

A NATURAL OBSERVATION OF STAFF-PATIENT INTERACTIONS AT
A PSYCHIATRIC HOSPITAL

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A NATURAL OBSERVATION OF STAFF-PATIENT
INTERACTIONS AT A PSYCHIATRIC HOSPITAL

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ABSTRACT

Communication between staff and patients at mental health facilities is understudied. Paul (1987) developed the Staff-Resident Interaction Chronograph (SRIC) to objectively measure staff-patient communication by observing their interactions. Research shows that staffing ratios are among the salient factors related to providing effective patient care. The following study combines these two methods to discuss influences of communication and staffing ratios on staff-patient interactions. **Objective:** Use the Staff-Resident Interaction Chronograph (SRIC) and staffing ratios to assess the effectiveness of communication between staff and patients at a psychiatric hospital. **Methods:** Conducted 51, 10 min observations of staff-patient interactions at a state psychiatric hospital using a modified version of the SRIC. **Results:** Comparisons were made between three units (Geriatric, dual diagnosis of MHMR, and Chronic stay), types of interactions (positive, neutral, or negative), and staffing ratios (low, medium, high). The McNemar-Bowker chi-square test was used for data analysis (χ^2 & p value). More frequent neutral and negative interactions were observed with low and high staff ratios, while more frequent positive interactions appeared with the middle staffing ratio. **Discussion:** Improvements in quality of interactions, may be enabled by the appropriate ratio of staff: patients, in turn, potentially leading to more frequent and successful patient discharges.

A Natural Observation of Staff-Patient Interactions at a Psychiatric Hospital

PREFACE

At the beginning of my sophomore year, the psychology professors at Texas State came to our Psychology Association club meetings to tell us about their research interests and asked for assistants. At that time, clinical health psychology struck me as very interesting, and I met with Dr. Haskard to discuss being her research assistant. Like all research assistants, I started out with simple data entry and literature searches, and worked my way up to being a part of a collaborative study using a large inventory of data. Along with two other students, we worked together to develop a rating scale that measured doctors' use of politeness during medical visits, and presented our study in a poster presentation at the Southwestern Psychological Association conference in Spring, 2009.

My research background gave me the opportunity to see how I would spend my time as a clinical psychology graduate student. It narrowed my focus in psychology and helped me decide how I wanted to use my degree. Aside from the scholastic benefit, it has taught me how to work collaboratively with professors and other students, and how to adequately find information on any subject in psychology.

To put my classroom and research knowledge to use, I started volunteering at Austin State Hospital (ASH) in June of 2008. I spoke to many staff members about ideas for a thesis study, and two associate psychologists told me about Dr. Gordon Paul. In the late eighties, Paul started setting up a social learning program for the Austin State Hospital, but lack of support caused the operation to fall through. Several psychologists tried to keep up with the

program for use in training and evaluating staff members, but without the funding and support, the method lay dormant. With this study, I decided to revisit Paul's work to see if its effectiveness still existed twenty years later.

Gordon Paul is currently a distinguished professor at the University of Houston. After piloting a few ideas from his work, I met with him to discuss my study and ask for advice. He helped me narrow the focus of my hypothesis and suggested a few ways to improve the study. When replicating research, it can be beneficial to contact the author of the original study in order to keep the same initiative while contributing to the collection of research. My study is based upon Dr. Paul's work, but was simplified to successfully conduct and complete the study within time frame of my undergraduate honor's thesis.

INTRODUCTION

The behavioral perspective of psychology focuses on decreasing inappropriate and disruptive behaviors through use of reward systems, operant conditioning, and systematic desensitization, thereby increasing socially functional behavior and extinguishing undesirable behavior. The fundamental behaviorist assumption is that behavior becomes controlled by environmental stimuli which ultimately determine human actions (Watson, 1913). This approach emphasized that information derived from objective measurements of directly observable behaviors can be useful guides for achieving specified behavioral objectives and improving rates of desirable outcomes. For example, adequate use of communication and staffing ratios at a state mental hospital are ways to use techniques in behaviorism to promote healthy behavior in patients.

The Austin State Hospital focuses on adapting patients' behavior to promote wellness and acceptance into society. A major influence on patient behavior is in the interactions with

staff. Staff members should use the most effective responses to patients' behaviors in all situations in order to promote healthy growth and wellness. Staff-patient communication is a very important aspect of the treatment process, and often overlooked in research. One way to objectively measure and evaluate the effectiveness of these interactions between staff and patients is by conducting observations in a natural setting.

Austin State Hospital

Originally founded in 1861, the Texas State Lunatic Asylum was renamed the Austin State Hospital in 1925. It now serves around 300 patients providing services on three main units such as behavior modification, recreational therapy, art and music therapy, nutrition and spiritual care. Care providers include RNs, LVNs, social workers, psychologists and psychiatrists (The Texas Department of State Health Services, 2007).

The idea of qualitatively measuring behaviors of mentally challenged populations became very popular in the late 1970's (Schinke, 1977; Mariotto, 1978). Gordon Paul began his research on the effectiveness of public mental health hospitals in 1968. He continually assessed staff and patients for four years and followed up with released patients in the community. From this data he analyzed the most effective ways to interact with patients in mental health facilities according to the methods used by the most successful placements. Paul edited a five-part series, *Observational Assessment Instrumentation for Service and Research*, including the *Staff-Resident Interaction Chronograph* (See Appendix A) by Paul, Licht, Mariotto, Power, & Engel (1987). The SRIC was a methodology developed to objectively measure and evaluate interactions between staff and patients in mental health care facilities. Paul used SRIC in his social learning program at ASH.

