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# Indifference to Difference: Factors Related to Recognizing and Responding to Students with Symptoms of Depression

A dissertation submitted in partial satisfaction of the requirements for the degree of

Doctor of Philosophy

in Counseling, Clinical, and School Psychology

by

Wendy Carolyn Morrison

Committee in charge:

Professor Steve Smith, Chair

Professor Merith Cosden

Professor Erin Dowdy

Dr. Angela Andrade, Associate Dean

September 2016

The dissertation of Wendy Eichler Morrison is approved.

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Steve Smith, Chair

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Merith Cosden

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Erin Dowdy

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Angela Andrade

June 2016

Indifference to Difference: Factors Related to Recognizing and Responding to Students with Symptoms of Depression

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by

Wendy Morrison

ACKNOWLEDGEMENTS

This dissertation could not have been possible without the support, guidance, and encouragement of many important people who have helped me along the way.

To the UCSB community – my fellow students, staff, and faculty, you are the heart of this dissertation. I'm awed by this truly special community of people who care about each other, and have survived a tragedy that made us even stronger.

To my advisor, Steve Smith – thank you for sticking with me. Your endless support has given me the fuel to keep going, and I'm so proud of the work we've done together.

To my CCSP committee members, Erin Dowdy and Merith Cosden – I'm grateful for your encouragement and support, and for believing in me.

To my committee member Angela Andrade, and the Student Mental Health Coordination Services Team (Marisa Huston, Ryan Sims, Tracy Gillette) – my experience being part of the hardest working team at UCSB was one of the most fulfilling parts of my graduate school experience. Thank you for inspiring my passion to do this research.

To my internship supervisor, Carla Bradley – thank you for your patience and confidence in me; it meant so much, especially when I needed it most. A special thanks to Carla as well as Ryan Wendling for taking time out of your busy schedules to read a draft of my dissertation.

To my CCSP friends – I'm so grateful I had you by my side throughout graduate school. I couldn't have done this without our study dates, informal support groups, and fun times together.

To my family, particularly my parents and grandparents – you have always believed in me and inspired me to pursue a career in the field of psychology. I would not be here without your love and encouragement throughout my life.

To my incredible husband, Nick Morrison – thank you for your cheerleading, flexibility, and unconditional love. The “Dissertation Destination” you created for me was just one of the many ways I felt so supported by you during the times I had to stay up late to get work done.

**Wendy (Eichler) Morrison**

**Curriculum Vitae, June 2016**

## Education & Training

Doctoral Psychology Internship (APA-Accredited)
8/2015 – Present
**University of Colorado, Boulder**
Counseling and Psychiatric Services, Wardenburg Health Center

Ph.D. Candidate, Counseling, Clinical, and School Psychology (APA-Accredited)
9/2009 – Present
Emphasis: Clinical Psychology
**University of California, Santa Barbara**
Dissertation: *Indifference to Difference: Factors Related to Recognizing and Responding to Students with Symptoms of Depression*

Master of Arts, Counseling Psychology
9/2009 – 6/2012
**University of California, Santa Barbara**
Thesis: *Utility of a Therapeutic Model of Assessment on Client Reported Psychotherapy Process and Alliance*

Master of Science, Psychology
8/2006 – 5/2008
**Villanova University**
Thesis: *Relationship Quality and the Complementarity of Interpersonal Behaviors among Parent-Child Dyads*

Bachelor of Arts, Double Major: Psychology and Spanish
8/2001 – 5/2005
**Muhlenberg College**
Summa Cum Laude
Undergraduate Honors Thesis: *The Appearance Contingency of Self-Worth*

## Awards and Honors

*University of Colorado, Boulder*
GEM Award (Going the Extra Mile) Nomination 2015

*University of California, Santa Barbara*
Graduate Division Dissertation Fellowship 2014-2015
Hosford Clinic Hero Award 2014
Counseling, Clinical, and School Psychology Student Travel Grant 2013
Counseling, Clinical, and School Psychology Block Grant 2012-2013

*Villanova University*

| | |
|---|---|
| Ingeborg and Byron Ward Outstanding Master's Thesis Award | 2009 |
| University Assistantship and Tuition Scholarship | 2006-2008 |
| University Research Travel Grant | 2008 |

*Muhlenberg College*

| | |
|---|---|
| Phi Beta Kappa; one of 11 inductees | 2005 |
| Phi Sigma Iota: International Foreign Language Honor Society | 2005 |
| Carol E. Hutchinson Research in Psychology Prize | 2004 |
| Dr. Robert Ochner Merit Scholarship | 2004 |

*External Awards*

| | |
|---|---|
| Society for Personality Assessment Student Travel Grant | 2013 |
| Germany Close Up Fellowship | 2010 |
| NY Psychological Association Award for Innovative Student Research | 2006 |

## Clinical Experience

**Doctoral Intern**
*Counseling & Psychiatric Services, Wardenburg Health Center,*
*University of Colorado Boulder* *Fall 2015-Present*
APA-accredited internship site located within a multidisciplinary, integrated university health center. Serve on the Assessment Team, Eating Disorders Treatment Team, and Behavioral Health/Integrated Primary Care Team. Provide individual and group therapy in short- and long-term engagements, conduct crisis intervention and weekly walk-in shift, and perform comprehensive psychological assessments. Serve as a consultant to primary care providers and introduce behavioral health services to patients in medical exam rooms. Participate in weekly training seminars and interdisciplinary treatment team meetings. Involved in interviewing selected applicants for the subsequent year's intern cohort.
Supervisors: Carla Bradley, Ph.D.; Matthew Heermann, Psy.D., Idalia Massa-Carroll, Ph.D.
Training Directors: Sabrina Neu, Psy.D., Kenli Urruty, Ph.D; Michael Maley, Ph.D.

**Assistant Student Mental Health Coordinator**
*Student Mental Health Coordination Services, UC Santa Barbara* *Fall 2013-Spring 2015*
Coordinated prevention, intervention, training, and outreach efforts across campus and community systems to assist college students in crisis. Consulted with students of concern as well as families, fellow students, and university faculty and staff concerned about a student. Maintained contact to arrange for appropriate mental health care; evaluated threat and assessed risk to self and/or community; and fostered self-advocacy in students to manage their academic and personal responsibilities. Worked closely with campus offices (e.g., Housing, Counseling & Psychological Services, Judicial Affairs, Social Work, Alcohol & Drug Program) to identify and intervene as early as possible with students whose behavior suggests the need for intervention or other support services, or threatens others' safety.
Supervisors: Angela Andrade, Ph.D., Ryan Sims, M.A.; Marisa Huston, LMFT

**Senior Assessment Clinician**
*Psychology Assessment Center, UC Santa Barbara* *Winter 2011-Spring 2015*
Conduct psychological assessment with adults, adolescents, children, and couples for psychotherapeutic and educational contexts. Conduct intakes, administer, score, and interpret neuropsychological, personality, and cognitive assessments. Provide in-person and written feedback reports consistent with a therapeutic model of assessment. Participate in monthly case presentations.
Supervisors: Erik Lande, Ph.D.; Jordan Witt, Ph.D.; Ty Vernon, Ph.D., Andrea Gurney, Ph.D.

**Psychotherapy Clinician**
*Child Abuse Listening & Mediation (CALM), Santa Barbara, CA* *Fall 2012-Summer 2013*
Served as practicum clinician at a community-based clinic specializing in child abuse prevention and treatment services. Provided individual, couples, family, and group therapy using a variety of evidence-based practices, including Trauma-Focused Cognitive-Behavior Therapy and Dialectical Behavior Therapy. Co-led groups for teens with emotion dysregulation, domestic violence survivors (adults), sexual abuse survivors (children and adults), and women's empowerment (conducted in Spanish). Received specialized training in trauma, culturally competent services, and conducting psychotherapy in legal contexts.
Supervisor: Jessica Adams, Ph.D.

**Advanced Practicum Clinician**
*Hosford Clinic, UC Santa Barbara* *Fall 2011-Summer 2012*
Conducted weekly individual and group psychotherapy with adult and adolescent clients at a university-based clinic. Conducted diagnostic intakes using semi-structured interviews and assessments and presented intake cases to clinic supervisors for case assignment. Developed case conceptualization and intervention skills using interpersonal and cognitive-behavioral theories of psychotherapy.
Supervisors: Heidi Zetzer, Ph.D.; Maryam Kia-Keating, Ph.D.; Toni Zander-Star, Ph.D.

