Western Kentucky University
TopSCHOLAR®

Dissertations | Graduate School

5-2023

Agreement of Psychiatric Diagnoses Within and Between Groups of Mental Health Clinicians from Different Disciplines

Wade McGuire

Follow this and additional works at: https://digitalcommons.wku.edu/diss

Part of the Clinical Psychology Commons, Counseling Psychology Commons, and the Social Work Commons

This Dissertation is brought to you for free and open access by TopSCHOLAR®. It has been accepted for inclusion in Dissertations by an authorized administrator of TopSCHOLAR®. For more information, please contact topscholar@wku.edu.

AGREEMENT OF PSYCHIATRIC DIAGNOSES WITHIN AND BETWEEN GROUPS OF MENTAL HEALTH CLINICIANS FROM DIFFERENT DISCIPLINES

A Dissertation submitted in partial fulfillment
of the requirements for the degree
Doctor of Psychology

Department of Psychology
Western Kentucky University
Bowling Green, Kentucky

By
Wade McGuire

May 2023

DocuSign Envelope ID: 824F8CB9-73C3-4AA3-AF1E-5F009893D8B9

AGREEMENT OF PSYCHIATRIC DIAGNOSES WITHIN AND BETWEEN GROUPS OF MENTAL HEALTH CLINICIANS FROM DIFFERENT DISCIPLINES

Date Recommended 4/5/2023

DocuSigned by:
024C3844AE224E7...
Chair

DocuSigned by:
98C80CCE8E774E2...
Committee Member

DocuSigned by:
63D1A2590594441...
Committee Member

DocuSigned by:
C09F34D397B3467...
Committee Member

DocuSigned by:
8F8057903E39448...
Associate Provost for Research and Graduate Education

ABSTRACT

AGREEMENT OF PSYCHIATRIC DIAGNOSES WITHIN AND BETWEEN GROUPS OF MENTAL HEALTH CLINICIANS FROM DIFFERENT DISCIPLINES

The development of therapy as a treatment option for mental health problems has led to the creation of different disciplines. Each discipline has developed its own conceptualization of classification and treatment of mental health problems. These conceptualizations have led to different areas of focus for each of the disciplines, specifically counseling, psychology, and social work. The purpose of this study is to investigate whether these areas of focus influence how each discipline diagnoses. For this study, data was collected by having clinicians provide diagnoses for three fictitious clients. The vignettes for the clients were taken from a psychopathology textbook to ensure agreement with *Diagnostic and Statistical Manual* diagnostic criteria. The results of this study indicate that there is no significant difference between disciplines of mental health clinicians except in the case of social workers diagnosing depression. Additional findings indicate that consulting with colleagues and/or with the *Diagnostic and Statistical Manual* can increase accuracy in diagnosing. Diagnostic training specific to each discipline does not have a significant impact on diagnostic accuracy or agreement. Training clinicians to utilize diagnostic criteria and to collaboratively with work colleagues on diagnosis can improve diagnostic accuracy.

Keywords: diagnosis; psychology; social work; counseling

TABLE OF CONTENTS

List of Tables……...…v

Introduction……..……..…1

Methods……..……..…14

Results……21

Discussion……..…30

References……..…37

Appendix A: Demographic Information Collected……42

Appendix B: Vignettes……..……..……..…44

Appendix C: Vignette Scoring Guide……51

Appendix D: Email to Professional Associations……..……..…52

Appendix E: Informed Consent Form……53

LIST OF TABLES

Table 1. O*NET Tasks, Abilities, and Work Activities. …..…….3

Table 2. Age data per discipline. ……..……..…16

Table 3. Number of years practicing per discipline. ……..…17

Table 4. Average cumulative scores by discipline……..…21

Table 5. Frequency of social work participants' scores. ……..…..24

Table 6. Frequency of counseling participants' scores. ……25

Table 7. Frequency of psychology participants' scores. ……...25

Table 8. Percentage of participants scoring at least 1 point per vignette. ……..29

Chapter One

Introduction

Systematic classification is a primary concern when developing a school of thought. By classifying objects, animals, or symptoms, scientists and researchers have facilitated the sharing and discussion of concepts in their respective fields (de Jong et al., 2009). Throughout its history, the field of psychology has focused on classifying or categorizing symptoms into specific mental health disorders (Rogers, 2003).

Many practitioners use the accepted mental health disorders and their accompanying symptoms listed in the *Diagnostic and Statistical Manual of Mental Disorders* (Braun & Cox, 2005). The American Psychiatric Association has published several editions of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM). The first edition of the DSM was published in 1952 (Aboraya et al., 2006). Since 1952, mental health diagnoses as portrayed in the DSM series have gone through several significant revisions. These revisions have included name changes (e.g., manic-depression to bipolar disorder), criteria changes (e.g., change of age restriction), and deletion/creation of diagnoses (e.g., Asperger's/Binge Eating Disorder; Timimi, 2014). Psychology has also undergone multiple developments. For example, theories have been created and evolved (Copeland et al., 1971), treatments for disorders have been created, tested, and done away with or updated (Jensen-Doss & Weisz, 2008), and several disciplines have been developed that view mental health treatment from different points of view (National Center for O*NET Development, 2018).

Career Concentrations in Mental Health

Different disciplines have also been developed in the mental health care field. The field of psychology has grown with a specialization of assessment/testing (National Center for

O*NET Development, 2018a), whereas the counseling field has focused on therapeutic techniques and interventions (National Center for O*NET Development, 2018b), and the field of social work has primarily looked at interactions between individuals and systems such as governments or families (National Center for O*NET Development, 2018c).

O*NET is a website that was developed by the United States Department of Labor as a source of information about various occupations for the public (National Center for O*NET Development, 2019). Some of the information provided by O*NET includes tasks, abilities, and work activities performed by members of the particular occupation. The professions of psychology, counseling, and social work can be described via O*NET's provided information.

Table 1

*O*NET Tasks, Abilities, and Work Activities*

O*NET categories	Psychology	Counseling	Social Work
Tasks	Selecting, administering, scoring, and interpreting psychological tests Writing reports Providing psychotherapy Consulting with doctors	Encouraging clients to express feelings Counseling clients Developing treatment plans for clients	Educating clients and community about mental illness Assisting clients in adhering to treatment plans Conducting social research
Abilities	Problem sensitivity Deductive and inductive reasoning Information ordering	Oral comprehension and expression Selective attention Fluency of ideas	Social perceptiveness Service orientation Systems analysis
Work Activities	Caring for others Documenting information Working with public Diagnosing neural or psychological disorders	Assisting others Collecting information from clients Documenting/recording information	Monitoring processes Communicating with persons outside the social worker's organization Collaborating with other professionals to assess client needs

Diagnostic Agreement

While the field of psychology has developed and changed, the rate of diagnostic agreement between mental health professionals has remained low (Aboraya et al., 2006; Beck, 1969; Spitzer & Fleiss, 1974; Timimi, 2014). Diagnostic agreement is the amount of agreement between different clinicians and the diagnoses they give to patients (Kreitman, 1961).

Multiple studies (Aboraya et al., 2006; Beck, 1969; Hickin et al., 1996; Kreitman, 1961) have looked at the rate of agreement between diagnosticians. While the above studies have found that diagnostic agreement ranges from poor to moderate, they were not able to find a cause for interrater agreement to be low. Other researchers and authors have suggested multiple possible causes for low rates of agreement: intentional misdiagnosis (Braun & Cox, 2005), clinician's racial/ethnic bias (Schwartz & Feisthamel, 2009), and past experience of the clinician (Katz, Cole, & Lowery, 1969) among other areas.

Kreitman (1961) and Beck (1969) reviewed previous studies about diagnostic agreement. Kreitman reviewed studies that were conducted between 1949 and 1959. In each of the studies reviewed by Kreitman, the number of psychiatrists used in the studies ranged from two to four. To analyze diagnostic agreement, a number of patients, ranging from 36 to approximately 6,000, were diagnosed by participating psychiatrists. The subsequent diagnoses were then compared for level of agreement based on category of diagnosis and specific diagnosis in a category. The studies reviewed by Kreitman found agreement averages ranging from 24% agreement to 89% agreement. Based on the findings of the studies reviewed, Kreitman (1961) suggested the differences in diagnosing could be accounted for by five possible variables: the participating psychiatrists, the psychiatric examination, nomenclature and reporting, patients' reporting of symptoms, and manner of analysis.

Beck (1969) wrote a review of diagnostic agreement studies that were completed between 1938 and 1959. Beck's reviewed studies included numbers of participants ranging from two psychiatrists to groups of eight psychiatrists comparing diagnoses of patients. Beck's reviewed studies found diagnostic agreement ranging from 32% to 90%. Beck offered several recommendations to improve future studies and diagnostic agreement. Beck suggested using the

latest version of nomenclature and criteria, having clinicians with accredited training and experience making diagnoses, and keeping conditions for psychiatric observations uniform for all participants.