The Austin State Hospital trains its employees to interact with patients in order to promote discipline and wellness. Every staff member completes a 12 day orientation before being sent to the specific unit to which they are assigned. Part of this training involves a therapeutic communications skills class. Staff members are taught how to appropriately respond to certain behaviors, usually with verbal responses. They are then given a chart to observe other staff-patient interactions. This training obviously resonates from Paul's work because it rates staff-patient interactions using natural observations and similar behavior-response categories. On the unit, a more experienced staff member, such as an associate psychologist, individually trains them to handle situations that are common to that particular unit. It is important for caregivers to be consistent with the patients to reinforce the same behaviors in the same manner. When the topics "Behavior Modification" and "Inpatient" were searched on a psychology database, there were 703 hits. "Behavior Modification" and "Case Study" yielded almost 3,000. This indicates that it may be difficult to do behavior modification at large hospitals. This study differs in that it includes a random sample of a large proportion of the adults at a state psychiatric hospital. The natural observations of staff-patient interactions will be compared unit to unit and examined in relationship to staffing ratios between all of the observation periods.

Literature Review

The zeitgeist of the 1960's set the stage for improvements in mental health facilities. The Selkirk Community Psychiatric Services adopted changes in their facility to improve communication by creating a society within the establishment (Kreyes, 1968). These changes included adding a buffet-style cafeteria, a banking system, and a shuttle bus. These amendments create a sense of integration into the community and a feeling of acceptance and

importance in the patients, by giving them each individual responsibilities. Group meetings were held for patients, and staff-patient meetings supplied the feeling of teamwork towards a goal of wellness.

The token economy, such as the one in place at ASH, is another appropriate way to promote change in the community through behavior modification. This system is currently being expanded and introduced to additional units at the hospital. Tokens are given by staff members at the end of activities and the behavior that is rewarded is specified to the patient. Tokens can be earned for having proper hygiene, attending classes on time and participating in events in an appropriate manner. ASH also incorporates a response-cost system, where tokens can be taken away from patients as a form of punishment. Essentially a simple warning should be enough to remind the patient that poor behavior comes with consequences. Token rewards are another way for staff to take advantage of proper interactions with patients.

Studies conducted in mental health facilities demonstrate the importance of effective communication between the staff and patients, and offer ways to make improvements in certain situations. Staffing ratios have also been shown to improve the staff-resident relationship and success of treatment (Kutney-Lee & Aiken, 2008). Both aspects of staff-patient interactions were examined in this study. Rask (2001) studied verbal communication styles at 5 forensic psychiatric care units in Sweden. They administered a general psychiatric nursing questionnaire to the RNs and LMNs (Licensed Mental Nurses) about types of verbal communication used in caregiving. The types most often used were “ ‘explaining consequences, confronting and encouraging the patient to talk about his/her crime/behavior,’

‘interpretative verbal interaction with the patient’ and ‘verbal interaction about functions in daily life’.”

The study found significant differences between the RNs and LMNs. This study shows that verbal communication style is an important part of psychiatric care, and that different occupations may show different tendencies in type of care provided. Unfortunately, over one-third of respondents claimed that verbal interactions with patients were rare. It was also found that confrontational communication coming from nurses increased psychological strain on the patients. In the current study, confrontational communication would be that in which the volume is elevated and the tone is angry, sarcastic, etc. and would be labeled as negative verbal communication or in worse case scenarios, error. The best way to modify behavior is to focus on reinforcing the positive behavior, not punishing inappropriate behavior or using a confrontational approach (Paul & Lentz, 1977).

The topic of verbal and nonverbal communication between staff and patients is unfortunately neglected in health care research (Haskard, DiMatteo, & Heritage, 2009). This study focuses on both the spoken and unspoken communication between the staff and patient, because even subtle changes in tone or body posture can have lasting effects on the interaction. Haskard et al. (2009) studied how nurse-patient communication contributes to patients’ satisfaction with the health care provided. The study showed that patients are most satisfied when the nurse used warm, caring tones rather than a rushed, impersonal voice; this could make them more likely to follow nurses’ suggestions for recovery. The current study will account for this distinction with a simplified code of positive, neutral, or negative communication style.

The second component of the natural observations at ASH include comparing low, medium, and high staffing ratios in relation to the SRIC measures. Knowledge of the best staff-patient ratios is important because 80% of public funding for psychiatric hospitals goes to personnel costs (Coleman & Paul, 2001). The amount of interaction between staff and patients depends on staffing ratios (Kutney-Lee & Aiken, 2008) most of all. On the surface it would seem that the fewer patients per staff would increase the quantity and quality of interactions. The type of attention the staff provide to the patients is important, which are accounted for in the observations in this study. Coleman and Paul (2001) found that staffing ratios directly correlated with the amount of attention given to the patients. However, staff attention to patients was a better predictor of unit effectiveness. Paul and Lentz (1977) saw a 28% increase in staff-initiated interactions after training staff on how to improve interactions using the Social Learning Program.