**Assessment Specialist**
*Child Abuse Listening Mediation (CALM), Santa Barbara, CA* *Fall 2011-Summer 2012*
Scored clinical assessments and wrote intake, follow-up, and termination assessment reports to monitor treatment progress and inform clinical practice for clients at a community-based clinic. Collaborated with assessment team members to create an efficient assessment process for the agency. Analyzed data and wrote reports for Department of Social Services grant on the effectiveness of a county-wide intervention to reduce and prevent child abuse.
Supervisor: Jessica Adams, Ph.D.

**Cultural and Language Immersion Program Volunteer**
*Ecuador Professional Preparation Program, Quito, Ecuador* *Summer 2011*
Provided psycho-social assessment and therapy in Spanish to children ages 2-17 in a residential center for homeless and at-risk Ecuadorian children. Served as a consultant to center administrators by conducting developmental interviews and creating and implementing yoga therapy program. Received didactic training in culturally competent clinical practice.
Supervisors: Tara Raines, Ph.D.; Anton Berzins, Psy.D., NCSP

**Basic Practicum Clinician**
*Hosford Clinic, UC Santa Barbara* *Winter 2010-Spring 2011*
Conducted brief therapy (three sessions) with volunteer undergraduate clients from a university-based clinic. Gained experience with intervention skills, case conceptualization, and treatment planning from client-centered, psychodynamic, cognitive-behavioral, and multicultural approaches.
Supervisor: Heidi Zetzer, Ph.D.

## Supervision and Administration Experience

**Clinic Supervisor**
*Hosford Clinic, UC Santa Barbara* *Fall 2013-Spring 2014*
Provided in-vivo supervision and consultation to second-year doctoral student trainees on therapy sessions, assessments, crisis interventions, and agency protocol. Managed crisis situations for at-risk clients and consulted with faculty on-call supervisors. Conducted telephone screenings and supervised clinical intakes and assessments with prospective clients. Collaborated with faculty supervisors on case assignments, clinical issues to monitor, and new clinic policy. Successfully solicited donations of almost $2,500 to renovate three of the Clinic's therapy rooms.
Supervisor: Heidi Zetzer, Ph.D.

**Supervisor for Basic Practicum**
*Hosford Clinic, UC Santa Barbara* *Winter-Spring 2014*
Co-supervised a weekly group of four first-year graduate student trainees on their psychotherapy cases. Provided individual and group supervision to facilitate supervisee self-awareness, case conceptualization, and multicultural competency. Provided on-call coverage for crisis situations. Reviewed trainees' video recorded sessions and case notes, and provided formative and summative evaluations of trainees' progress throughout the practicum experience. Regularly discussed multicultural issues, such as client-therapist racial matching and culturally-adapted therapy techniques.
Supervisor: Heidi Zetzer, Ph.D.

**Preceptor for Advanced Practicum**
*U Hosford Clinic, UC Santa Barbara* *Summer 2012*
Provided administrative, supervisory, and pedagogical support for five doctoral students in advanced practicum group supervision. Assisted with teaching theory and case conceptualization from a short-term psychodynamic orientation.
Supervisor: Steven Smith, Ph.D.

**Psychology Assessment Center Manager**
*Psychological Assessment Center, UC Santa Barbara* *Summer 2010-Spring 2011*
Managed clinical assessment services by responding to client inquiries, training new assessment clinicians, and overseeing administration of all aspects of services provided by Assessment Center. Led monthly clinician meetings; facilitated case presentations and case assignments. Managed client database and ensured the security and organization of assessments and scoring tools.

Supervisors: Steven Smith, Ph.D.; Erik Lande, Ph.D.

## Research Experience

**Primary Investigator: Dissertation**
*UC Santa Barbara* *Spring 2014-Present*
Currently completing dissertation research project designed to investigate layperson identification and referral process for college students with depression symptoms. Developed a novel depression severity recognition procedure; currently pilot testing the procedure with local psychologists; future extension designed to test the procedure among UCSB students and staff.
Research Advisor: Steven Smith, Ph.D.

**Graduate Research Assistant**
*UC Santa Barbara* *Summer 2010-Fall 2013*
Assisted with Society for Personality Assessment grant-funded research designed to examine the utility of a therapeutic model of assessment for psychotherapy consultation. Recruited participants, conducted clinical intake interviews, and managed database of results.
Principal Investigator: Steven Smith, Ph.D.

**Graduate Research Assistant**
*UC Santa Barbara* *Spring 2013*
Conducted culture-specific performance-based (projective) assessment techniques with African-American clients for an advanced graduate student's dissertation project examining the effects of culture-specific assessment techniques on cultural competence and therapeutic alliance with ethnic minority clients.
Principal Investigator: Candice Claiborne, Ph.D.

**Graduate Research Assistant**
*UC Santa Barbara* *Winter 2011-Fall 2012*
Assisted with a program evaluation of a community-based prevention program pairing at-risk Latino/a youth with Holocaust survivors in the local area. Conducted focus groups and coded qualitative data.
Principal Investigator: Melissa Morgan Consoli, Ph.D.

**Research Assistant**
*Santa Barbara Cottage Hospital, Trauma Unit* *Fall 2010*
Administered bedside PTSD assessments and conducted three-month follow-up assessments via telephone for a hospital-based research project designed to investigate cross-cultural predictors of PTSD in trauma patients.
Principal Investigator: Kenneth Waxman, M.D.

**Research Coordinator**
*North Shore LIJ Zucker Hillside Hospital* *Spring 2009-Summer 2010*
Coordinated an NIMH funded multi-site center grant designed to compare the psychiatric and neuropsychological effects of two antipsychotic medications on the developmental trajectory of first episode schizophrenia patients. Arranged procedures with patients and families and

ensured adherence to study protocol.
Principal Investigators: John Kane, M.D.; Anil Malhotra, M.D.; Delbert Robinson, M.D.

**Research Assistant**
*Pennsylvania State University, Personality Assessment Lab* *Fall 2008*
Assisted with the construction and psychometric evaluation of a new assessment of narcissism, a study on the impact of narcissism on the course and outcome of psychotherapy, and an evaluation of interpersonal behavior in personality disorders.
Supervisor: Aaron Pincus, Ph.D.

**Graduate Research Assistant**
*Villanova University, Psychological Assessment Laboratory* *Fall 2006-Summer 2008*
Analyzed existing database of NEO-PI-R assessment data for psychometric trends, and coded child custody forensic case reports for a study on using the PAI in child custody evaluations. Served as editorial assistant for the *Journal of Personality Assessment*; managed submissions and edited manuscripts.
Supervisor: John Kurtz, Ph.D.

**Primary Investigator**
*Villanova University, Interpersonal Research Laboratory* *Spring 2007-Summer 2008*
Master's thesis project designed to investigate the theory of interpersonal complementarity in parent-child dyads. Proposed and defended study rationale, designed study protocol, trained undergraduate and graduate research assistants, recruited participants, analyzed data using SPSS, and wrote Master's thesis.
Research Advisor: Patrick Markey, Ph.D.

**Research Assistant**
*University of Pennsylvania, Center for Psychotherapy Research* *Summer 2007*
Coded group psychotherapy content and process data from archival video recordings for National Institute on Drug Abuse sponsored research on the use of group therapy for cocaine dependence.
Supervisors: Paul Crits-Christoph, Ph.D.; Sarah Ring-Kurtz, M.S.

**Professional Psychology Trainee**
*Devereux Foundation, Institute of Clinical Training & Research* *Fall 2005-Fall 2006*
Assisted with the standardization and psychometric evaluation of an assessment of children's social-emotional well-being. Conducted comprehensive literature reviews, analyzed statistical data, and edited manuals and manuscripts.
Supervisors: Paul LeBuffe, M.A.; Valerie Shapiro, Ph.D.

**Undergraduate Researcher**
*Muhlenberg College, Department of Psychology* *Fall 2004-Spring 2005*
Wrote undergraduate senior thesis and conducted independent research on contingencies of self-worth theory. Investigated the effect of negative appearance feedback on female students relative to level of appearance contingency of self-worth.
Supervisor: Connie Wolfe, Ph.D.

