4-29-2020

Consumer Assessment of Healthcare Providers and Systems in a Psychiatry Practice

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CONSUMER ASSESSMENT OF HEALTHCARE PROVIDERS AND SYSTEMS IN A PSYCHIATRY PRACTICE

Doctor of Nursing Practice Project Presented to the

Faculty of Graduate Studies

University of Missouri – St. Louis

In Partial Fulfillment of the Requirements

for the Degree of Doctor of Nursing Practice

by

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MAY 2020

Abstract

Problem: Patient-centered care improves healthcare. Patient surveys are instruments used to assess the patient's experience and is essential to providing patient-centered care. The aim of this quality improvement initiative was to assess patient perceptions of care delivered by nurse practitioner (NP) providers in a psychiatric mental health practice.

Methods: An observational, descriptive design with a customized Consumer Assessment of Health Care Providers and Systems (CAHPS) survey administered in an outpatient psychiatric mental health practice for six weeks. A structure, process, outcomes framework was used. The structure of study was care delivered by the NP, the process of interest was communication and the outcomes were the patient's experience.

Results: A convenience sample of 100 *(N* = 100) patient surveys were completed. The sample was divided as: NP1 (*n*=13), NP2 (*n*=67), and NP3 (*n*=20). The average Likert scores (1-5) for the questions were: explanations (4.83/5 97%), listening (4.83/5, 97%), information and directions (4.81/5, 96%), respect (4.85/5, 97%), time (4.72/5, 94%), and overall satisfaction (4.75/5, 95%). The average time for the visit was 16-30 minutes. There was no difference in patient experience between the NPs ($\chi 2 = 0.89$, $df = 2$, $p = .640$).

Implications for Practice: The NP can deliver a quality experience, especially when an office visit is 15-30 minutes. A CAHPS survey for physician providers may be useful when physician and NP providers share a practice. Consideration for patient experiences contributes to patient-centered care and is important to improving the quality of care delivered in a psychiatric mental health practice.

Consumer Assessment of Healthcare Providers and Systems in a Psychiatry Practice

The healthcare experience is unique and dependent upon the lens from which it is perceived such as, the perception from the patient being different from that of an administrator or provider. The 1990s was a time in healthcare when mergers were occurring between hospitals, nurses had increasing responsibilities, and consumers were becoming more aware of their health status. Increased consumer awareness of the services received from the healthcare system began to evolve. In the last decade, patient perspectives have been identified as important in improving the quality of care provided by the healthcare system (Agency for Healthcare Research and Quality [AHRQ], 2010; Fancott, 2013; Institute of Medicine [IOM], 2001). As a result, the IOM's (2001), *Crossing the quality chasm: A new health system for the 21st century*, identified six goals for healthcare improvement. Patient-centered care was one of the goals identified in the report. The IOM (2001) defined patient-centered care as providing care that is respectful of, and responsive to, individual patient preferences, needs and values, and ensuring patient values guide all clinical decisions (National Academy of Medicine [NAM], 2001, p.49). Hence, patient-centered care is a common goal in today's healthcare system and is considered an adjunct to improving the quality of care delivered to patients. While awareness of patient experiences can assist with improvement in organizations, there is a need for an infrastructure to gather, analyze and systematically collect this information from patients. A patient survey is an instrument often used to evaluate the effectiveness of healthcare delivery and provides an opportunity to assess patient perceptions about their care (Holt, 2018). However, not all healthcare facilities offer opportunities for patients to participate in surveys related to their healthcare.

Quality measures were developed by the Consumer Assessment of Healthcare Providers and Systems (CAHPS) to quantify healthcare processes, patient outcomes, patient perceptions, and organizational structures (AHRQ, 2010). Surveys were recognized as a means for organizations to obtain concrete information when evaluating and improving the quality of care delivered. CAHPS surveys were developed as instruments utilizing standardized questions to identify the positive and negative experiences when evaluating provider performances (AHRQ, 2010). The resulting data can direct healthcare providers to particular areas in need of improvement. And, when used consistently, they can monitor the progress over time (AHRQ, 2010).