Kutney-Lee and Aiken (2008) studied nurse staffing ratios among hospital surgery patients. The population was 228,433 adult surgical patients with or without mental illness. Data was collected in a cross-sectional study using patient discharge records, nurse surveys, and hospital data. Staffing ratios were accounted for by noting the number of patients each nurse was responsible for during each shift. The patients' length of stay and mortality rates were documented. Patients grouped as mentally ill and those grouped as not mentally ill were similar in age, gender, and race, but not exactly matched. Results showed that higher staffing ratios for the mentally ill group produced a significantly reduced mortality rate. When nurses had more patients to care for, mortality rates for those with mental illness increased by 28% and the chances the nurse would fail to save the patient after a post-surgical complication increased by 34% (Kutney-Lee & Aiken, 2008). This study did not mention a cap on the

staffing ratio to determine whether or not too many staff is a good thing. The current study examines the quality of interactions with low, medium, and high staffing ratios.

Felce and colleagues studied the effects of staffing ratios at 9 mental health facilities (Felce, Repp, Thomas, Ager, Blunden, 1991). Data showed that the addition of one or more staff members made no difference on patient performance and activity. However, results did show that reducing the group size increased patient performance. This might involve the theory of social loafing that says an individual's contribution declines when they are placed in a group setting (Brehm, 2005). As fewer patients participate in the group, those who do work harder. This study uses these studies on staffing ratios and social loafing theory to make hypotheses about staff performance.

Hypotheses

The current study will also examine the number of interactions between staff and patients and determine the outcomes of non-interactions versus interactions. The SRIC continues to be effective in modern mental health care systems. It is a useful tool for staff training and development, as well as a way to assess the environment of a certain unit and the well-being of patients during an activity. I used the SRIC as an instrument for assessing staffing ratios and communication skills of staff members at a state psychiatric hospital, examining the following hypotheses:

A) Quality of Interactions will Differ between Units

There will be differences in staff performance between the three units. Although every staff member has had the same general orientation, each has gone through unit-specific training to prepare for certain common behaviors. Because each unit consists of certain

diagnoses, staff are more accustomed to their unit's common situations and patient behaviors. Each unit will have characteristic behaviors and specific instructions on how to handle them.

B) Staffing Ratios will Influence Staff Performance

Median staff-patient ratios will produce the best interactions. It is generally assumed that fewer patients per staff means more and better interactions. The reasoning is that with more patients, especially in a state institution, each staff member has to focus on keeping the peace and following procedures. This makes it more difficult to focus on individual patients, producing less effective communication with the patients. With fewer patients, staff will have greater control over the situation and will be able to respond appropriately to patient behaviors. As a staff member gains responsibility for more patients, quality of interactions will be strained due to lack of control and increased stress in the situation. However, it is also reasonable that when too many staff persons are present, they will end up grouped in a corner talking amongst one another, while overlooking the patients. This idea is based on social loafing theory. Felce et al. (1991) reported that it is possible to have too many staff. This challenges the argument that more staff per patient on the unit produces higher quantity and quality of interactions (Kutney-Lee, & Aiken, 2008). Since some research shows that too few staff members produce negative staff-patient interactions, and some research and theories show that too many staff produce negative interactions, I predict that moderate staff-patient ratios will produce the best interactions.

Purpose

This study uses the SRIC to observe and chart staff-patient interactions at the Austin State Hospital. Comparisons between the units, types of interactions, and staffing ratios will determine the effectiveness of the overall communication between staff and patients at the

hospital. These findings will be used to provide suggestions for improving training and quality of care at the facility.

METHODS

Participants

Staff members included direct care personnel, or PNAs. Random selection (according to which staff and patients were on the unit during data collection) determined which participants were observed. Staff members were identified by a number on the data charts. A master key was created with participant names and identification number in order to ensure confidentiality during data analysis. Patients were not identified by name, but the unit was noted. The unit depicts what type of diagnosis the patient has and will be accounted for in the final comparisons. The total patient population consisted of adults ages 18 and older with chronic diagnoses, meaning they are longer term residents at the hospital. The subunits are divided into one for geriatric patients over the age of 60, a second unit with patients with dual diagnosis of mental illness and mental retardation, and a third unit of patients who require longer-term treatment which includes special needs patients (those with hearing loss or physical handicaps). Official data on patient demographics was not available, but the patients represent diverse ethnic groups and many are of low socioeconomic status. Because the staff and patients were accustomed to the researcher's presence, there was no influence or intervention in the daily interactions.

Staff-Resident Interaction Chronograph

Psychologist Gordon Paul developed the Staff-Resident Interaction Chronograph (SRIC), the third of a five-part series on assessment in residential treatment facilities (Paul, Licht, Mariotto, Power, & Engel, 1987). He used this method of observing interactions in the

Social Learning Program at ASH, and some of these techniques are still used today by staff psychologists for the sake of staff training and data collection.

Paul's early SRIC study compared measures of staff-patient interaction to assessments of attitudes (Paul et al., 1973). He set up a facility with staffing ratios similar to that of a state hospital. Once Paul trained the staff with SRIC, the average number of interactions reached 230 per hour with 99.7% being errorless. The later study by Paul and Lentz (1977) described interactions between staff and patients in milieu and social-learning programs as well as a state hospital. Staff and patients were assessed through observations of behavior, interviews, and rating scales. Assessments took place before admission, during the program, and every six months after the patient was discharged. This study was used to determine which staff responses are the best for certain patient behaviors.