Katz et al. (1969) conducted six separate studies to investigate possible factors influencing a psychiatrist's diagnostic proves. In the first study they examined the level of interrater agreement on a set of psychiatric symptom scales. To test their hypothesis, the researchers asked a group of psychiatrists and psychologists to watch three interviews with three separate patients and then provide a diagnosis for each patient. Katz and colleagues found that the level of agreement ranged from unanimous to severe disagreement.

Katz et al.'s (1969) second study consisted of 44 American psychiatrists with at least two years of experience who watched a taped interview of a patient. The psychiatrists were asked to rate the patient's symptoms on the Inpatient Multidimensional Psychiatric Scale and the Glueck-Schofield-Meehl Q Sort, give a diagnosis to the patient, and answer questions about the patient's background and experience. Based on the diagnosis given, Katz et al. were able to divide the participating psychiatrists into two groups: those who diagnosed psychotic disorders and those who diagnosed psychoneurotic disorders. Katz et al. found a significant difference in the psychiatrists' perception of paranoid projection, retardation, and apathy based on the diagnosis given.

Katz et al.'s (1969) third study had 42 American psychiatrists with at least two years of experience who watched a taped interview of a woman in her early to middle 20's. The participating psychiatrists were asked to provide a diagnosis for the woman in the video. The diagnoses given were evenly split between psychotic disorders, psychoneurotic disorders, and

personality disorders. Similar to Katz et al.'s previous study, significant differences were found between diagnosis groups in perceptions of apathy and distortions of reality.

Katz et al.'s (1969) fourth study used the same taped interview from the third study. However, for this study, Katz et al. had 32 British psychiatrists diagnose the patient in the interview. The diagnoses given by the British psychiatrists were put into three categories: psychoneurotic disorders, personality disorders, and mixed diagnoses. Instead of comparing between the British groups, Katz et al. compared the British psychiatrists to the American psychiatrists from the third study. Katz et al. found significant differences in the perception of anxious intropunitiveness, retardation, and apathy. The British psychiatrists found fewer psychiatric symptoms than the American psychiatrists, except for anxious intropunitiveness.

Katz et al.'s (1969) fifth study involved 40 psychiatrists who viewed a tape of a male patient and then provided a diagnosis for the patient. The diagnoses from the psychiatrists were one of three subtypes of schizophrenia: paranoid, chronic undifferentiated, and catatonic. The only difference found between the groups of diagnoses was the group who diagnosed the patient with catatonic schizophrenia perceived hostility at a significantly lower rate than the other two diagnostic groups.

Katz et al.'s (1969) sixth study involved showing a taped interview with a female patient to two groups of psychiatrists. The first group of 47 psychiatrists saw a version of the interview without the patient's mental health history. The second group of 23 psychiatrists was show then entire interview. Diagnoses for the first group of psychiatrists were divided into neurotic depression, psychotic depression, and involutional diagnoses. Half of the second group of psychiatrists diagnosed the patient with manic-depression, which was the correct diagnosis for

the patient as determined by the authors of the original study. The other half of the second group diagnosed the patient with a depressive disorder or a psychotic disorder.

Hickin et al. (1996) followed 97 adolescent patients and their diagnoses during the patients' stays at a privately owned psychiatric hospital in the Mid-South. The number and type of clinicians involved were not revealed. Hickin et al. looked at the patients' admission diagnosis, psychological evaluation diagnosis, and discharge diagnosis. Hickin et al. found perfect agreement between the admission and discharge diagnoses approximately 60% of the time.

Aboraya et al. (2006) reviewed previous studies in order to determine possible reasons for diagnostic agreement. Aboraya et al. divided the reviewed agreement papers into three time periods: pre-World War II, World War II to the creation of the DSM-III, and DSM-III to present. Aboraya et al. stated that the reliability of diagnosis significantly improved after the implementation of the DSM-III. Aboraya et al. also suggest that diagnostic agreement might be improved with structured interviews, more diagnostic experience, and better-defined diagnostic criteria.

Schwartz and Feisthamel (2009) reviewed 1,648 patients' medical files from a community mental health center. Schwartz and Feisthamel primarily looked at interviews conducted by counselors. The counselors used the Structured Clinical Interview for the DSM-IV (SCID; Schwartz & Feisthamel, 2009). Schwartz and Feisthamel found that, while African Americans represented 25% of the sample, they were diagnosed with psychotic and childhood disorders at significantly higher rates than Caucasian patients (27% vs. 17%).

Since at least 1949 (Kreitman, 1961), researchers have been studying the agreement of diagnoses between mental health practitioners. The results from these studies can be described as

ranging from poor agreement to unanimous agreement. While the above studies found significant differences among and between groups, the studies were not able to pinpoint reasons for the differences.

Problems in Diagnosing

Discipline of participants. One common factor in each of these studies is the discipline of the diagnosticians who took part in the study. The majority of studies listed above utilized medical doctors, psychiatrists, and/or counselors. None of the studies have specifically looked at the role of the different disciplines in diagnostic agreement.

Intentional misdiagnosis. Braun and Cox (2005) reviewed government reports concerning intentional misdiagnosis by mental health clinicians. Braun and Cox reported that billions of dollars have been lost by insurance companies due to intentional misdiagnosis. The reasons given for intentional misdiagnosis include insurance reimbursement and clinicians trying to insure specific therapeutic services for clients.

Diagnostic criteria. Diagnosing mental health disorders is an imperfect science and has been since diagnosing first started (Aboraya et al., 2006). From 1900 to 1945, mental health professionals tended to not give mental health diagnoses. Instead, due to the influence that psychoanalysis and social psychiatry had at the time, mental health professionals tended to focus on an individual's life history (Aboraya et al., 2006).

After World War II ended in 1945, diagnosing mental health disorders became more in vogue. Between 1945 and 1980, several updated editions of the *International Classification of Diseases* (ICD) were published, along with the first two editions of the DSM ("DSM History," n.d.). The ICD-6 and the DSM were two of the first attempts at manualized listings of psychiatric diagnoses.

The ICD is the standard for diagnostic classification in the medical field (World Health Organization, 2018). The ICD was developed as a standard and is used in order to identify health statistics and health trends (World Health Organization, 2018). The first version of the ICD was adopted in 1893 (World Health Organization, 2018). The previously mentioned ICD-6, which was the first edition of the ICD to list psychiatric disorders, was published by the World Health Organization in 1948 (World Health Organization, 2018).

The DSM was developed after World War II and adopted by the American Psychiatric Association's Committee on Nomenclature and Statistics in 1952 ("DSM History," n.d.). The first two editions of the DSM were strongly influenced by Adolf Meyer's psychobiological view ("DSM History," n.d.). One of the consequences of following Meyer's view of mental disorders was not having explicit definitions of the disorders ("DSM History," n.d.).

The development of these classification systems came with much praise and much criticism. Professionals in the mental health field were appreciative of the efforts but soon began saying that the diagnostic criteria were too unclear (Katz et al., 1969). Blashfield and Draguns (1976) compared the definition of schizophrenia from the DSM-II to a definition developed by Feighner et al. (1972). The DSM-II definition of schizophrenia gave a broad description of what a person with schizophrenia may experience. Feighner et al.'s definition included a time requirement of experiencing identified symptoms (e.g., delusions, hallucinations, and/or thought disorder) for six months. Blashfield and Draguns strongly preferred the Feighner et al. definition due to its specificity and explicitness.

In response to these critiques, the American Psychiatric Association developed the third edition of the DSM in 1980 (Morrison, 2014). The DSM-III changed from more subjective definitions of disorders to more behavioral diagnostic criteria. The goal of publishing the DSM-

III and each of the subsequent DSMs (DSM-III-R, DSM-IV, DSM-IV-TR, and DSM-5) was and is to improve the validity and agreement of psychiatric diagnosing (Morrison, 2014). Results of research studies have not shown these efforts to be fruitful.

Beck (1969) and then Aboraya et al. (2006) identified several studies that have looked at the diagnostic agreement regarding psychiatric diagnoses. The earliest study identified was conducted by Masserman and Carmichael in 1938. Masserman and Carmichael (1938) reviewed records of 166 patients who had been treated at the University of Chicago clinics. Masserman and Carmichael compared the diagnosis given to each patient at the first interaction with a clinician and then at a follow up interview. Results of this study indicated that 40% of clients required a significant alteration in diagnosis one year after an inpatient discharge. Between Masserman and Carmichael's study and the publishing of the DSM-III, numerous studies such as Beck (1969) and Kreitman (1961) were conducted and found poor agreement between diagnosticians.