The purpose of this quality improvement initiative is to implement a customized version of the AHRQ's CAHPS survey in a privately-owned, Midwestern, suburban outpatient psychiatry practice. The aim of this initiative is to assess patient perceptions of care delivered by nurse practitioner (NP) providers in a psychiatry practice to evaluate the quality of care delivered. The outcome measures of interest are 1) explanations, 2) listening, 3) information and directions, 4) respect, 5) time, and 6) overall satisfaction. Specific questions for study are:
In a suburban, outpatient psychiatry practice,

1. how do patients ≥18 years perceive their care delivery by an NP after a scheduled psychiatric visit?
2. in patients seen by an NP, what is the rate of overall patient satisfaction with an NP provider?
3. what is the relationship between the type of diagnosis and patient satisfaction with an NP provider?

Review of the Literature

The databases used for literature resources included CINAHL, Cochrane Database of Systematic Reviews, Ovid, and PubMed. The key words used in the search were *patient surveys, quality of care, communication,* and *patient experience*. Inclusion criteria were full text online, peer-reviewed publications, and journal articles published in the last five years. The filters resulted in over 97 thousand articles. Additional filter criteria included *psychiatric, human, and adults* as key words. Exclusion criteria included pediatric, and physical medical issues, i.e. diabetes, cancer, etc. There were twenty articles chosen for this review**.**

Patient satisfaction with healthcare services is a subjective measure for the quality of service delivered. The objective assessment of patient satisfaction places a numeric value on otherwise subjective experiences (Prakash, 2010). For example, pain is subjective, but placing a numeric value on pain intensity allows for a more objective assessment of a subjective experience. When utilizing standard numeric values to subjective experiences, satisfaction scores may be communicated in a language that is universal. Assessing for patient satisfaction may also reinforce the healthcare team is interested in delivering good care. When assessed over time, satisfaction scores can be used to identify areas in need of improvement such as communication, timeliness, efficiency, etc. Patient satisfaction scores may also provide information to retain patients and assist in the growth of practices (Prakash, 2010). As with other customer surveys, publicized patient satisfaction scores may recruit new patients when scores are high, but may deter patients when scores are low.

Assessing for patient satisfaction contributes to patient-centered care. The IOM (2001) and the NAM (2001) stressed the importance of increasing patient engagement in a patient's health care plan. In fact, the NAM (2001) identified patient-centered care as one of six key

elements for high-quality care. For patient engagement to occur, the patient should be treated as an equal partner in their healthcare. One way a patient can participate in their care is by completing a survey. To facilitate patient engagement and patient-centered care through surveys, the AHRQ initiated a new division in 1995 called CAHPS (AHRQ, 2010). The purpose of this department was to advance the understanding of patient's healthcare experience with the science of inquiry (National Academies of Sciences, Engineering, and Medicine [NASEM], 2015). CAHPS developed validated, standardized surveys about healthcare delivery from the patient's perspective. A foundational principal from which CAHPS developed the surveys was based on viewing the person who received the care as the only source of information about the care delivered (Clearly, 2016). Patients described what "patient experience" meant to them and included the quality of care, safety of care, cost, and outcomes (Wolf, 2018, p. 2). A second principle used was the information asked should be important to the patients (Clearly, 2016).

Patient satisfaction may be different than patient experience, but patient experience affects patient satisfaction. Patient experience is different from patient satisfaction in that "patient satisfaction relates to how a service meets the expectation of the individual" (Berkowitz, 2016, p. 9). Cleary (2016) found positives and negatives with patient experience surveys. Some negativity found in patient experience surveys included an underlying belief of patients not being astute enough to evaluate the quality of care when interpreting the results of the survey. Also, a belief the provider was unwilling to give the patient an unfavorable diagnosis or advice because the patient may give the provider a low score was reported (Clearly, 2016). Some positive findings were demonstrated by providing more patient-centered care, even if the advice was not what the patient wanted to hear, more positive patient experiences were reported (Clearly, 2016).

Based on these and similar study findings, CAHPS composed survey questions to prompt the patient to focus on specific experiences rather than just evaluating their care (Clearly, 2016).

Positive patient experiences may yield better results or outcomes. Anhang-Price, et al. (2014) found patients who had a good experience with their provider were more adherent to the provider's advice. In addition, surveys promoted effective communication and strengthened the patient's engagement in their care. The authors also found a decrease in harm in the delivery of care (Anhang-Price, et al., 2014). Identifying areas of care for improving patient experiences was an area of focus for the CAHPS surveys. Because of this, CAHPS surveys were created to be customized (AHRQ, 2010; Clearly, 2016). Healthcare stakeholders, including patients, representatives, and insurance companies, use the statistical results from surveys differently depending on the purpose for evaluating these surveys. Often insurance stakeholders need a fundamental result, such as a global rating (Krol, DeBoer, Rademakers, & Delnoij, 2013); however, patients may be more interested in what other patients think when experiences are similar.