The SRIC is a direct observational coding method that is cost-effective and can be used by researchers and students (See Appendix A). The SRIC charts patient behaviors and staff responses (Paul, 1987) for 1-minute increments over 10 minutes. The observer uses a matrix to record 5 possible patient behaviors and 21 staff responses. This poses a problem for researchers because the data collection is so elaborate and training is necessary. The current study has used the exact patient behaviors, but has narrowed the staff responses to 9 (See Appendix C for chart). Categories involving group work have been excluded because observations were only recorded during patient free time where there was no designated group activity. Each staff member was followed for 10 minutes, noting any activity for each minute. Staff members were randomly selected and unaware that they were being observed. The SRIC matrix codes which staff responses are appropriate for promoting patient improvement, and which responses inhibit the patient's progress

Procedures

Natural observations of the interactions between staff and patients on the Specialty Services unit at a psychiatric hospital were performed. The investigator was first trained by Ron Nottebart on how to conduct observations before beginning independent observations. Independent observations were recorded on different days during the patients' free time. This maximizes the potential for unaltered staff performance because there is no structure during this time and the way staff members interact with the patients is purely up to them.

The investigator discreetly observed one staff member for 10 consecutive one-minute increments on each unit. The number of staff and patients was recorded in order to determine the staffing ratios. Collateral data such as date, time and location were also recorded. Interactions were then charted using a simplified version of the SRIC (see appendix). Every minute any interaction was recorded. If there were no interactions between the staff and patients, this was noted. All other interactions were recorded as they occurred. All interactions with any patient(s) were recorded.

Observation Chart

Psychologists Ron Nottebart and Joe Pacini at the Austin State Hospital simplified Paul's SRIC into a one-page chart (See Appendix B). The hospital uses this chart to train new staff and assess existing staff members. The chart combines the section of patient behaviors down to four categories: "socially functional," "disruptive," "avoidant," and "irrelevant." If the patient makes a request, this is noted. For this study, an extra category labeled 'neutral' from the original SRIC was added. This category is noted in the case of an absence of interaction. The staff responses are divided into six possible categories. Ideally,

the nature of the staff's reaction to the patient's behavior will positively reinforce and encourage socially acceptable, appropriate behaviors. For the patient this would include performing proper hygiene, attending classes, therapy sessions, and activities, participating, and being polite. Ways in which staff can respond to these behaviors are through verbal praise ("thank you!" "good job") or nonverbal cues such as a smile or pat on the back. Appropriate volume and an animated tone should be used. It is important to note that socially functional behavior is not defined as always being in a good mood; if the patient is upset, they can learn to handle their emotions in a normal way that would be appropriate in settings outside the hospital.

When the patient engages in disruptive behavior, impinging on others' rights or causing a commotion, the most appropriate response for the staff member would be to calmly explain the implications of the patient's behavior and give choices or options to modify it. While participating in the token economy, the staff could warn the offending patient about possibly losing tokens, a negative punishment that is likely to decrease the behavior in the future. Since punishment is not the best way to modify behavior, a better way to respond would be to offer an alternative positive behavior to substitute for the inappropriate one.

Disruptive behavior were acts deemed not appropriate in a social setting; yelling, overturning chairs, cursing, etc. According to Paul and his colleagues, the best staff response towards disruptive behavior is to ignore it. Attendants should respond to avoidant behavior in the same way as disruptive behavior. Avoidant behavior would be refusing to comply with a staff's request or the expectations of the facility.

Irrelevant behavior is defined as something that is not socially accepted as normal, but is not disruptive or harmful to others. Examples of this kind of behavior would include

but are not limited to talking to oneself, saying strange things, and idiosyncratic behavior. The best way for caregivers to respond to this behavior would be to simply ignore it. This would be charted as “no response.” If the behavior turns disruptive or socially functional, then the staff should respond appropriately. In any case if the patient’s behavior should change, the staff’s should as well.

Other possible staff responses include direction and error. Giving someone direction involves instructions or requests, similar to parenting. Generally this response is neither the best or worst, and is labeled as neutral. An error in staff response would be a harsh tone or loud volume, or engaging in some kind of inappropriate physical force. This study replaces the staff tone and volume ratings with a nonverbal component, more closely resembling the original SRIC.

RESULTS

A total of N= 51 staff members were observed (17 per unit) in 10 interactions each totaling 510 total observations. Interactions were coded into a matrix (See Appendix D) assigning each possible interaction a number, 1-54. The quality of interactions is based on Paul’s research (Paul & Lentz, 1977) and labeled as either a positive, negative, or neutral interaction.

Data comparisons were made using frequency counts and McNemar-Bowker chi-square tests to compare interactions between the units and the quality of interactions compared to the staffing ratios. The McNemar-Bowker is a type of extended chi-square test. It is appropriate for this study because the data is dependent (patients nested within staff), and because it allows for more than 2 samples. The data represents a nested dependent sample because the same staff member was observed for 10 interactions with multiple

patients and the same patient population was used for each unit. In this study, the three hospital units constitute three samples, and these are analyzed in relationship to three possible types of interactions (positive, neutral, and negative), and three categories of staffing ratios.

Frequencies

The most frequent interactions are shown in Figure 1. The most common interactions were the absence of any interaction followed by three positive interactions (See figure 2). Types of interactions according to unit are shown in Figure 1. The MHMR and chronic units had more negative interactions than positive, (MHMR: positive= 60 , negative= 70; chronic: positive=60 , negative= 61) and the geriatric unit showed more positive than negative (positive= 71, negative= 54). Further analysis isolating the geriatric unit showed no statistically significant results.