## Other Relevant Experience

**Professional Psychology Trainee**
*Devereux Foundation, Whitlock Center, Berwyn, PA* *Fall 2005-Fall 2006*
Responsible for clinical casework and program development with adult clients with severe mental illness and intellectual and developmental disabilities in residential and vocational settings. Co-facilitated group therapy sessions implementing a cognitive-behavioral manualized treatment protocol for clients with anger management issues. Conducted dementia screenings and functional behavior assessments. Designed a training program for direct care professionals to promote client community integration. Collected and analyzed data on client behavior and presented results monthly to Clinical Team.
Supervisors: Stewart Shear, Ph.D.; Sandy Powell, M.A.

## Publications

**Eichler, W.C.** (2015). A real-world study of collaborative/therapeutic assessment as midtherapy consultation. *The TA Connection, 3*(1), 3-6.

Smith, J.D., **Eichler, W.C.**, Norman, K., & Smith, S.S. (2015). The effectiveness of a therapeutic model of assessment for psychotherapy consultation: A pragmatic multiple baseline study. *Journal of Personality Assessment, 97*, 261–270.

Markey, P.M., Lowmaster, S.E., & **Eichler, W.C.** (2010). A real-time assessment of interpersonal complementarity. *Personal Relationships, 17*, 13-25.

Pincus, A.L., Lukowitsky, M.R., Wright, A.G.C., & **Eichler, W.C.** (2009). The interpersonal nexus of persons, situations, and psychopathology. Journal of Research in Personality, 43, 264–265.

**Eichler, W.C.**, & Kurtz, J.E. (2008, Winter). What is objective about "objective" tests? Where is the projection in "projective" tests? *Society for Personality Assessment Exchange, 20*, 3-4.

Shapiro, V.B, **Eichler, W.C.**, & Ongsuco, A.T. (2007, Spring). What Happens to Protective Factors after Age 6? *Devereux Early Childhood Research Corner*, 6.

## Unpublished Theses

**Eichler, W. C.**, & Markey, P.M. (2009). *Relationship quality and the complementarity of interpersonal behaviors among parent-child dyads* (Unpublished master's thesis). Villanova University, Villanova, PA.

**Eichler, W. C.** (2005). *The appearance contingency of self-worth* (Unpublished undergraduate honors thesis). Muhlenberg College, Allentown, PA.

## Conference Presentations and Posters

Consoli, M. M., Stevenson, B., Noriega, E., **Eichler, W.C.**, & Roman, C. (2014, August). *Evaluation of a community project pairing at-risk Latino/a youth with Holocaust survivors*. Poster presented at the annual convention of the American Psychological Association, Washington, D.C.

**Eichler, W.C.**, Smith, J.D., & Smith, S.R. (2014, March). *Effectiveness of a therapeutic model of assessment for psychotherapy consultation: A pragmatic multiple baseline study*. Paper presented at the annual meeting of the Society for Personality Assessment, Arlington, VA.

Smith, S.R., Schiller, D.C., & **Eichler, W.C.** (2014, January). *Therapeutic assessment as psychotherapy consultation*. Paper presented at the Santa Barbara County Psychological Association salon [for continuing education], Santa Barbara, CA.

**Eichler, W.C.**, & Smith, S.R. (2013, March). *Utility of a therapeutic model of assessment on client reported psychotherapy process and alliance*. Poster presented at the annual meeting of the Society for Personality Assessment, San Diego, CA.

**Eichler, W.C.**, & Duff, R. (2012, March). *The Utility of Assessment project: Methods and procedures*. Paper presented at the annual meeting of the Society for Personality Assessment, Chicago, IL.

**Eichler, W.C.**, Helm-Yost, D., McDermott, K., & Moreno, R. (2011, July). *Trastorno por déficit de atención e hiperactividad* [*Attention Deficit/Hyperactivity Disorder*]. Paper presented at the Ecuador Professional Preparation Program Congreso de Psicología, Quito, Ecuador.

Moreno, R., McDermott, K., **Eichler, W.C.**, & Helm-Yost, D. (2011, July). *Apoyo conductual positivo en las escuelas* [*Positive behavior support in schools*]. Paper presented at the Ecuador Professional Preparation Program Congreso de Psicología, Quito, Ecuador.

**Eichler, W.C.**, & Markey, P.M. (2011, March). *Family complementarity and conflict: A study of parent-child interpersonal behaviors*. Poster presented at the annual meeting of the Society for Personality Assessment, Cambridge, MA.

**Eichler, W.C.**, Morton, L.C., Fanciullo, J., Rutt, J., & Markey, P.M. (2008, March). *Self-reports of interpersonal behavior and the parent-child relationship*. Poster presented at the annual meeting of the Eastern Psychological Association, Boston, MA.

Morton, L. C., **Eichler, W. C.**, Musser, J. Y., & Markey, P. M. (2008, March). *The relationship between individual goals and interpersonal styles*. Poster presented at the annual meeting of the Eastern Psychological Association, Boston, MA.

**Eichler, W.C.**, & Kurtz, J.E. (2008, March). *Coefficient alpha and the convergent validity of*

*multi-item personality scales*. Poster presented at the annual meeting of the Society for Personality Assessment, New Orleans, LA.

**Eichler, W.C.**, Morton, L.C., & Markey, P.M. (2008, February). *Interpersonal complementarity and relationship quality in the parent-child relationship*. Poster presented at the annual pre-conference of the Association for Research in Personality, Albuquerque, NM.

Morton, L.C., **Eichler, W.C.**, & Markey, P.M. (2008, February). *Relationship quality and goal agreement among emerging adults and their parents*. Poster presented at the annual pre-conference of the Association for Research in Personality, Albuquerque, NM.

Clair, M., Shear, S., **Eichler, W.C.**, & Russell, M. (2007, August). *An anger management treatment intervention for individuals with intellectual disabilities*. Poster presented at the annual meeting of the American Psychological Association, San Francisco, CA.

**Eichler, W.C.**, & Markey, P.M. (2007, June). *Behavior mapping: Relating interpersonal behaviors to the Interpersonal Circumplex*. Poster presented at the annual meeting of the Society for Interpersonal Theory and Research, Madison, WI.

Smith, M.D., & **Eichler, W.C.** (2007, March). *Measuring resilience: The influence of race and poverty on protective factors*. Poster presented at the annual meeting of the National Association of School Psychologists, New York, NY.

**Eichler, W.C.**, & Kurtz, J.E. (2007, March). *Stability of personality assessment across social contexts: Adjustment, identity, and family environment*. Poster presented at the annual meeting of the Society for Personality Assessment, Arlington, VA.

Ongsuco, A.T.S., **Eichler, W.C.**, & Shapiro, V.B. (2007, March). *The continuity of social-emotional competence: An exploration of the developmental progression of protective factors*. Poster presented at the annual meeting of the New Jersey Association of School Psychologists, Jamesburg, NJ.

**Eichler, W.C.**, & Powell, S. (2006, September). *Community integration training for staff of individuals with psychiatric and intellectual disabilities*. Poster presented at the University of Pennsylvania's National State of the Knowledge Conference on Increasing Community Integration of Individuals with Psychiatric Disabilities, Philadelphia, PA.

**Eichler, W.C.**, Hilliard, M.E., Karalunas, S.L., & LeBuffe, P.A. (2006, June). *Increasing teachers' job satisfaction in Head Start programs by using a strength-based approach to classroom management*. Poster presented at the annual meeting of the Head Start National Research Conference, Washington, D.C.

**Eichler, W.C.** (2006, June). *Community integration training for staff of individuals with intellectual disabilities*. Poster presented at the Semi-Annual National Devereux

Quality Management Directors Meeting, Villanova, PA.

Hilliard, M.E., Karalunas, S.L., LeBuffe, P.A., & **Eichler, W.C.** (2006, March). *Increasing teacher satisfaction by using strength- based approaches in early childhood*. Poster presented at the annual meeting of the National Association of School Psychologists, Anaheim, CA.

**Eichler, W.C.**, & Shapiro, V.B. (2006, March). *The changing face of cultural competence: New findings in multicultural awareness training*. Poster presented at the annual meeting of the Association of School Psychologists of Pennsylvania, Harrisburg, PA.