A series of assessments contributes to the achievement of a global rating. Krol, et al., (2013) conducted a retrospective study using a family of surveys called the CQ-index. Survey results from 12,281 nursing home residents in 464 nursing homes were evaluated. The surveys included 15 established quality indicators. Overall scores were calculated for each home, testing four methods. The first method, overall average score, was the simplest method to score the providers. The second method, overall patient perspective score, was determined by adjusting each indicator score to the importance level the patients assigned to the indicator via a Likert scale. Calculating differences in overall scores, was the third method when assessing differences between the providers. Finally, the fourth method, averaged the overall patient perspective score,

and became the 'star rating' for each indicator score. The global rating was determined by averaging the number of stars per provider divided by the amount of quality indicators (Krol, et al., 2013). Global ratings may not always represent the same overall score, but overall scores are a more accurate way of summarizing survey data.

Beyond a survey, the patient-provider relationship is a valid indicator of positive healthy outcomes. McCabe and Heale (2018) found the relationship between the patient and the provider can determine the outcome of the patient's health. They stressed the importance of a provider's ability to communicate to the patient in a way that is educational, compassionate, and not condescending (McCabe & Heale, 2018). Conversation analysis is the study of communication between provider and patient concentrating on how each participant builds mutual understandings. (McCabe, et al., 2013). In psychiatry, when a provider's communication improved with a psychotic patient, the psychotic patient's experiences improved (McCabe & Heale, 2018). The study found repairing the conversation contributed to a better therapeutic relationship and treatment adherence, however, communication with the psychosis population is often a continuous cycle of misunderstandings and misinterpretations (McCabe & Heale, 2018).

Sigmund Freud established the significance of the relationship between the therapist and the patient. According to Freud, there were two view points in the relationship: the provider's and the patient's (Freud, Strachey, & Tyson, 1959). Recognizing there are two viewpoints, effective communication respecting multiple viewpoints is a learned skill. McCabe and Heale (2018) studied communication training in a randomized controlled trial in the United Kingdom. Twenty-one psychiatrists were randomly selected to either a training group (experimental) or to a wait group (control). Of the 21 psychiatrists, 97 of their outpatients with schizophrenia/schizoaffective disorder were recruited (McCabe & Heale, 2018). Initially, every

pair of patient-providers were video-recorded in the clinic. Psychiatrists in the training group were then trained and the others were not. Post-training, each pair were re-recorded in the clinic. Post-training, psychiatrist efforts in establishing a shared understanding with their patients was significantly higher. Psychiatrists receiving the intervention used 44% more self-repair than the control group, adjusting for baseline. In addition, the experimental group psychiatrist and patient views of the therapeutic relationship improved significantly (McCabe & Heale, 2018).

There once was a time when the norm was for the physician to care for the disease of the patient and not the patient as a whole. The Commonwealth Fund (2005) found four in 10 seniors do not take their medications as prescribed. The reasons for medication non-adherence varied: disagreeing with the provider, cost, and not understanding why the medication was needed (Commonwealth, 2005). Medication adherence may have been improved if there was a trusting relationship between the patient and the provider.

A healing model approach may be more effective than a disease management approach in mental health. Green et al. (2008) studied the relationship between the psychiatric patient and their provider. This was a mixed-methods, exploratory, longitudinal study of recovery. The study included 177 patients diagnosed with schizophrenia, schizoaffective disorder, affective psychosis, or bipolar disorder. Methods included a very detailed interview, questionnaires, and a recovery assessment. Green et al. (2008) found when patients had a positive and trusting relationship with their provider, a better recovery and quality of life was exhibited when compared to a poor relationship between patient and clinician. The study concluded a healing model approach, instead of a disease management approach while focusing on the patient-provider relationship, might accelerate recovery from mental illness (Green et al., 2008).