The McNemar-Bowker test was used to compare the unit (Geriatric, MHMR, and chronic) and coded interactions (positive, negative, or neutral) using a 3X3 table. The test approached significance, McNemar-Bowker $\chi^2 = 7.302$, $p = .063$.

Staffing Ratios

The mean staffing ratio was 6.9 and the median was 6 with a range of 2.2-20. In order to test the hypotheses related to the optimal staffing ratio, the data was divided into quartiles. The second and third quartiles (middle 50%) were used for the hypothesized best or middle ratio, which was 5-8.3 patients per staff. Any ratio above or below this median was hypothesized to be undesirable, yielding fewer positive interactions. See Table 1 for the staffing ratios according to unit. According to frequency counts, more negative and neutral interactions were seen regardless of the staffing ratio (See Figure 3).

The McNemar-Bowker test was used to analyze a 3X3 chart of staffing ratio (<4.9, 5-8.3, and >8.3), and type of interaction (positive, negative, neutral). The hypothesized optimal ratio is the middle 5-8.3 range. The low (<4.9) and high (>8.3) staffing ratios were hypothesized to have more negative interactions than the middle ratio (See Figure 3). The p value was significant (McNemar-Bowker $\chi^2 = 78.308$, $p < .01$).

DISCUSSION

Descriptives/Frequencies

By far the most common recorded interactions were actually the absence of any interaction (n= 113 out of 510). The next three most common were all positive interactions. Since the most frequently occurring interactions tend to be positive, the hospital should focus on encouraging more staff-patient interaction. The findings show that the staff members were especially good at positively reinforcing socially functional behavior with both verbal and nonverbal feedback.

Although the second, third, and fourth most frequent interactions were positive, statistical analysis shows that generally there are more negative and neutral interactions happening compared to positive overall. Although there is little difference between the cells, one unit showed an interesting pattern of results. The MHMR and chronic units both showed higher frequencies of negative interactions than positive. However, the geriatric unit showed more positive interactions than negative. This means that the geriatric unit exhibits higher quality interactions than the other units. Filtering only the geriatric unit and types of interactions failed to show any significant results. Although causation cannot be implied by this descriptive study, this finding could be interpreted as the geriatric population are

generally less active and have fewer behavioral problems, but further dedicated analysis would be needed to inquire into this subject.

Staffing Ratios and Types of Interactions

Overall, the geriatric unit had fewer staff, and the dual diagnosis unit had the most. The MHMR unit had the most interactions documented within the hypothesized middle ratio. The geriatric unit does not need as many staff members because of the more calm nature of the unit. Fewer staff are needed to maintain stability within that unit. On the other hand, the patients on the MHMR unit most likely display more behavioral issues as well as have lower cognitive functioning, needing closer attention from more staff member.

Although the three most frequent interactions were all positive after no interaction, statistical comparisons showed that there are generally more negative and neutral responses compared to positive, across the units and regardless of staffing ratio. Statistical tests showed these less-desirable interactions happening especially when the staffing ratios were in the lower 25% and upper 25%. The hypothesized middle 50% ratio yielded the most positive results, meaning that a medium ratio is more desirable.

Units 1 and 3 (geriatric and chronic, respectively) had the most interactions within the median/optimal hypothesized staffing ratio. The MHMR unit had 90 observations of a high staffing ratio (no more than 5 patients per staff), 80 within the median ratio, and none with more than 8 patients per staff.

Although the McNemar-Bowker chi-square test showed that more positive interactions happened with the hypothesized optimal staffing ratio, the conclusion that the hypothesized ratio is the best cannot be made. The statistical test only gave frequency counts, and the median hypothesized staffing ratio had more interactions to begin with. In other

words, most of the time the staffing ratio was within the middle 50%, so naturally there would be more positive interactions within that ratio.

Strengths and Limitations

Strengths of this study include the large sample of coded interactions, including interactions on three units of varying patient diagnoses. Staffing ratios are included for each unit. Also, this study used an existing measure, the SRIC, which has been used frequently in prior research by Paul and colleagues. It is, however, difficult to replicate the original SRIC study due to the great detail, time constraints, and number of researchers needed. This study could be further improved by training more observers so that the inter-rater reliability could be measured. Limitations of the study included the nested nature of the data, because each staff had 10 interactions, and multiple patients were involved, possibly more than once, which limited the statistical techniques that could be used. It is possible that qualitative analysis strategies may have showed more of the details of the data but these are beyond the scope of the current study.

In future research, this data could be looked at with more focus on specific details, such as the staffing ratio, independent units, particular staff members, etc. New variables can easily be added according to the researcher's interests. A Social Learning Program similar to Paul's is still used at Fulton State Hospital in Missouri which offers a prime location for SRIC studies to take place.

Impact on field

This study will be provided to the Austin State Hospital as information useful for improving staff techniques and training. It also extends research and application of the SRIC. The staff at the hospital will be able to read the literature reviews, observations, and

conclusions for their own knowledge. By doing so, patient-staff interactions could potentially improve, raising the general morale and quality of care at the hospital. This in turn will impact society's attitude toward mental illness and the Austin State Hospital. Improving staff performance will ultimately lead to earlier and more successful discharges. This not only benefits the patients by increasing quality of care and sending them out to be productive citizens in society, but also cuts costs for the facility and the state.