The poor state of validity and agreement in diagnosing before the DSM-III led to one of the most well-known studies regarding diagnosis. Results of the Rosenhan (1973) study showed that, even when presenting with minor symptoms, clients at psychiatric institutions were receiving severe diagnoses such as schizophrenia. Rosenhan recruited eight participants to act as pseudopatients. The pseudopatients who participated in this study had no personal history of mental illness, but they presented to psychiatric hospitals with minor auditory hallucinations. Each of the pseudopatients was subsequently admitted to the psychiatric hospital and held for a range of 7 to 52 days. During their stays at the hospitals, each of the pseudopatients acted normally and denied having any further auditory hallucinations. In order to be discharged from the hospital, the pseudopatients had to convince the hospital staff that they were sane. While this

study largely speaks to the ethicality of mental health care, it also shows the inconsistency with which criteria and definitions were applied to patients' symptoms.

Studies published after the DSM-III showed that agreement and validity fared no better when diagnostic criteria were explicitly stated (Timimi, 2014). A 1996 study by Hickin et al. found that diagnoses of teenagers admitted to a psychiatric hospital remained consistent approximately 60% of the time, depending on the type of diagnosis. Traynor et al. (2016) reviewed medical records of patients referred to Aged Care Services in Emergency Teams. Traynor et al. were looking for patients who met criteria for delirium. They found that, out of 205 medical clients, 15% met criteria for delirium while admitted to a medical hospital. Only 2% of the 205 clients were diagnosed with delirium by medical professionals trained in diagnosing delirium in aged patients.

The inaccuracy and variability of diagnoses increases the difficulty of treating clients. Having the correct diagnosis for a client improves the chances of the client receiving the correct treatment for his or her problems (Jensen-Doss & Weisz, 2008). Accurate diagnoses are especially important when psychiatric medications are involved. Incorrect medications can lead to worsening symptoms or irreversible side effects (Pope & Lipinski, 1978). Misdiagnosis and consequent inappropriate treatment that does not address a client's presenting problems generates distrust in the therapeutic relationship which can lead to dropping out of services (Jensen-Doss & Weisz, 2008).

Limitations of the Current Research

One area of weakness in the previous studies is the lack of more recent research in the area of diagnostic processes. The Committee on Diagnostic Error in Health Care (2015) reported that diagnostic research has been overshadowed by other issues, such as the quality of health care

and safety concerns. One reason for this overshadowing is the low availability of federal funding for diagnostic focused research (Committee on Diagnostic Error in Health Care, 2015).

Another limitation of the research is the definition of agreement. Some of the studies above have measured reliability while others have measured the accuracy of diagnoses. For example, Beck (1969) used Cohen's kappa, which measures inter-rater reliability, as a measure for agreement. However, in the same year Katz et al. (1969) compared clinicians' diagnoses against the client's known diagnosis and used simple percentages to determine agreement between clinicians. The vagueness in definition makes it difficult to fully compare or contrast each of these studies and their contribution to this topic of study. This study's focus is closer aligned to Katz et al.'s procedures of comparing diagnoses to the known diagnosis. The decision to focus on accuracy was due to the needs of the mental health field to be more accurate in diagnosing.

To address the problems of validity and agreement of diagnoses, contributions to misdiagnosis should also be evaluated. Various possible reasons for misdiagnosis have been identified, including the vagueness of diagnostic criteria discussed earlier. Diagnoses might be influenced by client factors and clinician factors. Client factors include the amount of information collected (Hickin et al., 1996), agreement with the referral source's information (Aboraya et al., 2006), and complex cases with comorbid disorders (Rogers, 2003). Clinician factors include intentional misdiagnosis for insurance (Braun & Cox, 2005), cultural bias (Schwartz & Feisthamel, 2009), perceptions of symptoms (Katz et al., 1969), and area of expertise (Bean, 2012).

Another area of weakness of previous studies is that the discipline of the participating clinicians has not been explicitly tested. All of the studies found and reviewed here have utilized

medical doctors, psychiatrists, and counselors as diagnosticians. With the asserted inherent differences between the disciplines of professionals in the mental health field, differences in diagnosing are expected to be present.

Purpose of the Study

The purpose of this current study is to test the following hypothesis: there is a significant difference in diagnostic agreement between licensed psychologists, counselors, and social workers. The hypothesis under study is that there will be higher agreement within groups than between groups.

Chapter Two

Methods

Research Design

A between and within participants, causal comparative, quasi-experimental design was utilized for this study. The participants were not randomly assigned to groups due to groups being determined by the pre-existing license that each participant held at the time of their participation. This design was appropriate for this study because the independent variable was not directly manipulated by the researcher. Clinicians, who were divided into groups by the license they held, provided a diagnosis for three vignettes. The level of agreement within each group and between groups were the dependent variables.

Participants

The targeted population for this study consisted of professionals in the mental health field who were licensed to provide psychotherapy. At the time of their participation, participants held a license in one of three disciplines: psychology, social work, or counseling. Participants were actively practicing therapists employed in one of a variety of settings. Employment settings included inpatient psychiatric units, community mental health outpatient clinics, private practice outpatient offices, and hospitals. Participants were recruited from national and state professional associations.

The U.S. Bureau of Labor Statistics (BLS) conducts regular surveys of the workforce and collects data related to the workforce's age, sex, and racial makeup. The U.S. BLS (2023b) reported median ages for psychologists (48.7 years), counselors (45.8 years), and social workers (42.1 years). For data related to sex makeup of occupations, the U.S. BLS (2023a) only identified the percentage of participants who identified as women. Information was not given for

participants who identified as male, intersex, or another sex. According to the U.S. BLS (2023a), 75% of psychologists, 74.9% of counselors, and 81.5% of social workers identified as women.

For racial makeup, the U.S. BLS (2023a) reported information for participants who identified as White, Black, and Asian. The racial makeup for psychologists was 87.3% White, 5.8% Black, and 3.2 % Asian. Counselor's racial makeup was 82.4% White, 14.9% Black, and 1.1% Asian. The racial makeup for social workers was 65.4% White, 27.3% Black, and 4.2% Asian. Information about participants who identified as Hispanic was included in a separate section for ethnicity (U.S. Bureau of Labor Statistics, 2023a). According to the U.S. BLS, 8.1% of psychologists, 10.6% of counselors, and 17.3% of social workers identified as Hispanic.

This study included 163 licensed therapists; however, information from six participants was not included due to technical difficulties with the website. Of the remaining 157 participants, 57.3% (N = 90) identified as female, 37.3% (N = 60) identified as male, and 4.3% (N = 7) identified as intersex/third gender. Ages of participants ranged from 24 to 62 years old (M = 39.37, SD = 10.36). Age-related information for each discipline's group of participants is included in Table 2. The sample was 74.5% non-Hispanic White, 19.7% Black, 3.2% Hispanic White, and 2.5% Asian.

The majority of participants (91.1%) held a Master level degree at the time of their participation while 8.9% of participants held a doctorate in their respective discipline. All counselors were Master level practitioners. Of the 43 social workers in this study, 2.3% held a doctorate. Of the 58 psychologists, 22.4% held a doctorate.

Table 2

Age Data per Discipline

Discipline	Minimum Age	Maximum Age	Mean	Standard Deviation
Social Work	24	62	40.05	11.39
Counseling	24	62	38.62	11.61
Psychology	25	57	39.62	8.247

Participants consisted of 43 (27.4%) social workers, 56 (35.7%) counselors, and 58 (36.9%) psychologists. Number of years practicing ranged from 1 year to 30 years (M = 9.53, SD = 7.34). Information for number of years practiced per discipline is included in Table 3. Participants represented 16 states with nine (5.7%) participants being licensed in multiple states. The states represented were Kentucky (58.6%), Oklahoma (7.6%), Wisconsin (7.6%), Indiana (4.5%), Michigan (3.8%), Texas (3.2%), Ohio (1.9%), Maryland (1.3%), Kansas (1.3%), Tennessee (0.6%), Oregon (0.6%), California (0.6%), Minnesota (0.6%), Missouri (0.6%), West Virginia (0.6%), and Florida (0.6%). Kentucky was heavily sampled due to the researcher living and working in Kentucky. This allowed the researcher access to more potential study participants in this state. The majority of participants were employed in community mental health outpatient centers (43.9%). The remaining participants' work settings included private practice clinics (29.3%), hospitals (12.7%), community mental health inpatient units (9.6%), and other settings (4.5%).

Table 3

Number of Years Practicing per Discipline

Discipline	Minimum number of years	Maximum number of years	Mean	Standard Deviation
Social Work	2	30	9.26	7.51
Counseling	2	30	9.00	7.76
Psychology	2	30	10.22	6.85

Variables

The dependent variable for this study was identified as the diagnosis given to the vignette clients. The independent variable for this study was defined as the discipline of the license held by the therapist. Possible confounding variables or covariates were identified as length of time practicing, primary work place of participant, and specialized trainings on diagnosis taken by the participants.

Measures

In this study, only one measure was used. This measure was a questionnaire that was developed by this researcher. The questionnaire was administered via a website. The questionnaire consisted of a demographic collection sheet (see appendix A) and three vignettes (see Appendix B) for which the practitioner participants were asked to provide a diagnosis.