**Eichler, W.C.** (2005, April). *The appearance contingency of self-worth*. Paper presented at the annual conference of the Lehigh Valley Association of Independent Colleges, Allentown, PA.

## Outreach Presentations

***Loving Your Queer Body: Disordered Eating and Positive Body Image among LGBT Students***
*Presentation with Emily Kerr, Psy.D.*

- GLBTQ/Gender and Sexuality Center, University of Colorado Boulder, February 2016

***Responding to Distressed Students: Creating a Safety Net for High-Risk Students***
*Presentation with Student Mental Health Coordination Services, UCSB*

- Counseling & Psychological Services, UCSB, September 2014
    - Presented to pre-doctoral interns on the role of Student Mental Health Coordination Services in supporting students' diverse mental health needs
- Department of Mathematics, UCSB, September 2014
    - Presented to graduate teaching assistants, undergraduate advisors, and department staff on distressed student protocol
- Undergraduate Admissions Office, UCSB, May 2014
    - Presented to Admissions staff on early identification of troubled students based on review of applications and pre-matriculation advising
- Graduate Division Staff and Deans, UCSB, February 2014
    - Presented to Graduate Division administrators about supporting graduate students with psychological problems impacting academic functioning
- Psychology Department Teaching Assistants and Department Vice Chair, UCSB, February 2014
    - Presented to graduate TAs and Vice Chair regarding UCSB distressed student protocol
- Counseling & Psychological Services, UCSB, January 2014
    - Presented to CAPS staff psychologists on the role of Student Mental Health Coordination Services in supporting students' diverse mental health needs

***Mental Health Matters: 6th Graders Learn About Mental Health***
*Presentation with Mental Wellness Center of Santa Barbara*

- Brandon Elementary School and Roosevelt Middle School, Santa Barbara, CA, November 2013
    - Creatively shared basic facts about mental illness and treatment, and facilitated activities designed to decrease stigma.

## Teaching Experience

**Adjunct Faculty**
Introduction to Psychology, Westmont College — Fall 2014; Spring 2015

**Teaching Associate**
Introduction to Applied Psychology, UC Santa Barbara — Summer 2013

**Lab Instructor**
Introduction to Psychology, UC Santa Barbara — Fall 2011; Winter 2012; Spring 2013
Research Methods in Psychology, UC Santa Barbara — Spring 2012
Cognitive Assessment, UC Santa Barbara (*Graduate level*) — Fall 2012

**Teaching Assistant**
Introduction to the Modern Research University, UC Santa Barbara — Summer 2014
Introduction to Autism, UC Santa Barbara — Winter 2013
Cultural Psychology, UC Santa Barbara — Summer 2012
Psychological Assessment, Pacifica Graduate Institute (*Graduate level*) — Winter 2011, 2012
Foundations of Modern Psychology, Villanova University — Fall 2006 – Spring 2008
Clinical & Counseling Psychology, Villanova University — Fall 2006 – Spring 2008

**Invited Lectures**
Counseling, Clinical, & School Psychology Basic Practicum, UC Santa Barbara — Spring 2014
Topic: *How to Incorporate Motivational Interviewing Skills into Clinical Practice*
Assessment and Appraisal in Counseling, Naropa University — Spring 2016
Topic: *Personality Assessment Using a Therapeutic Assessment Approach*

## University Leadership and Service Positions

- UCSB Diversity and Equity Committee Member, 2014-2015
- UCSB Counseling, Clinical, & School Psychology Graduate Admissions Committee, 2011-2012
- UCSB Clinical Chat Hour Program Co-Chairperson, 2011-2012
- APA Student Representative to Villanova University, 2006-2008
- Psi Chi International Psychology Honor Society, Muhlenberg College Chapter President, 2004-2005; Vice President, 2003-2004

## Professional Affiliations

- Student Affairs Professionals in Higher Education (NASPA)
- Society for Personality Assessment Graduate Student Association (SPAGS)
- American Psychological Association of Graduate Students (APAGS)
- Psi Chi International Honor Society in Psychology

## Community Volunteer Positions

- Santa Barbara Response Network, 2012-2013
- Mental Wellness Center of Santa Barbara, Fall 2013

## Selected Special Training

- *Life After Trauma: Using Acceptance and Commitment Therapy to Revitalize Interrupted Lives*. Presented by Robyn Walser, Ph.D., October 2014
- *A Clinician's Primer on Violence and Mental Illness*. Presented by John Lewis, Ph.D., September 2014
- *Behavioral Threat Assessment and Management: Recognizing and Responding to Behavior of Concern.* Presented by Phillip Van Saun, April 2014
- *Legal and Ethical Issues in Mental Health.* Presented by Daniel Willick, J.D., Ph.D., April 2013
- *Trauma-Focused Cognitive Behavioral Therapy.* Online Training Course, TF-CBT-Web, Medical University of South Carolina, September 2012
- *Psychological First Aid*. Presented by Gil Reyes, Ph.D., April 2012

# ABSTRACT

Indifference to Difference: Factors Related to Recognizing and Responding to Students with Symptoms of Depression

by

Wendy Eichler Morrison

Depression is a significant problem in university students, and the majority of students who identify as depressed are not receiving treatment (American College Health Association, 2013). In response to the significant underutilization of treatment amongst depressed college students, colleges and universities recently have begun to depend on fellow students, faculty, and staff to recognize and respond to at-risk students. These campus community members are often on the “front lines” of dealing with troubled students (Kitzrow, 2009). However, research has not kept up with the increasing practice of using laypeople to identify and make appropriate referrals, so the variables influencing the effectiveness of this practice are unknown. Therefore, the purpose of the study was to explore specific variables hypothesized to impact student, faculty, and staff members’ recognition and response to a hypothetical student’s depression symptoms. Using a theoretical framework informed by mental health literacy (Jorm, 2000), the research utilized a pilot study to develop three vignettes that differed by depression severity. The larger dissertation study was implemented with 1,625 university students, faculty, and staff to investigate the relations between the vignette depression severity, demographic factors, perceived severity of depression, and response behaviors. Results indicated that the university community could

distinguish between differing presentations of depression, and could differentially select responses to a hypothetical depressed student which were consistent with their perceived depression severity. In addition, consistent with previous research, men and people with no prior mental health experience reported responding with less intensity relative to women and those with certain mental health experience. Findings are explored in the context of a university that experienced a recent tragedy. The study concludes with a discussion of implications for policy and future research.

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# Chapter I

## Introduction

Across the U.S., colleges and universities report that students are presenting with mental health concerns with increasing severity, complexity, and frequency (Gallagher, 2012). In a retrospective review of decades of archival survey data, researchers found a significant rise in the number and severity of mental health problems among students seeking counseling (Levine & Dean, 2012). Moreover, a recent survey found that 95% of college counseling center directors report that the number of students with significant psychological problems is a growing concern in their centers or on campus (Mistler, Reetz, Krylowicz, & Barr, 2012). The reasons for this are complex, but explanatory theories include increased pressure and stress levels, a rise in the number of students in treatment prior to coming to college, and characteristics distinctive to the "millennial" generation (Brunner, Wallace, Reymann, Sellers, & McCabe, 2014).

Although the severity of psychological distress among college students appears to be increasing, many students who could benefit from mental health services still do not access them (Eisenberg, Golberstein, & Gollust, 2007; Mier, Boone, & Shropshire, 2009). The underutilization of mental health services among college students is particularly concerning, given the fact that individuals with mental illnesses who remain untreated for longer periods of time are less likely to improve or fully recover compared to those who receive treatment early (Dell'Osso & Altamura, 2010; Marshall et al., 2005). Additionally, because many long-term mental illnesses have their initial onset during the late teens through mid-20s (Kessler et al., 2007), there is an urgent need to identify and connect college-age individuals to appropriate mental health care as early as possible.

Currently, the onus of identifying mental illness is left primarily on mental health professionals, and a significant number of students are left unidentified and untreated. More recently there has been a call to engage the larger university community in general to support students who are unlikely to access professional help on their own, despite the best efforts of college counseling center outreach (Jodoin & Robertson, 2013; Kitzrow, 2003; Mier et al., 2009). Many of these initiatives involve a comprehensive institutional approach to address concerns as early as possible by relying on university community members – students, faculty, and staff – to recognize and refer troubled students who need help (Jodoin & Robertson, 2013; Kitzrow, 2003; Mier et al., 2009).