References

- Brehm, S. S., Kassin, S., & Fein, S. (2005). *Social Psychology* (6th ed., pp. 270-272). Boston: Houghton Mifflin Co.
- Coleman, J., & Paul, G. L. (2001). Relationship between staffing ratios and effectiveness of inpatient psychiatric units. *Psychiatric Services*, 52 (10), 1374-1379.
- Felce, David; Repp, Alan C.; Thomas, Mair; Ager, Alastair; et al; The relationship of staff:client ratios, interactions, and residential placement. *Research in Developmental Disabilities*, Vol 12(3), 1991. pp. 315-331.
- Haskard, Kelly B., DiMatteo, M. Robin and Heritage, John. (2009) Affective and instrumental communication in primary care interactions: Predicting the satisfaction of nursing staff and patients. *Health Communication*, 24: 1, 21 — 32. doi: 10.1080/10410230802606968
- Kreyes, W. (1971). Problems of communication in the field of community psychiatry based on services in the hospital for mental diseases, Selkirk, Manitoba, Canada. *Community Mental Health Journal*, 7(4), 272-279. doi:10.1007/BF01434436
- Kutney-Lee, A., & Aiken, L. H. (2008). Effect of nurse staffing and education on the Outcomes of surgical patients with comorbid serious mental illness. *A Journal of The American Psychiatric Association*, 59 (12), 1466-1469.
- Mariotto, M. J. (1978). Interaction of person and situation effects for chronic mental patients: A two-year follow-up. *Journal of Abnormal Psychology*, 87(6), 676-679. doi:10.1037/0021843X.87.6.676
- Paul, G. L., McInnis, Titus L., & Mariotto, Marco L. (1973). Objective performance outcomes associated with tow approaches to training mental health technicians in

- milieu and social learning programmes. *Journal of Abnormal Psychology* ,523-32.
- Paul, G. L. (1987). Rational operations in residential treatment settings through ongoing assessment of client and staff functioning. In D. R. Peterson, D. B. Fishman, D. R. Peterson & D. B. Fishman (Eds.), *Assessment for decision*, 145-203. New Brunswick, NJ US: Rutgers University Press. Retrieved from <http://search.ebscohost.com.libproxy.txstate.edu/login.aspx?direct=true&db=psyh&AN=1988-97268-007&site=ehost-live>
- Paul, G. L., & Lentz, R. J. (1977). *Psychosocial treatment of chronic mental patients: Milieu versus social-learning programs*. Cambridge: Harvard University Press.
- Paul, G. L., Licht, M. H., Mariotto, M. J., Power, C. T., & Engel, K. L. (1987). *Assessment in Residential Treatment Settings* (Vol. 3). (G. L. Paul, Ed.) Champaign, Illinois: Research Press.
- The Texas Department of State Health Services. (2007, June 19). *History of The Austin State Hospital*. Retrieved August 2009, from <http://www.dshs.state.tx.us/mhhospitals/AustinSH/default.shtm>
- Rask, M., & Levander, S. (2001). Interventions in the nurse-patient relationship in forensic psychiatric nursing care: A Swedish survey. *Journal of Psychiatric and Mental Health Nursing*, 8(4), 323-333.doi:10.1046/j.1365-2850.2001.00395.x
- The Texas Department of State Health Services. (2007, June 19). *History of The Austin State Hospital*. Retrieved August 2009, from <http://www.dshs.state.tx.us/mhhospitals/AustinSH/default.sht>
- Watson, J. B. (2003). Psychology as the behaviorist views it. *The history of psychology: Fundamental questions*. (pp. 332-341). New York, NY US: Oxford University Press.

Retrieved from

<http://search.ebscohost.com.libproxy.txstate.edu/login.aspx?direct=true&db=psych&AN=2003-07174-026&site=ehost-live>

Tables

Table 1. Staffing Ratio by Unit

	Low Ratio (0-4.9)	Medium Ratio (5-8.3)	High Ratio (8.3+)
Geriatric Unit	10	80	70
MHMR Unit	90	80	0
Chronic Unit	10	110	50