The demographic information collected included age, sex, race, level of education completed, type of license held, number of years practicing, the state in which the participant practices, and the setting in which the participant practices. This demographic information was used to describe the sample of participants.

The vignettes, for which the participants provided a diagnosis, were taken, with slight variations and permission, from the textbook *DSM-5 Made Easy* (Morrison, 2014). The vignettes were written as training material for Master level students and were based directly on the diagnostic criteria from the DSM. The diagnoses for the vignettes were cyclothymic disorder, depersonalization/derealization disorder, and major depression, recurrent, any severity. These diagnoses were chosen due to their assumed relative difficulty in diagnosing. Cyclothymic disorder and major depression were seen as moderately difficulty and not difficult respectively to diagnose. Depersonalization/derealization disorder was seen as possibly more difficult to diagnose due to its rarity.

Each vignette was assigned a point value dependent on the diagnosis provided by the participant. The point values for each vignette ranged from 0 to 2 points (see Appendix C for scoring guide). A score of 2 points was awarded to diagnoses that match the diagnosis given in the textbook exactly. A score of 1 point was awarded to diagnoses that are in the same family of diagnoses as the diagnosis given in the textbook. A score of 0 points was given to diagnoses that were not the correct diagnosis nor in the family of the correct diagnosis.

Participants' diagnoses were scored by two raters to ensure accuracy in scoring. The raters were trained to recognize diagnoses and assign the appropriate number of points. Raters were also provided lists of diagnoses for each vignette and appropriate scores.

Procedures

Institutional Review Board (IRB) approval through Western Kentucky University was obtained before data collection began. After obtaining approval, an email (see Appendix C) was sent to community mental health centers throughout the United States asking for volunteers to participate in a study related to diagnosis. The email included information regarding

requirements for eligibility to participate, basic information about the study, and contact information for researcher and supervisor. Recipients of the email were asked to refer colleagues that may work in different settings or states to the study utilizing the snowball method for recruiting participants. Requirements for participation included active license in psychology, counseling, or social work and actively practicing psychotherapy.

Participants were asked via email to visit a website constructed for the administration of the questionnaire for this study. Informed consent (see Appendix D) was reviewed on the website. Instructions were displayed on each page. Participants then filled out the demographic portion followed by the questionnaire, one vignette at a time. Participants provided their diagnosis in a free text box located at the end of each vignette. Due to limitations with the website that hosted the questionnaire, the vignettes were presented in the same order for each participant. The questionnaire ended with questions about familiarity with *DSM-5 Made Easy* followed by questions about use of the DSM-5 and consultation with peers during their participation.

The diagnoses for the vignettes in this study were Cyclothymic Disorder, Depersonalization/Derealization Disorder, and Major Depressive Disorder, recurrent, any severity. The information collected from the demographic questionnaire will include age, sex, race, level of education completed, discipline in which participant is licensed, number of years practicing, state in which participant practices, setting in which participant practices, familiarity with *DSM-5 Made Easy*, and whether the participant consulted a DSM-5 or colleague.

To protect participant information, any possible identifying information will be kept on a secure, password protected thumb drive and maintained per the Health Insurance Portability and

Accountability Act (HIPAA; “Health Insurance Portability and Accountability Act of 1996,” 2015) and ethical code standards (American Psychological Association, 2017).

Chapter Three

Results

Preliminary Analyses

The measure utilized in this study contained three vignettes that were diagnosed by participants. Each vignette was assigned a point value dependent on the diagnosis provided by the participant. The point values for each vignette ranged from 0 to 2 points. Two points were given for a diagnosis that matched the correct diagnosis for the vignette. One point was given to diagnoses that were in the same DSM-5 category as the correct diagnosis. Zero points were given to all other diagnoses. This scoring system yielded a cumulative score with a range of 0 to 6 points. The overall average cumulative score was 3.17 points while the standard deviation was 1.38 points.

Table 4

Mean Cumulative Scores by Discipline

Discipline

	Mean	Standard Deviation
Overall	3.17	1.38
Social Workers	3.13	1.31
Counselors	3.23	1.36
Psychologists	3.15	1.46

Hypothesis Testing

To test the hypothesis that a significant difference existed between psychologists, counselors, and social workers in regards to diagnosing, an One-Way Analysis of Variance

(ANOVA) was utilized. An ANOVA was the appropriate test for this study because there were three groups for the independent variable: psychology, counseling, and social work (One-way ANOVA – How to report the significance results, homogeneity of variance and running post-hoc tests," n.d.). The One-Way ANOVA compared the means between groups of the independent variable and determined whether the means were statistically significantly different from each other ("One-way ANOVA – How to report the significance results, homogeneity of variance and running post-hoc test," n.d.).

ANOVAs do not tell which specific groups are significantly different from the other groups because ANOVAs are omnibus tests ("One-way ANOVA – How to report the significance results, homogeneity of variance and running post-hoc tests, n.d.). A Bonferroni follow-up test was used to analyze the difference between pairs of independent variables. The Bonferroni follow-up test was chosen for this study due to the number of hypotheses being tested simultaneously. The Bonferroni follow-up test controls for the possibility of getting a significant result when testing multiple hypotheses by making the *p*-value smaller (McDonald, 2014). The Bonferroni follow-up test is able to do this by dividing the expected alpha by the total number of tests performed (McDonald, 2014).

To test the hypothesis that no significant difference exists within groups of like-licensed participants, a visual analysis of the data divided into groups based on discipline was performed. Visual analysis of data is an inspection of available data depicted in some kind of graphical representation (Ledford et al., 2018). Scores from each vignette and the total score of all three vignettes were put into frequency tables. Larger differences between score frequencies are indicators of higher levels of agreement.

Analysis Results

A One-Way ANOVA was performed on data for age and number of years practicing to determine homogeneity of variance between the groups. No significant difference was found between the groups based on age, $F(2, 144) = 0.236$, $p > .05$, or number of years practicing $F(2, 153) = 0.430$, $p > .05$.

Between Group Analysis

The groups' total diagnosis scores were analyzed using a One-Way ANOVA. The mean total diagnosis score for social workers was 3.13 ($SD = 1.31$). Counselors had an average total diagnosis score of 3.23 ($SD = 1.36$). The average score for psychologists was 3.15 ($SD = 1.46$). No significant differences were found between the groups, $F(2, 130) = 0.065$, $p > .05$.

In addition to the aggregate totals, statistical analyses of One-Way ANOVAs and Bonferroni follow-up tests were run on the scores for each of the individual vignettes. For the first vignette, social workers had an average score of 1.16 ($SD = 0.57$). Counselors' mean score was 0.88 ($SD = 0.78$). The average score for psychologists was 1.08 ($SD = 0.76$). A One-Way ANOVA found no significant difference between the groups, $F(2, 131) = 1.657$, $p > .05$.

In the second vignette, social workers had a mean score of 0.88 ($SD = 0.86$). Counselors' average score was 1.14 ($SD = 0.81$). The mean score for psychologists was 1.11 ($SD = 0.82$). The One-Way ANOVA found no significance difference between the groups $F(2, 133) = 1.133$, $p > .05$.

In the third vignette, social workers' average score was 1.09 ($SD = 0.77$). Counselors' mean score was 1.18 ($SD = 0.78$). The average score for psychologists was 0.96 ($SD = 0.83$). The One-Way ANOVA found no significance difference between the groups $F(2, 132) = 0.990$, $p > .05$.

Within Group Analysis

The frequency of each score was noted in tables by vignette and discipline. Each vignette had possible scores of 0 points, 1 point, or 2 points. For the purpose of this study, high levels of agreement were signified when at least 51 percent of participants received a particular score.

In the first vignette, the most common score for social workers was 1 point. This score was obtained by 65.6% ($N = 21$) of social work participants. This was the only instance of at least 51 percent of participants receiving the same score in a singular vignette. The most common score for social workers in the second vignette was 0 points. This score was obtained by 42.4% ($N = 14$) of social work participants. Social work participants' most common score in the third vignette was 1 point. This score was obtained by 42.4% ($N = 14$) of social work participants. See Table 5.

Table 5

Frequency of Social Work Participants' Scores

Vignette Number	*Frequency of Score*		
	0	1	2
1	3	21	8
2	14	9	10
3	8	14	11

The most common score for counseling participants in the first vignette was 1 point. This score was obtained by 38.8% ($N = 19$) counseling participants. In the second vignette, the most common score for counseling participants was 2 points. This score was obtained by 40% ($N =$

20) of counseling participants. Counseling participants' most common score in the third vignette was 2 points. This score was obtained by 40.8% ($N = 20$) of counseling participants. See Table 6.

Table 6

Frequency of Counseling Participants' Scores

Vignette Number	*Frequency of Score*		
	0	1	2
1	18	19	12
2	13	17	20
3	11	18	20

Psychology participants' most common score for the first vignette was 1 point. This score was obtained by 43.4% ($N = 23$) of participants. The most common score for psychology participants in the second vignette was 2 points. This score was obtained by 39.6% ($N = 21$) of psychology participants. In the third vignette, the most common score for psychology participants was 0 points. This score was obtained by 35.8% ($N = 19$) of psychology participants. See Table 7.