However, there is a dearth of research on the effectiveness of relying on untrained university community members to make appropriate referrals about students in emotional distress. It is largely unknown how much students, faculty, and staff are able to recognize and respond to a distressed student, particularly one with severe depression. Major depressive disorder in particular is important to focus on because of its relatively high prevalence among college students, low treatment utilization rates, potentially life-threatening outcomes, and negative impact on academic functioning (American College Health Association, 2013; Blanco et al., 2008). If university community members are unable to identify and appropriately respond to depressed students, there may be a scarcity of appropriate referrals made and significant underutilization of available mental health services. Therefore, the purpose of the current study was to explore the specific variables that affect student, faculty, and staff members' recognition and response to a hypothetical student's depression symptoms. The study was designed to investigate the relations between the depression

severity of a person in the vignette, recognition of depression symptoms, demographic factors, and response behaviors among university students, faculty, and staff members.

# Chapter II

## Literature Review

Young adulthood is a pivotal period in the development of psychological problems. Half of adult mental illness begins before age 14, and three-quarters before age 24 (Institute of Medicine and National Research Council [IMNRC], 2009). Epidemiological data tells us that approximately 20% of individuals aged 18-25 in the U.S. have had a mental illness in the past year (Substance Abuse and Mental Health Services Administration, 2013). In addition, suicide is the third leading cause of death among young people (ages 15-24; Centers for Disease Control and Prevention, 2010). The negative effects of mental illness on quality of life and morbidity are startling among this age group as well; mental disorders and substance abuse accounted for 48% of disability adjusted life years lost for ages 15 to 24 (IMNRC, 2009). As a result, the annual cost of treatment, lost productivity, and crime for young people with psychiatric disorders is estimated to be $247 billion (IMNRC, 2009).

The recent rise of college campus violence, suicides, and substance abuse suggests that university students are not immune to experiencing serious mental health problems. In fact, the prevalence of mental disorders among college students is similar to same-aged non-student peers (Blanco et al., 2008), and more recent research indicates that the number and severity of mental disorders in college student populations may be on the rise (Hunt & Eisenberg, 2010; Storrie, Ahern, & Tuckett, 2010; Substance Abuse and Mental Health Services Administration, 2013). According to several sources, including the American College Health Association's (ACHA) 2012 survey, there has been a significant increase in psychological problems on college campuses (ACHA, 2013; Kadison, 2006). Research suggests a variety of reasons for this increase, such as the increase in the proportion of

students arriving on campus on psychiatric medications (Carter & Winseman, 2003), and the psychosocial differences in the "millennial" generation (e.g., "helicopter" parents and overextended youth; Watkins, Hunt, & Eisenberg, 2012).

Perhaps most striking is the degree of distress that students report experiencing; in the 2012-2013 academic year, 51% of students reported experienced overwhelming anxiety, 37% felt overwhelming anger, 31% felt so depressed that it was difficult to function, and 7% seriously considered suicide (ACHA, 2013). A study of over 26,000 undergraduate and graduate students from 70 colleges and universities revealed that more than half of students reported having at least one episode of suicidal thoughts in their lives (Drum, Brownson, Denmark, & Smith, 2009).

The increased prevalence and distress of reported mental illnesses among students would be less problematic if those students were receiving treatment. Unfortunately, however, this is not the case, as many studies indicate the high prevalence of untreated mental health concerns among student populations (Blanco et al., 2008; Eisenberg, Golberstein, & Gollust, 2007). For example, although 51% of students reported overwhelming anxiety in the past year, only a quarter of these students reported receiving treatment (ACHA, 2013). Similarly, only one-third of those with depression received treatment. Additionally, men are less likely than women to seek treatment for their mental health problems (ACHA, 2013). Racial and ethnic minority students also tend to underuse mental health services and hold less favorable attitudes toward help-seeking (Loya, Reddy, & Hinshaw, 2010; Masuda et al., 2009).

**Recognition and Response**

Given the significance of early recognition and intervention to connecting college-age individuals to appropriate mental health care, why are only a fraction of those reporting problems actually receiving treatment? Two contributing factors appear to be at play in the process of connecting an individual to mental health care. First, a person must recognize the presence of a mental health concern. That is, the identification of a problem or decline in functioning must be present. Second, a person must make a response as a result of that recognition. An action step, such as a referral to a professional, is the bridge to successfully connecting an identified individual to appropriate resources.

One theoretical explanation for why people may not receive treatment for their illness may be their "mental health literacy," which refers to the knowledge and beliefs that one has about psychological disorders, their treatment, and prevention (Jorm, 2000). There is growing evidence that inadequate mental health literacy is related to a lack of help-seeking behavior. That is, if people do not recognize that they or someone they know may have a disorder, they may be less apt to seek out appropriate help (Gulliver, Griffiths, & Christensen, 2010; Rüsch, Evans-Lacko, Henderson, Flach, & Thornicroft, 2011). The broad conceptualization of mental health literacy has implications for both the recognition and action steps in connecting an individual to treatment. Unfortunately, the research literature on mental health literacy does not appear to distinguish the factors of recognition and response to mental illness, and thus these components appear to be confounded with one another. In many research studies investigating mental health literacy, the concept is operationalized in terms of recognition of a mental illness, with relatively less emphasis placed on the response to a mental illness. Given this confound, I will discuss the literature on recognition and

response as separate components, including findings on mental health literacy as it pertains to each component. A brief discussion of mental health literacy will begin the next section, followed by research on the recognition of mental illness.

**Mental Health Literacy**

Jorm et al. (1997) first introduced the term mental health literacy as "knowledge and beliefs about mental illnesses and symptoms that aid their recognition, management, or prevention" (p. 182). The concept was coined by Jorm and colleagues to highlight the notion that, in contrast to physical health, the general public has relatively little knowledge about mental health that is associated with mental health promotion. Jorm (2012) provides a broad conceptual definition of mental health literacy that includes "(a) knowledge of how to prevent mental disorders, (b) recognition of when a disorder is developing, (c) knowledge of help-seeking options and treatments available, (d) knowledge of effective self-help strategies for milder problems, and (e) first aid skills to support others who are developing a mental disorder or are in a mental health crisis" (p. 231).

Jorm (2012) contends that mental health literacy is an important initiative for the entire community – as opposed to only mental health professionals – because of the large proportion of people with mental illness, and particularly those who are not receiving treatment. Currently, the onus of identifying mental illness is left primarily on mental health professionals, and a significant number of people are still left unidentified and untreated. Therefore, in order to shift the current focus from treating those individuals in crisis or suffering from the most disabling illnesses, a greater focus on prevention, early intervention, self-help, outreach, and community support is needed. Jorm and colleagues assert that such a shift can be achieved by addressing the mental health literacy of the public, so that anyone

with basic knowledge and skills about mental health can be empowered to improve their mental health (Jorm, 2000; 2012). If someone is experiencing symptoms of a mental illness, or knows someone who is, attempts to recognize and treat the symptoms will be highly shaped by mental health literacy. According to the mental health literacy conceptual framework proposed by Jorm (2000), people (and/or their support network) are empowered to act as the change agent in the management of their mental health. They may choose among a variety of resources available, but only if they have the knowledge and beliefs that there is effective help available (Jorm, 2000; 2012).

**Recognition of Mental Illness**

Jorm and colleagues first began to assess laypeople's ability to recognize mental illness in 1997, and similar methods of assessment have since been replicated by many researchers. The typical methodology uses vignettes to depict a fictional person who meets criteria from the Diagnostic and Statistical Manual of Mental Disorders (DSM) for a disorder in question. Participants are asked to read the vignette and identify what, if anything, might be wrong with the person depicted in the vignette. In the first study using this framework, Jorm, Korten, Jacomb, Christensen, et al. (1997) surveyed a representative national sample of 2,031 Australian adults who responded to a telephone survey featuring a vignette of a person with either depression or schizophrenia. The results indicated that many of the respondents recognized the presence of a mental health problem in the vignettes, but relatively few respondents were able to correctly label the diagnosis – 39% accurately labeled the depression vignette, and 27% accurately labeled the schizophrenia vignette.