Figures

Figure 1. Frequencies of Interactions per unit

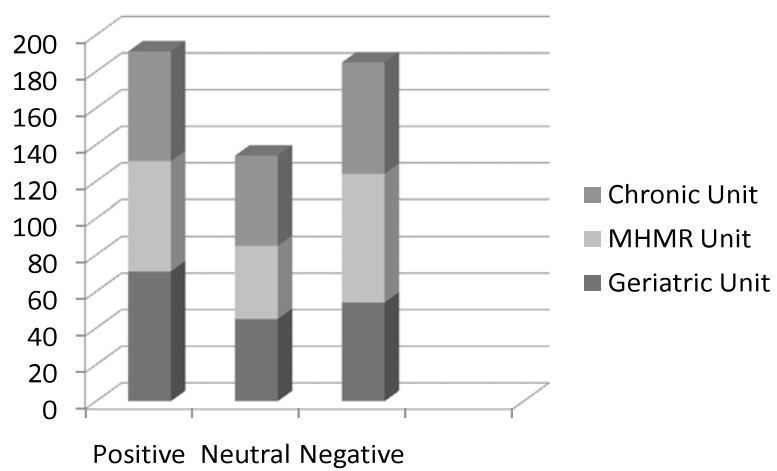


Figure 2. Top four most common interactions

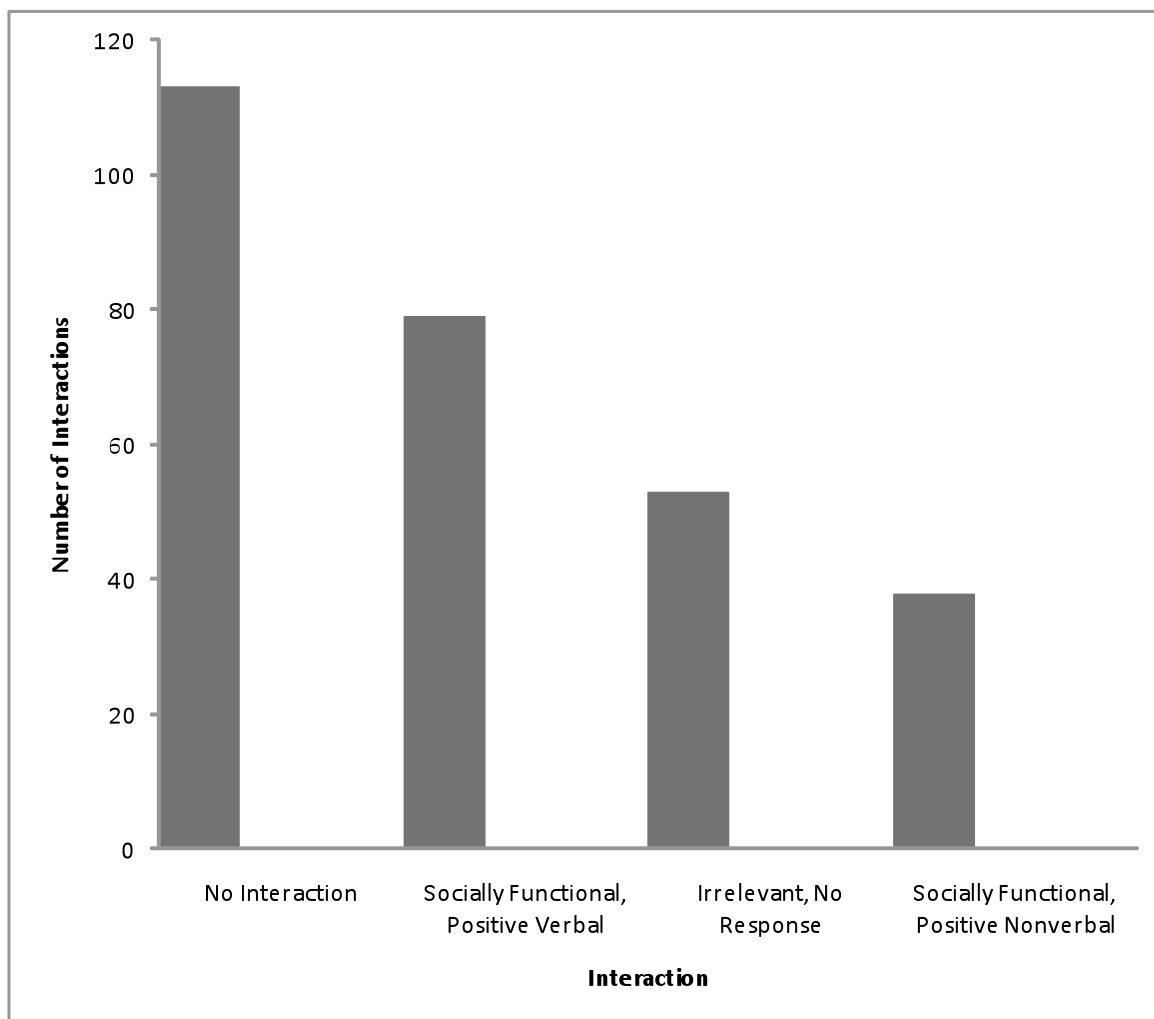
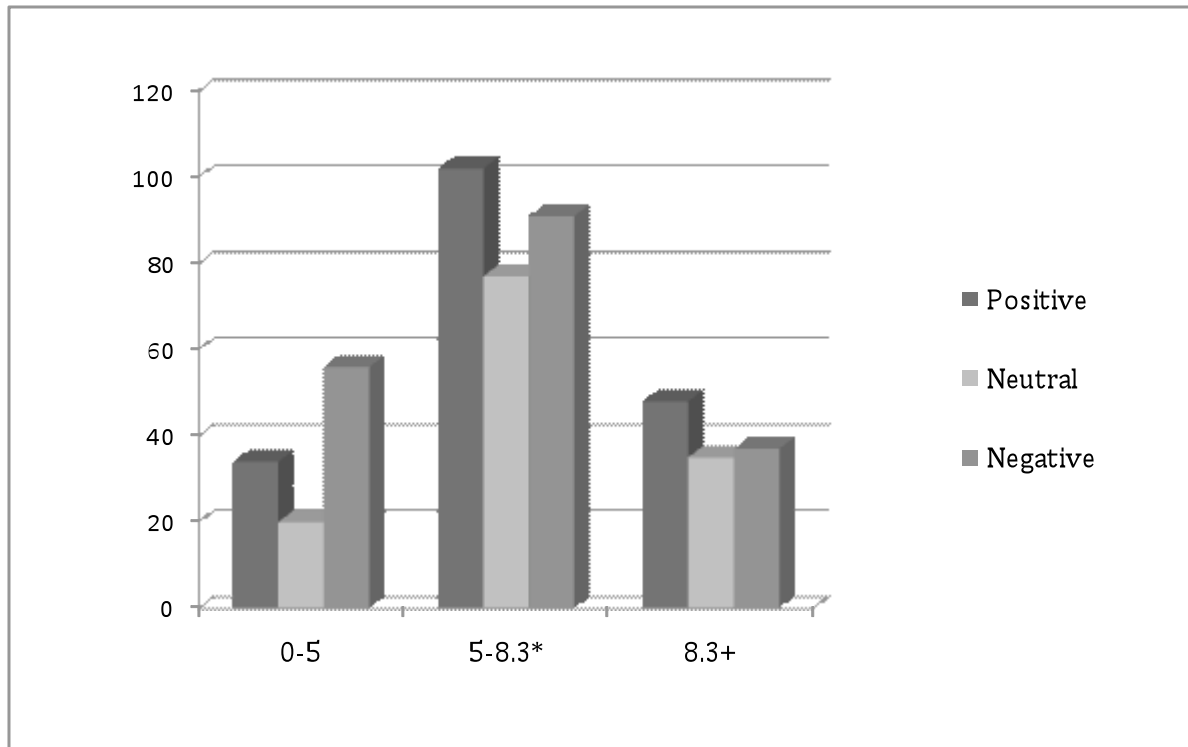