Table 7

Frequency of Psychology Participants' Scores

Vignette Number	*Frequency of Score*		
	0	1	2
1	13	23	17
2	15	17	21
3	19	17	17

Exploratory Analyses

In addition to providing demographic information and diagnoses, participants also provided information about if they had utilized the DSM-5 or consulted with a colleague while completing the questionnaire. This extra data provided extra information about participants' environment and behaviors around diagnosing. While not the primary focus of this study, these exploratory analyses and the subsequent data gathered offer other possible answers or additional information to be considered when discussing this topic.

Between Group

Use of DSM-5. In addition to being divided into groups based on the discipline of their license, participants were also divided into groups based on use or non-use of the DSM-5 and if they consulted with a colleague or not. A *t*-test analysis was performed on this data due to comparing the means of two groups.

Of the 132 participants who answered the question about using the DSM-5 during the questionnaire, 59% ($N = 78$) of participants reported not utilizing the DSM-5 during the questionnaire. The average aggregate score for these participants was 2.72 ($SD = 1.34$). The remaining participants who did report using the DSM-5 during the questionnaire averaged a score of 3.83 ($SD = 1.18$). A *t*-test analysis of the results from the two groups showed that participants who utilized the DSM-5 during the questionnaire scored significantly higher than those who did not, $t(130) = -4.942$, $p < .001$.

For these two groups, *t*-test analyses were also performed on each vignette separately. For the first vignette, those who did not utilize the DSM-5 had an average score of 0.92 ($SD = 0.75$). Those who did utilize the DSM-5 had an average score of 1.17 ($SD = 0.69$). A *t*-test analysis showed that those who utilized the DSM-5 scored significantly higher, $t(130) = -1.888$, $p = .031$.

For the second vignette, those who did not utilize the DSM-5 had an average score of 0.90 (*SD* = 0.80). Those who did utilize the DSM-5 had an average score of 1.30 (*SD* = 0.69). A *t*-test analysis showed that those who utilized the DSM-5 scored significantly higher, $t(132) = -2.889$, $p = .002$.

For the third vignette, those who did not utilize the DSM-5 had an average score of 0.90 (*SD* = 0.82). Those who did utilize the DSM-5 had an average score of 1.30 (*SD* = 0.71). A *t*-test analysis showed that those who utilized the DSM-5 scored significantly higher, $t(132) = -2.997$, $p = .002$.

Consulting. Similar analyses were run for groups who reported whether they consulted with a colleague during the questionnaire or not. The vast majority of participants (90%, *N* = 119) reported that they did not consult with a colleague. The average aggregate score for these participants was 3.08 (*SD* = 1.37). The participants who reported that they consulted with a colleague had an average score of 4.08 (*SD* = 1.19). A *t*-test analysis of the two groups showed that the group who consulted with a colleague scored significantly higher than the other groups who did not consult, $t(130) = -2.527$, $p = .006$.

For these two groups, *t*-test analyses were also performed on each vignette separately. For the first vignette, those who did not consult with a colleague had an average score of 0.99 (*SD* = 0.73). Those who consulted with a colleague had an average score of 1.31 (*SD* = 0.75). A *t*-test analysis showed no significant difference between the two groups, $t(130) = -1.447$, $p = .071$.

For the second vignette, those who did not consult with a colleague had an average score of 1.02 (*SD* = 0.81). Those who consulted with a colleague had an average score of 1.50 (*SD* =

0.86). A *t*-test analysis showed that those who consulted with a colleague scored significantly higher, $t(132) = -2.102$, $p = .019$.

For the third vignette, those who did not consult with a colleague had an average score of 1.07 ($SD = 0.78$). Those who consulted with a colleague had an average score of 1.07 ($SD = 1.00$). A *t*-test analysis showed no significant difference between the two groups, $t(132) = -0.021$, $p = .492$.

Within Group

Because each vignette had an appropriate diagnosis identified by Morrison's (2014) *DSM-5 Made Easy*, the point system for this study was developed with this in mind. Participants who gave a diagnosis that matched Morrison's diagnosis received 2 points. Participants received 1 point for diagnoses that were in the same category of the DSM-5 as Morrison's diagnosis. Participants who gave a diagnosis which did not fit any of the above criteria were given 0 points. Since diagnoses receiving 2 points or 1 point are closely related, additional analysis was conducted by combining these two scores and comparing this new frequency to the frequency of diagnoses that scored 0 points. For all vignettes and all disciplines, the number of participants scoring at least 1 point was greater than 51 percent. See Table 8.

Table 8

Percentage of Participants Scoring at Least 1 Point per Vignette

Vignette Number	Discipline		
	Social Work	Counseling	Psychology
1	91%	63%	75%
2	58%	74%	72%
3	67%	78%	64%

Chapter Four

Discussion

The purpose of the current study was to test the following hypothesis: there is a significant difference in diagnostic agreement between licensed psychologists, counselors, and social workers. The results of this study did not support this hypothesis. It was also hypothesized that there would be no significant difference in diagnostic agreement within groups of similar disciplines. This hypothesis was also not supported, except in the case of social workers diagnosing Cyclothymic Disorder in the first vignette.

Results from this current study indicated that diagnostic disagreement between disciplines is not statistically significant. This finding supports Hickin et al. (1996). Hickin et al. studied the difference between psychiatric and psychological diagnoses of adolescent in a hospital setting. Hickin et al. found that agreement varied based on the diagnoses' family of related disorders and time of diagnosis (admission vs. psychological evaluation vs. discharge). Hickin et al. found agreement ranging from 71% to 90%. This study found agreement ranging from 35.8% to 65.6%.

Studies similar to the current study (Kreitman, 1961; Beck, 1969; Katz et al., 1969) found rates of agreement ranging from 24% to 90% within groups of similarly licensed participants. These studies involved groups of participants ranging from pairs of psychiatrists to groups of psychiatrists with fewer than 10 participants. The number of client cases for these studies ranged from a single case to 6,000 cases.

The decision to select 51 percent as the mark for high agreement for this study was made due to the history of wide ranges of agreement found in past studies. Additionally, due to the lack of operational definitions from earlier studies, 51 percent was chosen as a starting point for

this type of research. A simple majority, such as 51 percent of participants, shows that some level of agreement can be reached.

Findings from the exploratory analyses support the current literature regarding use of the DSM-5 and diagnostic agreement and accuracy. The current study found overall accuracy rates ranging from 28% to 38%. Social workers' accuracy ranged from 25% to 33%. Counselors' accuracy ranged from 24% to 41%. Psychologists' accuracy ranged from 32% to 40%.

Diagnostic accuracy is important to ensuring clients receive the correct treatment. A false positive diagnosis can lead to ineffective or unnecessary treatment, exacerbated symptoms, or physical or emotional harm. A false negative diagnosis keeps clients from receiving necessary treatment which can lead to decompensation. This decompensation of a client's symptoms can lead to hospitalization being necessary due to their disorder not being caught earlier to treat in a less restrictive setting.

The results from the current study indicate that use of the DSM-5 when considering diagnoses correlated to higher scores, meaning greater accuracy, and smaller standard deviations, denoting greater agreement. Aboraya et al. (2006) indicated that as the DSM has evolved and been revised diagnosing has generally become more accurate. Aboraya et al. indicated that the evolution of the DSM from brief, general descriptions to detailed, specific criteria helped to control for personal biases or emphasis on specific symptoms (Katz et al., 1969). Rogers (2003) found that even using interviews structured around the DSM criteria were beneficial in increasing agreement in diagnosis.

Similarly, findings from this current study supported the current literature stating that consulting with peers or colleagues can increase agreement and accuracy in diagnosis. Katz et al. (1969) and Tyler and Birmingham (2001) suggested that agreement and accuracy varied in part

due to personal biases and the subjective nature of some symptoms. These researchers went on to say that consulting with peers and other professionals on cases helps to mitigate those factors when diagnosing and providing treatment. Hickin et al. (1996) found that when practitioners were able to utilize evaluations from colleagues, particularly psychiatrists using information from psychological evaluations, that agreement significantly increased. Brammer (2002) found that increased clinical experience, including educational background and time being supervised by an independent practitioner, was correlated with increased diagnostic accuracy.

Despite similarities in experiment setup, the range of agreement rates vary based on the variable that was being studied. Studies reviewed by Kreitman (1961) focused on agreement based on diagnostic groups and then specific diagnoses within the identified groups. Beck (1969) reviewed studies that indicated issues such as differences in nomenclature and the conditions under which participants were able to interview the clients for the study impacted the diagnosis given to the client. Katz et al. (1969) conducted several studies with emphasis on psychiatrists' agreement on severity of psychiatric symptoms, diagnosis of schizophrenia subtype based on psychiatrist view of severity, and diagnosis based on knowledge of client's history.