Steward (cited in Travaline, Ruchinskas, and D'Alonzo, 2005) reviewed 21 studies involving physician-patient relationships. Of those 21 studies, 16 reported positive results, four reported negative results, and one was inconclusive regarding a correlation between effective physician-patient communications and patient outcomes. A concept exposed within the review was the different characteristics of communication and its effects on patient outcomes. For example, when the patient was encouraged to ask more questions, anxiety increased, role limitations surfaced (at that time, patients were not one to question the doctors), and physical limitations were exhibited. Conversely, anxiety was decreased when health care decisions were a collaboration between the provider and the patient. An effective patient-provider relationship and communication may improve health just as well as many drugs (Travaline et al., 2005). When the provider gave clear information along with emotional support, the patient's psychologic distress resolved and blood pressure decreased (Travaline et al., 2005). Good communication between the provider and the patient was found to be a fundamental part of healthcare. When done well, the therapeutic effects may affect patient outcomes positively.

The framework chosen to guide this project is the Donabedian model. The model is focused on three components: 1) structure, 2) process, and 3) outcome, and is often used in quality improvement efforts (National Learning Consortium [NLC], 2013). In this study, the structure studied will consist of care delivered by an NP. The process of interest includes communication and diagnoses. The outcomes examined will be patient knowledge, patient adherence to health care plan and medications, patient's mental health status, and patient's satisfaction. The customized CAHPS survey will assist in evaluating the patient experience in each of these areas.

Method

Design

This was an observational, descriptive design. A customized CAHPS survey was administered November 11 – December 31, 2019. The survey is part of a quality improvement initiative. A retrospective evaluation and analysis of the surveys occured in January 2020.

Setting

The setting was a privately owned, psychiatric mental health care practice with two locations within a Midwestern suburb of a metropolitan area with over three million residents. Only one site was selected for survey distribution. There are 49 board-certified psychiatrists located within the metropolitan area (Missouri Department of Mental Health, 2019). The practice employs two board-certified psychiatrist, one psycho-therapist, three NPs, and five support staff/administrators. Office hours are Monday through Friday from 0900 to 1700 and closed on weekends and holidays. The practice location has approximately 150 visits weekly from those 18-years old and older.

Sample

The sample was a convenience sample of all patients encountered in the practice during the six-week period. Inclusion criteria was age 18-years and older, at least one mental health diagnosis, a scheduled office visit within the designated study period, and seen by an NP provider. Exclusion criteria was those under 18-years of age, do not have at least one mental health condition, did not have a visit within the study period, or were seen by an MD provider.

Approval Processes

Approval to conduct the quality improvement project was obtained from the study site. Approvals from the Doctor of Nursing practice (DNP) committee and the university institutional

review board (IRB) were granted. There are minimal to no risks to patients in this study since there are no personal identifiers and this is a volunteer survey. Benefits of this study include a means to evaluate care delivered by NP providers.

Data Collection and Analysis

A customized patient experience survey (appendix A) was distributed to patients after their scheduled office visit between November 11 – December 31, 2019. Data evaluation was done retrospectively in January 2020. No personal identifiers existed on the survey. Demographic data included age, gender identity, and race/ethnicity. The mental health diagnosis (or diagnoses) was self-reported from the patient. Other data includes patient evaluations of NP care: 1) explanations, 2) listening, 3) information and directions, 4) respect, 5) time, and 6) overall satisfaction. The NP provider will be identified as NP-1, NP-2, and NP-3. Data analysis are descriptive statistics and inferential statistics, the Kruskal-Wallis, non-parametric test.

Results

The total number of patients treated during the study period was approximately 515 patients. Of these, 100 HCAHPS surveys were completed for a sample size of 100 (N=100) or a 19% completion rate. The sample was further divided as NP1 (n=13), NP2 (n=67), and NP3 (n=20). Only 35 patients completed the demographics portion of the survey (n=35; 35%). The majority of participants were between the ages of 25-44 years (n=16; 46%), the next common age was 45-64 years (n=12; 34%), over 65 (n=4; 11%), and last was 18-24 years old (n=3; 9%). The race/ethnicity was predominantly white (n= 24; 69%) were white, followed by black (n=8; 23%), then Asian (n=3; 8%). More males (n=18; 51%) than females (n=17; 49%). Additional data revealed 32 (n=32; 89%) patients were established patients with 3 (n=3; 8.5%) being new patients. Only 14 of the 35 surveys (n=14; 40%) identified their diagnosis. Of these, six patients

(43%) reported multiple diagnoses and eight patients (57%) reported one diagnosis. The identified diagnoses were: anxiety (*n*=6; 43%), major depressive disorder (*n*=4; 29%), attention deficit hyperactivity disorder (ADHD, *n*=4; 29%), mood disorder (*n*=2; 14%), substance use disorder (*n*=1; 7%), post-traumatic stress disorder (PTSD, *n*=1; 7%), bipolar disorder (*n*=1; 7%), dysthymic disorder (*n*=1; 7%), and schizophrenia (*n*=1; 7%).