Figure 3. Staffing Ratio and Type of Interaction

*Hypothesized middle ratio



Appendices

A. Original SRIC Chart

B. ASH SRIC Chart

C. Observation Form used in Current Study

D. Matrix codes for Interactions

Author's Note

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Appendix A
Original SRIC Chart

Minute:	1	1	1	1	1
Category	Ap	InF	InC	R	N
IGNORE/NoR					
POS VERBAL					
NEG VERBAL					
POS NON-VERBAL					
NEG NON-VERBAL					
POS STATEMENT					
NEG STATEMENT					
POS NON-SOC					
NEG NON-SOC					
POS PROMPT					
NEG PROMPT					
POS GRP REF					
NEG GRP REF					
REFL/CLARIF					
SUGGEST ALT					
ANNOUNCE					
INSTRUCT/DEM					
DOING WITH					
DOING FOR					
PHYS FORCE					
ATTEN/REC/OBS					

Intervention / Interaction Feedback Sheet

Name _____

Shift _____

of patients engaged _____ approx. duration _____ minutes

		Patient Behavior			
		'Socially Functional'	'Disruptive'	'Avoidant'	'Irrelevant'
Staff Response	'Praise and/or Attention'				
	'Processing' (making observation, asking questions)				
	Giving choices				
	'Direction' (instructions, direct requests)				
	No Response				
	ERROR (specify)				

Overall Tone	1	2	3	4	5
	Mild				Harsh

Overall Volume	1	2	3	4	5
	Soft				Loud

Instructor / Supervisor _____

Appendix C

Observation Form used in Current Study

Observation Form

Day:

Time Start:

Number of Staff:

Place:

Date:

Time Stop:

Number of Patients:

Minute	Patient	pt. behavior	staff/title	st. response	Comments
1		SF Dis Avoid Irr Request Neutral		+Ver -Ver +NV -NV Dir GC Proc NR Error	
2		SF Dis Avoid Irr Request Neutral		+Ver -Ver +NV -NV Dir GC Proc NR Error	
3		SF Dis Avoid Irr Request Neutral		+Ver -Ver +NV -NV Dir GC Proc NR Error	
4		SF Dis Avoid Irr Request Neutral		+Ver -Ver +NV -NV Dir GC Proc NR Error	
5		SF Dis Avoid Irr Request Neutral		+Ver -Ver +NV -NV Dir GC Proc NR Error	
6		SF Dis Avoid Irr Request Neutral		+Ver -Ver +NV -NV Dir GC Proc NR Error	
7		SF Dis Avoid Irr Request Neutral		+Ver -Ver +NV -NV Dir GC Proc NR Error	
8		SF Dis Avoid Irr Request Neutral		+Ver -Ver +NV -NV Dir GC Proc NR Error	
9		SF Dis Avoid Irr Request Neutral		+Ver -Ver +NV -NV Dir GC Proc NR Error	
10		SF Dis Avoid Irr Request Neutral		+Ver -Ver +NV -NV Dir GC Proc NR Error	

Appendix D
Matrix Codes for Interactions

SRIC Matrix

	+Verbal	-Verbal	+Non Verbal	-Non Verbal	Direction	Giving Choices	Processing	No Response	Error
Socially Functional	1 ⁺	2 ⁻	3 ⁺	4 ⁻	5 ⁺	6 ^o	7 ^o	8 ⁻	9 ⁻
Disruptive	10 ⁻	11 ^o	12 ^o	13 ^o	14 ^o	15 ^o	16 ^o	17 ⁺	18 ⁻
Avoidant	19 ⁻	20 ^o	21 ^o	22 ^o	23 ^o	24 ^o	25 ^o	26 ⁺	27 ⁻
Irrelevant	28 ⁻	29 ^o	30 ⁻	31 ^o	32 ^o	33 ⁻	34 ^o	35 ⁺	36 ⁻
Request	37 ^o	38 ⁻	39 ^o	40 ^o	41 ^o	42 ^o	43 ^o	44 ⁻	45 ⁻
Neutral	46 ^o	47 ⁻	48 ^o	49 ^o	50 ^o	51 ^o	52 ^o	53 ⁻	54 ⁻