These studies and their varied foci offer possible explanations for the significant differences in agreement between all the studies, including the current study. The findings of these studies indicate that despite operationalized definitions and the availability of said diagnostic definitions, effects from human involvement in diagnosing will always have an impact on diagnostic agreement. With the information from this current study included, it appears that diagnostic training based on discipline concentration does not significantly impact agreement or accuracy. Despite differing professions with different educational histories and areas of expertise or focus, similar results were obtained when asked to diagnose the same client.

However, the case of social workers performing more accurately in the diagnosis of vignette 1 deserves further consideration. Because this was the first vignette, it is possible that social workers performed the best on this vignette due to not being as fatigued as they may have been during the later vignettes. Psychologists showed a similar pattern of performing worse on each subsequent vignette. In contrast, counselors' accuracy improved with each vignette.

Implications

Despite being presented with vignettes from a psychopathology textbook designed to perfectly emulate specific psychiatric diagnoses, most participants were unable to identify the correct diagnosis nor come to a majority agreement on a diagnosis. This implies that while all disciplines' psychopathology training are equally effective, they are also equally ineffective at preparing future practitioners for diagnosing by themselves.

Participants in this study were more accurate in diagnosing when consulting with other practitioners or utilizing the DSM-5 while considering diagnosis. For both of these conditions, the aggregate score was one point higher for participants who utilized available resources than for their counterparts who did not use available resources. This implies that bringing in viewpoints different than one's own, even objective viewpoints like that of the DSM-5, are beneficial in providing accurate diagnoses for clients. These viewpoints could act as a balance against implicit biases or highlight symptoms or severity of symptoms that may have been missed on initial assessment of the client.

When the diagnoses were viewed as part of a family of related diagnoses instead of a singular diagnosis, agreement on the diagnosis rose significantly. This suggests that viewing diagnosing as identifying a family of related diagnoses or symptoms rather than a very specific

individual diagnosis may be more beneficial in diagnostic accuracy. Bringing diagnoses together under the same umbrella has already begun in some areas.

In the DSM-5, Asperger's Disorder has been absorbed into autism spectrum disorder and the family of psychotic disorders is called schizophrenia spectrum and other psychotic disorders (American Psychiatric Association, 2013). This suggests that the differences between diagnoses in the same family of related disorders may not be as important as originally thought. The more important and beneficial aspect of diagnosis would be to diagnose in a general family to begin treatment sooner.

Limitations

While the current study included a wide range of disciplines, it did not include all possible disciplines that a mental health practitioner could have studied. These other possible disciplines include marriage and family therapists, substance abuse counselors, nurse practitioners, psychiatrists, and primary care physicians. These other disciplines have their own areas of focus like the disciplines included in this study, so they come with possible differing reference points, including diagnoses as a function of family systems and the medical model approach to mental health.

This study was also limited in the number and types of diagnoses that were tested for the study. The families of diagnoses that were included in this study were depressive disorders, bipolar disorders, and dissociative disorders. Families of disorders not included in this study were comprised of neurodevelopmental disorders, psychotic disorders, anxiety disorders, obsessive-compulsive disorders, stressor-related disorders, somatic disorders, bodily proves disorders, sexual disorders, substance use disorders, neurocognitive disorders, and personality

disorders. Participants in this study may have more or less training in the disorders that were covered in this study than the ones which were not included.

Another limit to this study was the fact that the included vignettes did not represent actual clients and participants were not able to ask questions for other information that they have deemed necessary to diagnose. Because participants were asked to diagnose fictitious clients, this could have influenced their motivation for diagnosing. Also, while the vignettes were taken from a textbook designed to be used in psychopathology or diagnosis classes, the author is not a specific expert in diagnosis.

Future Research

Future research on this topic should include as many disciplines as possible to get a more complete picture of the diagnosing ability of practitioners across the spectrum. Including more disciplines and thus possibly more participants could lead to the possibility of placing participants in cohorts of like discipline and different disciplines to compare the effect of differing viewpoints on diagnosis. Future research could also study the relationship between agreement and focusing on a particular diagnosis for a client. Clinicians' use of the DSM or lack thereof should also be studied. Future research could focus on clinicians' comfort level with using the DSM, clinicians' understanding of DSM criteria, or reasons for clinicians' non-use of the DSM. Even though no significant difference was found between the disciplines studied, further research should be done on the teaching methods of the disciplines' program.

Conclusions

Diagnosing has been described as both a science and an art. Just as science and art are ever evolving and developing so is the process of diagnosing. This current study shows areas for improvement and areas of promise. The field of mental health is performing at the same level

across disciplines. However, when working and consulting together or using basic references for support, practitioners perform even better than those who diagnose with their own knowledge alone.

References

Aboraya, A., Rankin, E., France, C., El-Missiry, A., & John, C. (2006). The reliability of psychiatric diagnosis revisited. *Psychiatry* (*Edgmont*), *3*, 41-50.

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). https://doi/10.1176/appi.books.9780890425596

American Psychological Association. (2017). Ethical principles of psychologists and code of conduct. Retrieved November 10, 2019, from https://www.apa.org/ethics/code/index

Bean, K. F. (2012). Differential ratings of and maternal impact on anxiety and depression among African American children in special education. *Children and Youth Services Review*, *34*, 1868-1875. https://doi.org/10.1016/j.childyouth.2012.05.024

Beck, A. T. (1969). Reliability of psychiatric diagnoses: 1. A critique of systematic studies. *American Journal of Psychiatry*, *119*, 210-216. https://doi.org/10.1176/ajp.119.3.210

Blashfield, R., & Draguns, J. (1976). Evaluative criteria for psychiatric classification. *Journal of Abnormal Psychology*, *85*, 140-150. https://doi.org/10.1037//0021-843x.85.2.140

Brammer, R. (2002). Effects of experience and training on diagnostic accuracy. *Psychological Assessment*, *14*(1), 110-113. https://doi.org/10.1037/1040-3590.14.1.110

Braun, S. A., & Cox, J. A. (2005). Managed mental health care: Intentional misdiagnosis of mental disorders. *Journal of Counseling & Development*, *83*, 425-433. https://doi.org/10.1002/j.1556-6678.2005.tb00364.x

Committee on Diagnostic Error in Health Care. (2015, December 29). *A research agenda for the diagnostic process and diagnostic error.* National Library of Medicine. https://www.ncbi.nlm.nih.gov/books/NBK338606/

Copeland, J. R. M., Cooper, J. E., Kendell, R. E., & Gourlay, A. J. (1971). Differences in usage of diagnostic labels amongst psychiatrists in the British Isles. *The British Journal of Psychiatry*, *118*, 629-640. https://doi.org/10.1192/bjp.118.547.629

de Jong, M., Punt, M., de Groot, E., Hielkema, T., Struik, M., Minderaa, R. B., & Hadders-Algra, M. (2009). Symptom diagnostics based on clinical records: A tool for scientific research in child psychiatry? *European Child & Adolescent Psychiatry*, *18*, 257-264. https://doi.org/10.1007/s00787-008-0726-4

DSM History. (n.d.). Retrieved from https://www.psychiatry.org/psychiatrists/practice/dsm/history-of-the-dsm

Feighner, J. P., Robins, E., Guze, S. B., Woodruff, R. A., Winokur, G., & Munoz, R. (1972). Diagnostic criteria for use in psychiatric research. *Archives of General Psychiatry*, *26*, 57-63. https://doi.org/10.1001/archpsyc.1972.01750190059011

Health Insurance Portability and Accountability Act of 1996. (2015). Retrieved November 10, 2019, from ASPE website: https://aspe.hhs.gov/report/health-insurance-portability-and-accountability-act-1996

Hickin, N., Slate, J., & Saarnio, D. (1996). Consistency in diagnoses for a sample of adolescents at a private psychiatric hospital. *Adolescence*, *31*, 553-559.

Jensen-Doss, A., & Weisz, J. R. (2008). Diagnostic agreement predicts treatment process and outcomes in youth mental health clinics. *Journal of Consulting and Clinical Psychology*, *76*, 711-722. https://doi.org/10.1037/0022-006X.76.5.711

Katz, M., Cole, J., & Lowery, H. (1969). Studies of the diagnostic process: The influence of symptom perception, past experience, and ethnic background on diagnostic decisions. *American Journal of Psychiatry*, *125*, 109-119. https://doi.org/10.1176/ajp.125.7.937

Kreitman, N. (1961). The reliability of psychiatric diagnosis. *Journal of Mental Science*, *107*, 876-886. https://doi.org/10.1192/bjp.107.450.876

Ledford, J., Lane, J., & Severini, K. (2018). Systematic use of visual analysis for assessing outcomes in single case design studies. *Brian Impairment*, *19*(1), 4-17. https://doi.org/10.1017/BrImp.2017.16

Masserman, J. H., & Carmichael, H. T. (1938). Diagnosis and prognosis in psychiatry. *Journal of Mental Science*, *84*, 893-946. https://doi.org/10.1192/bjp.84.353.893

McDonald, J. H. (2014). *Handbook of biological statistics*. Sparky House Publishing.