Since that first study, numerous studies have attempted to assess laypeople's recognition of mental illness in a variety of samples (Burns & Rapee, 2006; Cotton, Wright,

Harris, Jorm, & McGorry, 2006; Farrer, Leach, Griffiths, Christensen, & Jorm, 2008; Hugo, Boshoff, Traut, Zungu-Dirwayi, & Stein, 2003; Kermode, Bowen, Arole, Joag, & Jorm, 2009; Lauber, Nordt, Falcato, & Rössler, 2003; Olsson & Kennedy, 2010; Suhail, 2005). The results of such studies are difficult to synthesize because of differences in methodologies used and cultures sampled, and a meta-analysis has not yet been conducted. Nevertheless, estimates range dramatically, cited anywhere between 5-90% of respondents who can correctly identify depression and schizophrenia when presented with vignettes depicting the respective symptoms. Levels of recognition have been measured for other psychological disorders, including anxiety disorders in college students (Coles & Coleman, 2010) and eating disorders among adolescent girls (Mond et al., 2007). However, much of the literature sampling the public suggests that in general, people under-recognize the symptoms of mental illnesses (Wright et al., 2005).

A few studies have varied from the vignette methodology in various ways. For example, Lauber and colleagues (Lauber, Ajdacic-Gross, Fritschi, Stulz, & Rössler, 2005) conducted an exploratory online survey among 225 Swiss university students to evaluate their ability to correctly recognize the specific symptoms of both depression and schizophrenia. They reported a response rate of 18%. The authors provided participants with a list of 10 symptoms for each disorder, in which five listed symptoms were part of the respective diagnostic criteria and five were not. Their results revealed a high recognition of depression symptoms (over 90%), but comparatively low recognition of schizophrenia symptoms. A closer examination of their results indicates that "split personality" and "increased readiness for violence" were falsely recognized as symptoms of schizophrenia by

a majority of the participants. For depression, “repeated revival of a trauma” was falsely recognized as a symptom of depression by a majority of the participants.

In another example, Trudgen and Lawn (2011) conducted a qualitative study with secondary school teachers in Australia to explore when they recognize students with anxiety or depression concerns. The researchers found that each teacher had varying and subjective understandings of how to recognize anxiety or depression, and the number of years of teaching experience had no relation to teachers’ subjective knowledge about mental health problems in students (Trudgen & Lawn, 2011).

## Individual Differences in Recognition

A variety of specific, individual differences in recognition have been identified. Several findings have been replicated, and some reveal contradictions. A few of the main findings are described below.

**Attitudes and personal experience with mental illness and/or treatment.** Lauber et al. (2005) found that Swiss undergraduates who endorsed having a previous interest in mental illnesses, having had a side job related to mental disorders, and having personal treatment experience with mental illness were more likely to correctly identify the relevant symptoms of depression and schizophrenia. Interestingly, the authors also found that participants who endorsed having a personal experience of mental illness did not have significantly better recognition than those who did not have such personal experience. This finding was consistent with Goldney et al. (2001), who found that participants with major depression were no more likely than healthy participants to recognize depression in a vignette.

The results of a study of 844 community adults in Switzerland (Lauber, Nordt, Falcato, & Rössler, 2003) identified a low recognition rate for a depression vignette (40%) whereas a relatively high recognition rate for a schizophrenia vignette (74%). Looking further at characteristics related to recognition, the authors found that participants who had a positive attitude towards psychopharmacology had better recognition of the two vignettes. Additionally, participants who had previous contact with people with mental illness had better recognition of the depression vignette.

**Age.** Age differences in recognition have only recently been explored. Farrer and colleagues (2008) found that respondents aged 70 and above were less likely to correctly identify either depression or schizophrenia, endorsed fewer sources of treatment as being helpful, and had incorrect attributions of the cause of schizophrenia, compared to people age 18-24 (Farrer, Leach, Griffiths, Christensen, & Jorm, 2008). Younger people had better recognition of depression, but tended to misdiagnose schizophrenia as depression. This finding is consistent with Fisher and Goldney (2003), who identified that people age 65-74 recognized depression in a vignette less often and perceived less likelihood of help from several different mental health professionals compared to people aged 15-24.

In looking solely at young people's mental health literacy, Wright et al. (2005) found that young people aged 12-17 were significantly less likely to recognize symptoms of either depression or schizophrenia compared to 18-25 year-olds. Almost half of 12-25 year-olds could correctly recognize depression in a vignette, but only 25% could correctly recognize psychosis.

Reavley and colleagues (2012) found that among 774 university students in Australia, over 70% were able to recognize depression in a vignette. Higher likelihood of recognition

was associated with being female, having more education, and being born within Australia. The authors also asked participants the degree to which they endorsed stigmatizing attitudes toward the person in the vignette, which included items assessing if the person may be dangerous, if it would be best to avoid the person, if the person did not have a real illness, and if the person could make him/herself better on his own. Higher likelihood of stigmatizing attitudes were associated with being male, having less education, being born outside of Australia, and not recognizing depression in the vignette (Reavley, McCann, & Jorm, 2012).

In a study evaluating African-American college students' mental health literacy of depression, Stansbury and colleagues (2011) used Jorm's (2000) depression vignette to evaluate students' recognition of depression, beliefs about recovery and various interventions, as well as a question about mental illness stigma in African American community. Although the study was limited by a small sample size ($N = 54$), the results showed that half of the students recognized depression, and held positive beliefs about mental health professionals. However, most endorsed the belief that medication would not be helpful, and approximately one-third endorsed a stigma about mental illness in the African American culture (Stansbury, Wimsatt, Simpson, Martin, & Nelson, 2011).

**Gender.** Several studies have identified gender differences with regard to participants' recognition of a mental illness presented in a vignette (Lauber et al., 2005; Swami, 2012), where women demonstrate better recognition than men. Interestingly, the gender of the person depicted in the vignette also appears to moderate the recognition of mental illness; Swami (2012) found that 1,218 British adults were more likely to indicate that a male in a vignette did not suffer from depression, compared to the same vignette featuring a female. However, Cotton and colleagues (2006) found the opposite effect among young adult

Australians – recognition of depression was significantly higher when the character in a depression vignette was male (53%) than female (44%). In addition, she found that men demonstrated significantly lower recognition of depression symptoms in general. Importantly, men were also more likely to endorse using alcohol or other substances to deal with mental health problems.

Lauber et al. (2005) identified several demographic factors related to participants' recognition that were related to gender and academic area of study. In particular, male students in the natural sciences, economics, and philosophy demonstrated the least accurate recognition, whereas students in psychology and medical fields had the most accurate recognition. When controlling for area of study, women had more accurate recognition than men.

**Culture.** Cultural differences in recognition vary widely, as culture is tied to how people conceptualize the etiology, symptoms, and appropriate treatments of mental illnesses (Bass, Eaton, Abramowitz & Sartorius, 2012). The cultural influences on recognition of mental health problems are complex, and research is mostly limited to Western, high-resource cultures. Furnham and Hamid (2014) published a recent review of mental health literacy studies conducted within a non-Western country, or within a Western country that included at least one non-Western ethnic group. Although methodological differences across studies limited overall generalizability, their findings illustrated that participants from more "developed" and urbanized cultures generally had higher recognition of mental health problems. Overall, participants tended to show better recognition of depression than of schizophrenia, and recognition for other disorders was generally at or below 15%. There are a handful of cross-cultural studies of mental health literacy with mixed findings, and the

research appears to lack any cultural or anthropological theory about why particular cultures may have differences in recognition. Given the literature supporting the notion that symptoms are highly mediated by the cultural environments in which they occur (e.g., culture-bound syndromes; Bass et al., 2012), considerations of cultural differences in recognition need to take into account the diverse understandings of what is considered normal or abnormal, while also identifying universal symptom patterns that define disorders across cultures.

## Response to Mental Illness in Others

As noted above, the recognition of a mental health problem is essential to connecting that individual to appropriate help. Another essential part of this process is, of course, whether an individual actually takes action to help a person with an identified mental health problem. In order to frame this important "response" component, it is useful to reference the landmark research done on bystander intervention. A full review of bystander intervention research is beyond the scope of this proposal; however, what follows is a brief review of bystander research as it relates to responding to someone in distress.