The survey questions were answered by using a 5-point Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree). To clarify, the questions that were asked (Q1), did the NP explained things in a way that was easy to understand, (Q2), the NP listened carefully to me, (Q3), the NP gave me easy to understand information and directions, (Q4), the NP showed respect, (Q5), the NP spent enough time with me, (Q6) inquired about the time spent with the NP, and (Q7) was the overall satisfaction with 1 being very dissatisfied and 5 being very satisfied. The descriptive statistics results are split up for each NP (appendix B). The kurtosis was only listed for the NP and questions that was affected by it. Kurtosis indicates if the distribution could be prone to outliers, this occurs when the kurtosis is greater than or equal to 3 (Westfall & Henning, 2013).

NP1, Q1 had an average of 4.85 (*SD* = 0.38), Q2, the average was 4.85 (*SD* = 0.38). Q3 the mean was 4.82 (*SD*=0.40), Q4 average of 4.92 (*SD*=0.28, Kurtosis = 8.08), and Q5 had an average of 4.58 (*SD*=0.67), Q6 the average was 2 (*SD*= 0.95), Q7 the average of 4.77 (*SD*=0.44)

NP2, the observations of Q1 had an average of 4.75 (*SD* = 0.53, Kurtosis = 3.05). the observations of Q2 had an average of 4.73 (*SD* = 0.54, Kurtosis = 2.59). Q3 had an average of 4.72 (*SD* = 0.60, Kurtosis = 6.05). Q4 had an average of 4.73 (*SD* = 0.59, Kurtosis = 6.62). Q5 had

an average of 4.70 (*SD* = 0.61, Kurtosis = 5.40). Q6 the average was 2.12 (*SD*=0.99), Q7 the average was 4.64 (*SD*=0.77, Kurtosis=7.75).

NP3, the observations of Q1 had an average of 4.90 (*SD* = 0.31, Kurtosis = 5.11). Q2 had an average of 4.90 (*SD* = 0.31, Kurtosis = 5.11). Q3 had an average of 4.90 (*SD* = 0.31, Kurtosis = 5.11). Q4 had an average of 4.90 (*SD* = 0.31, Kurtosis = 5.11). Q5 had an average of 4.89 (*SD* = 0.32, Kurtosis = 4.62), Q6 the average was 2.40 (*SD*=0.99), Q7 the average was 4.85 (*SD*=0.37).

The Kruskal-Wallis, non-parametric test, was used to assess if there was a significant difference between the nurse practitioners. The Kruskal-Wallis test is a non-parametric alternative to the one-way ANOVA and does not share the ANOVA's distributional assumptions (Conover & Iman, 1981). Each question was analyzed separately however, the results were the same; none were significant, indicating that the mean rank was similar for each of the nurse practitioners (Appendix D).

Discussion

This quality improvement project was to implement a customized CAHPS survey into a privately owned, psychiatric mental health care practice. Focusing only on nurse practitioner patients. This survey was offered for six weeks. The framework used to help guide this project was the Donabedian model. The structure studied consisted of care delivered by the NPs. The process of interest included communication and diagnoses. The outcomes examined was patient knowledge, patient adherence to health care plan and medications, patient's mental health status, and patient's satisfaction. The surveys assisted in understanding the patient experience of each of these areas. It is no surprise that nurse practitioners are doing a great job with communicating with their clients. Over 90% of all the clients were satisfied or very satisfied with their care.

One limitation to this study is definitely the sample size of the diagnosis (*N*=14). If this project was to be repeated or continued, I would suggest; emphasizing to the clients to fill out the demographics and diagnosis, making the survey on-line, and investigate further into the time spent with the np and their overall satisfaction.