Morrison, J. R. (2014). *DSM-5 made easy: The clinician's guide to diagnosis*. New York: The Guilford Press.

National Center for O*NET Development. (2018a). 19-3031.02 – Clinical Psychologists. Retrieved from https://www.onetonline.org/link/summary/19-3031.02

National Center for O*NET Development. (2018b). 21-1014.00 – Mental Health Counselors. Retrieved from https://www.onetonline.org/link/summary/21-1014.00

National Center for O*NET Development. (2018c). 21-1023.00 – Mental Health and Substance Abuse Social Workers. Retrieved from https://www.onetonline.org/link/summary/21-1023.00

National Center for O*NET Development. (2019). O*NET OnLine Help: OnLine Overview. Retrieved from https://www.onetonline.org/help/online

One-way ANOVA – How to report the significance results, homogeneity of variance and running post-hoc tests. (n.d.). Retrieved from https://statistics.laerd.com/statistical-guides/one-way-anova-statistical-guide-4/php

Pope, H. G., & Lipinski, J. F. (1978). Diagnosis in schizophrenia and manic-depressive illness: A reassessment of the specificity of schizophrenic symptoms in the light of current research. *Archives of General Psychiatry*, *35*, 811-828. https://doi.org/10.1001/archpsyc.1978.01770310017001

Rogers, R. (2003). Standardizing DSM-IV diagnoses: The clinical applications of structured interviews. *Journal of Personality Assessment*, *81*, 220-225. https://doi.org/10.1207/S15327752JPA8103_04

Rosenhan, D. L. (1973). On being sane in insane places. *Science*, *179*, 250-258. https://doi.org/10.1126/science.179.4070.250

Schwartz, R. C., & Feisthamel, K. P. (2009). Disproportionate diagnosis of mental disorders among African American versus European American clients: Implications for counseling theory, research, and practice. *Journal of Counseling & Development*, *87*, 295-301. https://doi.org/10.1002/j.1556-6678.2009.tb00110.x

Spitzer, R. L., & Fleiss, J. L. (1974). A re-analysis of the reliability of psychiatric diagnosis. *The British Journal of Psychiatry*, *125*, 341-347. https://doi.org/10.1192/bjp.125.4.341

Timimi, S. (2014). No more psychiatric labels: Why formal psychiatric diagnostic systems should be abolished. *International Journal of Clinical and Health Psychology*, *14*, 208-215. https://doi.org/10.1016/j.ijchp.2014.03.004

Traynor, V., Cordato, N., Burns, P., Xu, Y., Britten, N., Duncan, K., … McKinnon, C. (2016). Is delirium being detected in emergency? *Australasian Journal on Ageing*, *35*, 54-57. https://doi.org/10.1111/ajag.12255

Tyler, I., & Birmingham, C. L. (2001). The interrater reliability of physical signs in patients with eating disorders. *International Journal of Eating Disorders*, *30*, 343-345. https://doi.org/10.1002/eat.1094

U.S. Bureau of Labor Statistics. (2023a). *Employed persons by detailed occupation and age* [Data set]. United States Department of Labor. https://www.bls.gov/cps/cpsaat11b.htm

U.S. Bureau of Labor Statistics. (2023b). *Employed persons by detailed occupation, sex, race, and Hispanic or Latino ethnicity* [Data set]. United States Department of Labor. https://www.bls.gov/cps/cpsaat11.htm

World Health Organization. (2018). International Classification of Diseases, 11th Revision (ICD-11). Retrieved from http://www.who.int/classifications/icd/en/

Appendix A

Demographic Information Collected

Age: _____

Sex: Male Female Intersex/Third Gender

Race: African-American

Asian

Caucasian

Hispanic

Other _____

Level of Education Completed

Bachelor

Master

Doctorate

Type of License

Counseling

Psychology

Social Work

Number of years practicing: _____

State(s) in which you practice: _____

Setting in which you practice

Community Mental Health Outpatient

Community Mental Health Inpatient

Private Practice

Hospital

Other _____

Are you familiar with the book *DSM-5 Made Easy*? _____

Have you previously used the book *DSM-5 Made Easy*? _____

Did you consult a copy of the DSM-5 during this questionnaire? _____

Did you consult with a colleague on any of these vignettes? _____

Appendix B

Vignettes

Thank you for agreeing to take part in my study about diagnostic agreement. The following web pages contain three separate fictional vignettes and a demographics questionnaire. For each of the vignettes, you will be asked to provide one (1) diagnosis based on the information provided. Please include any appropriate specifiers with your diagnosis and include the ICD-10 diagnostic code. A free text box will be located underneath each vignette for you to provide your diagnosis. Each vignette is expected to take approximately 5-10 minutes to diagnose for a total time of 15-30 minutes to complete the questionnaire.

By participating in this survey, you are indicating that you understand that your responses are anonymous and will not be identified with you in any way. You are also indicating that you meet the following criteria:

- Completed a Master degree in Psychology, Counseling, or Social Work;
- Licensed in the state that you practice by the state board of Psychology, Counseling, or Social Work;
- Currently practicing therapy with clients; and
- Have worked at least one (1) year in a community mental health setting.

If you have questions or would like further information, please contact Wade McGuire, wade.mcguire736@topper.wku.edu, or Rick Grieve, Ph.D., rick.grieve@wku.edu.

Honey Bare

Without her feathers and sequins, Honey Bare looked anything but provocative. She had begun life as Melissa Schwartz, but she loved using her stage name. The stage in question was Hoofer's, one of the bump-and-grind joints that thrived near the waterfront. The billboard proclaimed that it was "Only a Heartthrob Away" from the Navy recruiting station. Since she'd dropped out of college four years earlier, Honey had been a front-liner in the four-girl show at Hoofer's. Every afternoon on her way to work she passed right by the mental health clinic, but this was her first visit inside.

"In our current gig, I play the Statue of Liberty. I receive the tired, the poor, and the huddled masses. Then I take off my robes."

"Is that a problem?" the interviewer wanted to know.

Most of the time, it wasn't. Honey liked her little corner of show biz. When the fleet was in, she played to thunderous applause. "In fact, I enjoy just about everything I do. I don't drink much, and I never do drugs, but I go to parties. I sing in our church choir, go to movies – I enjoy art films quite a bit." When she felt well, she slept little, talked a lot, started a hundred projects, and even finished some of them. "I'm a really happy person – when I'm feeling up."

But every couple of months, there'd be a week or two when Honey didn't enjoy much of anything. She'd paste a smile on her face and go to work, but when the curtain rang down, the smile came off with her makeup. She was never suicidal, and her sleep and appetite didn't suffer; her energy and concentration were normal. But it was as if all the fizz had gone out of her ginger ale. She could see no obvious cause for her mood swings, which had been going on for years. She could count on the fingers on both hands the number of weeks she had been "just normal."

Lately, Honey had acquired a boyfriend – a chief petty officer who wanted to marry her. He said he loved her because she was so vivacious and enthusiastic, but he had only seen her when she was bubbly. Always before, when she was depressed, he had been out to sea. Now he had written that he was being transferred to shore duty, and she feared it would be the end of their relationship. As she said it, two large tears trickled through the mascara and down her cheeks.

Four months and several visits later, Honey was back, wearing a smile. The medication, she reported, seemed to be working well. The peaks and valleys of her moods had smoothed out to rolling hills. She was still playing the Statue of Liberty down at Hoofer's.

"My sailor's been back for nearly three months," she said, "and he's still carrying a torch for me."

Francine Parfit

"It feels like I'm losing my mind." Francine Parfit was only 20 years old, but she had already worked as a bank teller for nearly two years. Having received several raises during that time, she believed that she was good at her job – conscientious, personable, and reliable. And healthy, though she'd been increasingly troubled by her "out-of-body experiences," as she called them.

"I'll be standing behind my counter and, all of a sudden, I'm also standing a couple of feet away. I seem to be looking over my own shoulder as I'm talked with my customer. And in my head, I'm commenting to myself on my own actions, as if I were a different person I was watching. Stuff like 'Now she'll have to call the assistant manager to get approval for this transfer of funds.' I came to the clinic because I saw something like this on television a few nights ago, and the person got shock treatments. That's when I began to worry something really awful was wrong."

Francine denied that she had ever had blackout spells, convulsions, blows to the head, severe headaches, or dizziness. She had smoked marijuana a time or two in high school, but otherwise she was drug- and alcohol-free. Her physical health had been excellent; her only visits to physicians had been for immunizations, Pap smears, and a pre-employment physical exam two years ago.