## Factors Related to Who Takes Action: A Decision Model of Intervention

Latane and Darley (1970) proposed a decision model of bystander intervention that depends on the outcomes of a series of decision-making steps. Before intervening, a person with the potential to intervene weighs the costs and benefits of each step. A negative resolution to any of these processes will result in the bystander not intervening.

1. Do I notice something wrong?
2. Does this situation appear to need some intervention?
3. Do I take personal responsibility?

4. What kind of help do I give?
5. Will I carry out that help?

First, the person makes a decision about whether something is noticeably wrong. In this step, the person recognizes a concerning situation. Second, the person interprets the situation as needing intervention; he or she identifies that something could benefit from help. Third, the person decides whether or not to take personal responsibility for the intervention. In this step, the person may decide that he or she is not responsible for providing some help. Fourth, if the person does decide to help, he or she decides what kind of help to provide, i.e., what form of help will she give. Finally, the person must decide how to carry out that help.

A multitude of factors – contextual, behavioral, sociocultural, interpersonal, intrapersonal – have been shown to affect the decisions made at each of these steps (Dovidio & Penner, 2001; Latane & Darley, 1970). According to Dovidio and Penner (2001), "…helping is a complex, multi-determined behavior. Whether it is spontaneous and short-term or planned and sustained, helping is an evolutionarily important behavior that is shaped by fundamental cognitive and affective processes, involves self- and other-directed motives, and has consequences that are central to one's self-image and social relationships" (p. 186).

**Situational factors.** A variety of contextual and situational factors can impact a person's decision to respond. Unambiguous, severe situations tend to pull for higher levels of empathic arousal and are related to stronger norms supporting intervention and greater guilt for not intervening (Dovidio & Penner, 2001). For example, a person is likely to react differently depending on whether the person in distress is overtly broadcasting his distress, such as by shouting (Piliavin, Dovidio, Gaertner, & Clark, 1981). Additionally, the bystander's awareness of the presence of witnesses may inhibit a bystander's helping

response, an effect which is known as diffusion of responsibility (Darley & Latane, 1968). Diffusion of responsibility occurs when a bystander perceives that other witnesses are able to respond, so the bystander's personal assistance is no longer needed, and therefore the bystander is relieved of personal responsibility. Piliavin and colleagues' research (Piliavin et al., 1981) indicates that in deciding whether to help, people consider the rewards and costs in each potential situation. However, the rewards and costs are subjectively determined, depending on a variety of factors. For example, in situations of greater danger or severity, people are more likely to interpret a situation as needing intervention, and will be more likely to take action. However, other research supports the notion that if a bystander believes that the person in distress is at fault for creating his own plight, there is less of a pull to help (Dovidio & Penner, 2001). In addition, the nature of the relationship between the bystander and the person in distress impacts the likelihood of helping (Latane & Darley, 1970).

**Individual Differences in Responding.** Individual differences – including demographic, personality, and motivational characteristics – also have an impact on a person's likelihood of responding to someone in need (Dovidio & Penner, 2001). Characteristics such as level of altruistic motivation and empathy have been found to be related to the likelihood of responding to someone in need (Batson, 1991). Some interesting gender differences have been found in relation to helping: Eagly and Crowley (1986) identified that men and women don't differ in how much they help but rather in the kinds of help they offer; that is, women are more likely to provide affiliative helping responses – e.g., being emotionally supportive and nurturing, while men are more likely to engage in "heroic" helping (e.g., risking their own well-being to help) or "chivalrous" helping (e.g., offering help to less powerful victims). In terms of age differences, mixed findings have revealed an

inconsistent relation between age and tendency to respond to someone in need of help (Dovidio & Penner, 2001). Some research on blood donors indicates that those most likely to provide help tend to have at least some college education and are steadily employed (Grube & Piliavin, 2000). In terms of personality, individual differences are related to how people perceive and weigh the various costs and rewards for helping. In particular, Penner and Finkelstein's (1998) research on "other-oriented empathy" is related to a person's concern for others' welfare, which has obvious implications for the likelihood to take personal responsibility for helping.

It is important to note that research consistently indicates the interaction of individual and situational factors as providing a more comprehensive understanding of why people help (Dovidio & Penner, 2001). For example, particular characteristics of the situation, the person in need, and the potential helper may activate certain affective and cognitive mechanisms to varying degrees in the helper, which lead to different likelihoods of helping responses. People higher in traits like other-oriented empathy, and who experience a strong sense of self-efficacy, and who perceive the person in need as a member of their in-group, tend to respond with helpful behavior. Yet, the combination of these factors also appears to vary by gender and number of witnesses (Levine & Crowther, 2008). The complexity in the answer to the question of "who helps" appears clotted with a variety of determinants.

**Responding in Mental Health Literacy Findings**

Much of the research on mental health literacy suggests that in general, people are not sure how to help others with a mental illness (Jorm, 2000), are reluctant to seek help (Rickwood, Deane, Wilson, & Ciarrochi, 2005), and have different beliefs about effective treatment than professionals (Mond et al., 2007). For example, in a study assessing the

public's beliefs about treatment for mental illness, Jorm, Korten, Jacomb, Christensen, et al. (1997) surveyed a representative national sample of 2,031 Australian adults who responded to a telephone survey featuring a vignette of a person with either depression or schizophrenia. Regarding their beliefs about psychological treatment for the person featured in the vignette, most respondents rated psychiatric medication and psychiatric hospitalization as "harmful," and rated vitamins and special diets as "helpful" (Jorm, Korten, Jacomb, Christensen, et al., 1997). Notably, the same vignettes and survey were given to a sample of Australian mental health professionals, and not surprisingly, the results highlighted a large gap between public and professional beliefs about diagnosis and treatment (Jorm, Korten, Jacomb, Rodgers, et al., 1997).

Why should we care that the public may have a different understanding about treatment than the professionals treating these illnesses? Such findings may lead to a failure to adhere to recommended evidence-based treatments, and have implications for appropriate help-seeking (Jorm et al., 2006). Regarding the perceived effectiveness of mental health treatment, results of a survey of over 8,700 adults across six European countries indicated that approximately one-third believed that professional help was worse than or equal to no help (Ten Have et al., 2010). In addition, research indicates that lack of knowledge about mental illness is associated with reduced likelihood of help seeking for such illnesses (Gulliver et al., 2010). Conversely, people who have better knowledge of mental illnesses are more willing to seek help for a mental illness (Rüsch et al., 2011).

Indeed, other research indicates that those who gain more mental health literacy are more likely to seek help for mental health problems. Several recent programs designed to increase mental health literacy have been implemented in the community as a whole, in

schools, and in individual training programs (for a review of such programs, see Kelly, Jorm, & Wright, 2007). Such programs have yielded positive results, indicating that increases in mental health literacy can lead to increases in self-identification of depression symptoms, increases in help-seeking behavior, reduction in perceived barriers to help-seeking, improved recognition of mental illnesses, and decreased stigmatizing attitudes toward mental illness (Kelly et al., 2007).

In a thorough review of several studies, Rickwood, Deane, Wilson, and Ciarrochi (2005) suggest that the mental health literacy of young people (ages 14-24) has a large influence on their help-seeking attitudes and behavior. For example, help-seeking was minimal for participants who reported lacking knowledge about how to seek help and what services were available to them. Conversely, help-seeking behavior was aided when young people did have such knowledge. Additionally, the authors found that having positive beliefs and positive past experiences with seeking mental health care was a catalyst for help-seeking behavior. Thus, there appears to be a strong connection between mental health literacy skills and young people's help-seeking behavior (Rickwood et al., 2005). Another study found that young people are also more likely to rate informal sources of help (e.g., friends or family) as being most helpful for treating schizophrenia, and less likely to endorse seeking psychiatric help or medication (Farrer et al., 2008).

As can be seen from the above, much of the mental health literacy research on responding is focused on whether and how the surveyed participant would seek help for him/herself. However, a limited research base exists on how a concerned observer might respond to someone else in emotional distress. In the mental health literacy research, this is often referred to as "first-aid behaviors," defined as initial help from a person's social

network. In the first apparent population survey of first-aid behaviors, Jorm et al. (2005) presented 3,998 Australian adults with several vignettes and asked what they would do if the person in the vignette "was someone they had known for a long time and cared about." The most common responses to the depression vignettes were to encourage professional help-seeking and to listen to and support the person. However, responses varied widely and the authors concluded that there is significant room for improvement in promoting the range of appropriate first-aid responses (Jorm et al., 2005).

