to cleanliness.

Discussion

The information collected from interviews with traditional healers strongly indicates that certain aspects of individual design are prevalent within the traditional medical system. Because traditional healers are interacted with on multiple levels, as spiritual leaders, medical professionals, and community members, patients are able to form relationships and communicate in a way that is far more difficult to achieve in the allopathic system. This unique relationship allows healers access to information about their patients spiritual beliefs and personal lives, as well as physical ailments, when making a diagnosis. In terms of the five key factors described throughout this paper, the informality and spiritual connection that patients share with traditional healers is highly conducive to a more trusting relationship and comfortable experience.

The spirituality and comfort inherent to the traditional medical system is also conducive to a heightened sense of belief on the part of the patients. If a patient's spiritual beliefs are in line with the traditional healers, then the patient is able to believe that their treatment is not only recommended by a health professional, but by the spiritual ancestors themselves. As has been argued by researchers such as Daniel Wirth in *The Significance of Belief and Expectancy Within the Spiritual Healing Encounter*, "high

healer and patient expectancy may be important elements which can serve as both predictors as well as facilitators of the healing process” (1995, p. 258).

The traditional medical system also gives patients a significant amount of flexibility. Today there are only 2,506 allopathic primary health care centers available to the 22.4 million residents of Madagascar, the majority of which are centered around urban areas like Antananarivo (Ramihantaniarivo, 2014). Furthermore, although health care centers provide some funding, such as an equity funds insurance scheme, and payment flexibility in the form of payment plans, prices are comparatively much higher than those within the traditional medical system (Herlyne, 2014). Traditional healers are far more numerous, easier to access, less expensive, and less restricted by standardization than the allopathic system. In a developing country like Madagascar, where poverty severely restricts access to modern commodities like allopathic health care, traditional medicine provides a necessary alternative for much of the country’s populations.

As Madagascar evolves and is impacted by globalization, the population’s attitude towards traditional medicine, particularly belief in its validity, appears to be changing. Stricter regulation of traditional healers, such as required registration, and the inclusion of traditional medicine in national health care policy, is changing traditional medical practices that have existed for centuries. Although no official research was conducted on the population’s attitude towards traditional medicine, there were several noticeable indicators of change within the system.

Traditional medicine was only legally recognized in 2007, and health care policy in this politically unstable country has yet to fully and successfully incorporate the system. One of the healers visited in the interview process, Reninjaza A (2014), indicated

that her choice to discontinue her practice was due to a fear of legal repercussions under the new regulations. In terms of belief, many of the pharmacology students who assisted in the interview process noted that they, and their families in a more urban area, subscribe to the allopathic system over traditional medicine.

The continuity of the factors that contribute to the individualization of care within traditional medicine appears to be threatened by cultural and political change. However, the research describe in this project only explored the prevalence of individual design from the perspective of the traditional healers themselves. In order to better understand individual design in practice, its impact on patient experience, and how it may be changing in this developing country, further research needs to be done to analyze the patient experience itself.

Conclusion

Traditional practice is unique from the allopathic system in the manner in which it is able to address patient needs on multiple levels. Attention to social, physical, and emotional experience provides a more individualized level of care that may greatly improve patient outcomes and satisfaction. Hopefully as health policy in this country continues to evolve, care will be taken to preserve the inherent elements of individual design within the Madagascar's traditional medical system.

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