Each episode began suddenly, without warning. First Francine would feel quite anxious; then she'd notice that her head seemed to bob up and down slightly, out of her control. Occasionally she felt a warm sensation on the top of her head, as if someone had cracked a half-cooked egg that was dribbling yolk down through her hairline. The episodes seldom lasted longer than a few minutes, but they were becoming more frequent – several times a week now. If

they occurred while she was at work, she could often take a break until they passed. But several times it had happened when she was driving. She worried that she might lose control of her car.

Francine had never heard voices or had hallucinations of other senses; she denied ever feeling talked about or plotted against in any way. She had never had suicidal ideas and didn't really feel depressed.

"Just scared," she concluded. "It's so spooky to feel that you've sort of died."

Aileen Parmeter

"I just knew it was a terrible mistake to come here." For the third time, Aileen Parmeter got out of her chair and walked to the window. A wiry 5 feet 2 inches, this former Marine master sergeant (she had supervised a steno pool) weighed a scant 100 pounds. Through the Venetian blinds, she peered longingly at freedom in the parking lot below. "I just don't know whatever made me come."

"You came because I asked you to," her clinician explained. "Your nephew called and said you were feeling down again. It's just like the last time."

"No, I don't think so. I was just upset," she explained patiently. "I had a little cold for a few days and couldn't play my tennis. I'll be fine if I just get back to my little apartment."

"Have you been hearing voices or seeing things this time?"

"Well, of course not." She seemed rather offended. "You might as well ask if I've been drinking."

After her last hospitalization, Aileen had been well for about 10 months. Although she had taken her medicine for only a few weeks, she had remained active until three weeks ago. Then she stopped seeing her friends and wouldn't play tennis because she "just didn't enjoy it." She worried constantly about her health and had been unable to sleep. Although she didn't complain of decrease appetite, she had lost about 10 pounds.

"Well, who wouldn't have trouble? I've just been too tired to get my regular exercise." She tried to smile, but it came off crooked and forced.

"Miss Parmeter, what about the suicidal thoughts?"

"I don't know what you mean."

"I mean, each time you've been here – last year, and two years before that – you were admitted because you tried to kill yourself."

"I'm going to be fine now. Just let me go home."

But her therapist, whose memory was long, had ordered Aileen held for her own protection in a private room where she could be observed one-on-one.

Sleepless still at 3 A.M., Aileen got up, smiled wanly at the attendant, and went in to use the bathroom. Looping a strip she had torn from her sweatsuit over the top of the door, she tried to hang herself. As the silence lengthened, the attendant called out softly, then tapped on the door, then opened it and sounded the alarm. The code team responded with no time to spare.

The following morning, the therapist was back at her bedside. "Why did you try to do that, Miss Parmeter?"

"I didn't try to do anything. I must have been confused." She gingerly touched the purple bruises that ringer her neck. "This sure hurts. I know I'd feel better if you'd just let me go home."

Aileen remained hospitalized for 10 days. Once her sore neck would allow, she began to take her medication again. Soon she was sleeping and eating normally, and she made a perfect score on the MMSE. She was released to go home to her apartment and her tennis, still uncertain why everyone had made such a fuss about her.

Appendix C

Vignette Scoring Guide

Honey Bare

2 points – Cyclothymic Disorder

1 point – Any other Bipolar or Related Disorder

0 points – Any other Disorder

Francine Parfit

2 points – Depersonalization/Derealization Disorder

1 point – Any other Dissociative Disorder

0 points – Any other Disorder

Aileen Parmeter

2 points – Major Depression, recurrent, any severity

1 point – Any other Depressive or Related Disorder

0 points – Any other Disorder

Appendix D

Email to Professional Associations

To Whom It May Concern,

My name is Wade McGuire. I am a doctoral level psychology student at Western Kentucky University. As part of my program, I am required to author a dissertation.

For my dissertation, I have chosen to investigate the effect of a therapist's educational discipline on diagnosis. Participants in my study will be licensed as psychologists, counselors, or social workers. To recruit participants for my study, I am contacting national associations to request contact information for members in the form of email addresses.

Any assistance in this endeavor would be greatly appreciated. If I can be of any further assistance by answering any questions, please do not hesitate to contact me. Thank you for your time.

Sincerely,

Wade McGuire, M.Ed., LPCC

Doctorate of Psychology Candidate

Western Kentucky University

Email: wade.mcguire736@topper.wku.edu

Appendix E

Informed Consent Form

INFORMED CONSENT ADULT PARTICIPANT

Agreement of Psychiatric Diagnoses Between Groups of Mental Health Clinicians From Different Disciplines

Investigators:

Wade McGuire, M.Ed.

Rick Grieve, Ph.D.

Department of Psychology

Western Kentucky University

Phone: (270) 745-4527

You are being asked to participate in a project conducted through Western Kentucky University. The University requires that you give your signed agreement to participate in this project.

The investigators are available to discuss with you in detail the purpose of the project, the procedures to be used, and the potential benefits and possible risks of participation. You may ask them any questions you have to help you understand the project. A basic explanation of the project is written below. Please read this explanation and discuss with the investigator any questions you may have.

If you then decide to participate in the project, please click to place a "X" in the box next to the statement "I AGREE to participate in this study." You may print this page or request a copy of this informed consent for your records.

1. **Nature and Purpose of the Project**: The purpose of this project is to determine if a significant difference exists in diagnostic agreement between licensed psychologists, counselors, and social workers. To test for this difference, participants will be asked to provide diagnoses for three separate vignettes.

2. **Explanation of Procedures**: To be included in the study, you must meet the following inclusion criteria:

    a. You are licensed as a psychologist, counselor, or social worker.
    b. Your license allows you to diagnose psychiatric disorders.

If you do not meet these criteria, you will not be included in this study, and we will notify you via an email. If you qualify and are willing to participate, you will be taken to the questionnaire after signing and submitting this informed consent.

Here are the study procedures that you will complete:

1. A demographics questionnaire: these are questions about you, including education history, type of license held, and setting in which you practice.
2. Three vignettes: presented individually for which you will provide a diagnosis.

3. **Discomfort and Risks**: There is minimal to no anticipated discomfort or risks while completing the questionnaire or vignettes.

4. **Benefits**: If you participate in this study, you will be entered into a drawing for one of three $50 (fifty dollars) gift cards. The results of this study will potentially allow the researchers to identify if one mental health concentration's diagnosis training is more beneficial in training new clinicians.

5. **Confidentiality**: Your data will be numerically coded for confidentiality. Any data collected will be kept in a password-protected document on a password-protected computer. Any data collected and recorded on hard copy will also be locked and stored securely. The data will be kept secure for a minimum of three years after project completion. Please be aware that the research team may discuss the group results in general terms in a public forum, and you may request a copy of this report. Specific individual information will never be revealed.

6. **Refusal/Withdrawal**: You are free to withdraw from this study at any time with no penalty.

You understand also that it is not possible to identify all potential risks in an experimental procedure, and you believe that reasonable safeguards have been taken to minimize both the known and potential but unknown risks.

___ I AGREE to participate in this study.

___ I DO NOT AGREE to participate in this study.

Copyright Permission

Name: McGuire, Wade

Email (to receive future readership statistics): wade.mcguire736@topper.wku.edu

Type of document: ['Dissertation']

Title: AGREEMENT OF PSYCHIATRIC DIAGNOSES WITHIN AND BETWEEN GROUPS OF MENTAL HEALTH CLINICIANS FROM DIFFERENT DISCIPLINES

Keywords (3-5 keywords not included in the title that uniquely describe content): diagnosis; psychology; social work; counseling

Committee Chair: Rick Grieve

Additional Committee Members: Sally Kuhlenschmidt, Anthony Paquin, Timothy Thornberry

Select 3-5 TopSCHOLAR® disciplines for indexing your research topic in TopSCHOLAR®: Psychology; Clinical Psychology; Counseling; Social Work

Copyright Permission for TopSCHOLAR® (digitalcommons.wku.edu) and ProQuest research repositories:

I hereby warrant that I am the sole copyright owner of the original work.
I also represent that I have obtained permission from third party copyright owners of any material incorporated in part or in whole in the above described material, and I have, as such identified and acknowledged such third-part owned materials clearly. I hereby grant Western Kentucky University the permission to copy, display, perform, distribute for preservation or archiving in any form necessary, this work in TopSCHOLAR® and ProQuest digital repository for worldwide unrestricted access in perpetuity. I hereby affirm that this submission is in compliance with Western Kentucky University policies and the U.S. copyright laws and that the material does not contain any libelous matter, nor does it violate third-party privacy. I also understand that the University retains the right to remove or deny the right to deposit materials in TopSCHOLAR® and/or ProQuest digital repository.

['I grant permission to post my document in TopSCHOLAR and ProQuest for unrestricted access.']

The person whose information is entered above grants their consent to the collection and use of their information consistent with the Privacy Policy. They acknowledge that the use of this service is subject to the Terms and Conditions.

['I consent to the above statement.']