Conclusion

This QI initiative successfully introduced a modified CAHPS survey program into a psychiatric mental health care practice. It provided an opportunity to assess the patient perceptions about their care. Patient-centered care is key to improving the quality of care. The results of this quality improvement project showed that nurse practitioners deliver quality care and their communication skills are above average, no matter the years of experience they have.

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Appendix A

Figure 1. *CAHPS Survey*

***Today's Date*_____ *NP #*_____**

We would like to know how you feel about the services we provide so we can make sure we are meeting your needs. Your responses may result in improving the care you receive. All responses are kept confidential and anonymous. Thank you for your time.

By completing this questionnaire, I am aware that I am voluntarily consenting to this survey.

Age:

☐ 18-24 ☐ 45-64
☐ 25-44 ☐ over 64

Race/Ethnicity:

☐ Black/African American ☐ Hispanic or Latino
☐ White (Caucasian) ☐ Asian
☐ American Indian ☐ Other

Gender Identity:

☐ Male ☐ Female

Is this your first visit:

☐ Yes ☐ No

Your Diagnosis:

	Strongly Disagree 	Disagree 	Neutral 	Agree 	Strongly Agree 
The nurse practitioner explained things in a way that was easy for me to understand.	1	2	3	4	5

The nurse practitioner listened carefully to me.	1	2	3	4	5
The nurse practitioner gave me easy to understand information and directions.	1	2	3	4	5
The nurse practitioner showed respect for what I had to say.	1	2	3	4	5
The nurse practitioner spent enough time with me.	1	2	3	4	5
Time the nurse practitioner spent with me.	Less than 15 min	16-30	31-45	46-60	More than 1 hour
Overall satisfaction with the nurse practitioner.	Very dissatisfied	Dissatisfied	Neutral	Satisfied	Very satisfied

Appendix B

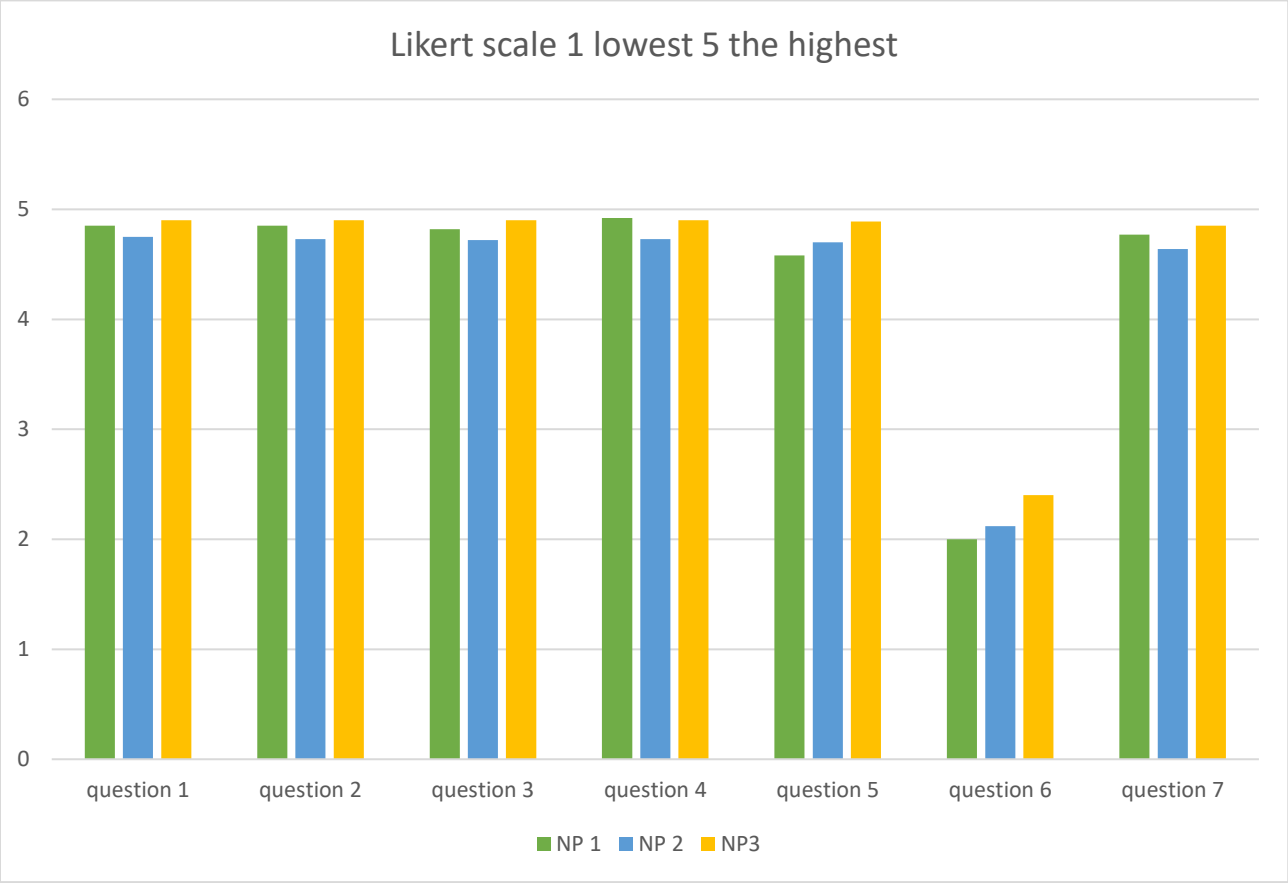
Summary Statistics Table for Interval and Ratio Variables by Groups

Variable	*M*	*SD*	*n*	SE_M	Min	Max	Skewness	Kurtosis
Q1								
1	4.85	0.38	13	0.10	4.00	5.00	-1.92	1.68
2	4.75	0.53	67	0.07	3.00	5.00	-1.99	3.05
3	4.90	0.31	20	0.07	4.00	5.00	-2.67	5.11
Q2								
1	4.85	0.38	13	0.10	4.00	5.00	-1.92	1.68
2	4.73	0.54	67	0.07	3.00	5.00	-1.88	2.59
3	4.90	0.31	20	0.07	4.00	5.00	-2.67	5.11
Q3								
1	4.82	0.40	11	0.12	4.00	5.00	-1.65	0.72
2	4.72	0.60	67	0.07	2.00	5.00	-2.38	6.05
3	4.90	0.31	20	0.07	4.00	5.00	-2.67	5.11
Q4								
1	4.92	0.28	13	0.08	4.00	5.00	-3.18	8.08
2	4.73	0.59	67	0.07	2.00	5.00	-2.50	6.62
3	4.90	0.31	20	0.07	4.00	5.00	-2.67	5.11
Q5								
1	4.58	0.67	12	0.19	3.00	5.00	-1.27	0.41
2	4.70	0.61	66	0.07	2.00	5.00	-2.25	5.40
3	4.89	0.32	19	0.07	4.00	5.00	-2.57	4.62
Q6								
1	2.00	0.95	12	0.28	1.00	4.00	0.66	-0.36
2	2.12	1.05	64	0.13	1.00	5.00	1.34	1.56
3	2.40	0.99	20	0.22	1.00	5.00	1.11	0.80
Q7								
1	4.77	0.44	13	0.12	4.00	5.00	-1.28	-0.37
2	4.64	0.77	67	0.09	1.00	5.00	-2.67	7.75
3	4.85	0.37	20	0.08	4.00	5.00	-1.96	1.84

Note. '-' denotes the sample size is too small to calculate statistic.

Appendix C

Questions 1-7 grouped by NPs



Appendix D

Kruskal-Wallis Rank Sum Test by Groups

Q#1

NP	Mean Rank	χ^2	*df*	*p*
1	52.04	1.42	2	.491
2	48.96			
3	54.65			

Q#2

NP	Mean Rank	χ^2	*df*	*p*
1	52.54	1.79	2	.409
2	48.72			
3	55.15			

Q#3

NP	Mean Rank	χ^2	*df*	*p*
1	50.36	1.63	2	.442
2	47.94			
3	54.25			

Q#4

NP	Mean Rank	χ^2	*df*	*p*
1	55.27	2.33	2	.312
2	48.49			
3	54.15			

Q#5

NP	Mean Rank	χ^2	*df*	*p*
1	43.62	2.60	2	.272
2	48.22			
3	55.11			

Appendix E

Kruskal-Wallis Rank Sum Test for Q7 by Groups

Level	Mean Rank	χ^2	*df*	*p*
1	50.54	0.89	2	.640
2	49.34			
3	54.38			