In a qualitative study of secondary school teachers in Australia, Trudgen and Lawn (2011) aimed to examine the threshold of how teachers know when to respond to a student with anxiety or depression concerns. The researchers found that the point at which teachers might refer a student was described as subjective and "intuitive." Notably, teachers mentioned their concern about the school counselors' lack of resources and time as a reason they would not refer a student (Trudgen & Lawn, 2011).

In the only known study examining first-aid responding with a university sample, Reavley, McCann, and Jorm (2012) presented Australia university students and staff with a depression vignette via telephone interview, and were asked how they responded when a family or friend had a problem similar to the vignette in the past 12 months. (The authors reported that 46% of all students and 59% of all staff indicated having either a family or friend with a similar problem.) The most frequently reported first-aid behaviors were "I listened/talked to them/provided emotional support" (74% students, 70% staff), "I encouraged them to seek professional help" (24% students, 38% staff), and "I spent time/socialized with them" (22% students, 20% staff). It should be emphasized that the respondents were asked about how they responded to a family member or friend, and not

specifically about their expected response if this were a student at their school. The differences in these contexts is important to highlight, as the response made between family and friends may be quite different than the response made between fellow students and staff-students. However, this study provides an important basis of comparison for additional research to explore how university community members' responses may differ when the situation involves a student, as opposed to a personal friend or family member.

**Limitations of Mental Health Literacy Research Findings**

It appears as though the majority of the research on the concept of mental health literacy is still exploratory and in its developing phases. Many pilot studies are limited by a small sample size, and are primarily conducted with Australian and European samples. In addition, the methodology used in these studies is limited primarily to self-report, and relies heavily on telephone-administered interviews featuring vignettes depicting depression and psychosis.

Several methodological limitations are worthy of additional discussion here. As previously noted, many researchers studying mental health literacy have assessed the public's ability to recognize someone in distress by asking participants to give the correct diagnostic label after reading vignettes that describe someone with symptoms of a particular mental illness. In addition, it appears that no research has been published on the reliability of Jorm's (2000) vignettes. Therefore, a comparison of the reliability of his vignettes among professionals and the public still needs to be made.

Another limitation of this methodology may be found in the challenge of comparing the recognition of depression versus the recognition of psychosis. As numerous debates in the psychiatric community can attest, the question of whether and how to define certain types of

psychopathology in terms of categories (e.g., having schizophrenia or not) or dimensions (e.g., a spectrum of mild to severe depression) is not well-agreed upon (Kraemer, Noda, & O'Hara, 2004; Kupfer, 2005). There may be significant differences in how these two disorders may be conceptualized. Therefore, the commonly used method measuring mental health literacy – that is, the task of recognizing and labeling depression and schizophrenia from reading vignettes – may be muddled by the underlying challenge of the qualitative and quantitative differences of these disorders. Moreover, given the variety of other disorders that have been relatively ignored using this methodology, researchers should be cautious in extrapolating the results to represent the public's ability to recognize, and respond to, all mental illnesses.

In addition, the significant impact that cultural context has on mental health literacy does not appear to be addressed in much of the research. This is not unexpected, given the assumptions that the dominant western conceptualization of mental illness is universal and culture-free (Pedersen, Draguns, Lonner, & Trimble, 2008). However, it is important to note that the expression of mental illness is not, in fact, culture-free, and there are meaningful cultural variations in how people identify, understand, and experience mental illnesses (WHO, 2001), all of which have significant implications for mental health literacy (Furnham & Telford, 2012; Sheikh & Furnham, 2000). The form, expression, and recognition of a variety of mental health problems are shaped by the social and cultural context in which they exist (Pedersen et al., 2008). Because causal beliefs and attitudes about mental illness are culturally variable, the notion of having a particular or universal knowledge of mental illness may be somewhat insular. Clearly, there are cross-cultural differences in the beliefs people have about mental illnesses (Bass et al., 2012). Therefore, it is important to recognize that the

concept of mental health literacy was created with a western, psychobiological orientation, which may clash with the beliefs and practices of other cultures. For example, Jorm (2012) notes that ethnic and cultural minority group members' under-utilization of mental health services may be attributed to their "lack of mental health literacy" (p. 238). It is possible that a relatively ethnocentric perspective is implied in what constitutes mental health literacy. Therefore, the field of mental health literacy should be expanded to accommodate a diversity of attitudes and beliefs, recognizing that these varying differences represent valid but divergent points of view. The current state of mental health literacy could benefit from a wider, more culturally informed lens, which is sensitive to its broader application across culturally diverse groups, and incorporates culturally informed perspectives on mental health that will ultimately lead to improved mental health outcomes.

**Impact of Symptom Severity on Recognizing and Responding**

Symptom severity is likely an important determinant of how individuals interpret a vignette describing someone with symptoms depression. Testing this idea, Jorm et al. (2005) added several statements regarding suicidal thoughts to the original vignette they created to assess mental health literacy regarding depression. They gave the original and revised vignettes to participants, and then asked participants to rate which interventions (e.g., receiving help from friends; seeking professional help) might be helpful for each vignette. As expected, the results indicated that participants endorsed differences in the helpfulness of certain interventions depending on the severity of the vignette. In light of this finding, other researchers have since attempted to manipulate the severity of a depression vignette to examine the effect of severity on various dependent variables (e.g., Dumesnil et al., 2012; Klineberg, Biddle, Donovan, & Gunnell, 2011). For example, Leite (2011) created two

depression vignettes – one low severity, one moderate severity – by initially conducting a content analysis on the depression vignettes previously used in mental health literacy research (e.g., Goldney et al., 2001; Jorm et al., 2005). She assessed these vignettes for the types of depressive symptoms present, and the number of symptoms per category. Symptoms were categorized based on the DSM-IV-TR (American Psychiatric Association, 2000) criteria for a depressive episode, into cognitive, affective/anhedonic, behavioral, hopelessness, somatic, and motivational symptoms. She analyzed the vignettes based on the amount of information presented pertaining to current functioning, and the length of time symptoms had been present. Her results showed that participants' cognitive representations of depression (e.g., cause, consequences, duration, coping, and controllability of the depression symptoms) were sensitive to the differing amounts of information regarding symptom severity.

In conjunction with other research (e.g., Care & Kuiper, 2013), these findings suggest that researchers should not assume that mental health literacy about depression is sufficiently measured by assessing responses to only one standard vignette, such as Jorm et al.'s (1997) commonly used vignette. If cognitive representations of depression are dependent on symptom presentation and differ for various levels of severity, then other important outcomes – such as a staff members' recognition of and response to a student with signs of depression – may also vary based on symptom severity. In light of the above findings, it seems constructive for research efforts to vet how individuals distinguish and respond to early, more ambiguous signs of depression that may be misinterpreted, as well as more overt clinical presentations. Therefore, the current study was designed to investigate the specific

mechanisms involved in the depression recognition and response processes with different levels of depression severity.

**Recognizing and Responding on College Campuses**

As previously mentioned, given the notable surge in mental health needs on college campuses, universities across the U.S. have begun to increase their efforts to identify and respond to students in need as early as possible. Because university students, faculty, and staff are often on the forefront of noticing and managing student emotional concerns, many higher education institutions are encouraging a university-wide, comprehensive approach to identify and refer distressed students as early as possible (Jodoin & Robertson, 2013; Kitzrow, 2003; Mier et al., 2009). As noted by Kitzrow (2003), because many students who could benefit from support hold inaccurate or negative perceptions of mental illness and therapy, higher education institutions "need to conduct an active outreach campaign to educate administrators, faculty, and staff (including academic advisers, graduate teaching assistants, and residence life assistants) about mental health problems in the college population and provide them with information about how to recognize and refer troubled students who need help" (p. 175). As a result, college campuses have begun providing formal and informal trainings to the campus community that include strategies for identifying and referring students who are having psychological problems (e.g., Kaslow et al, 2012; Nolan, Ford, Kress, Anderson, & Novak, 2005). Similarly, mental health first aid programs (e.g., Hart, Jorm, Kanowski, Kelly, & Langlands, 2009; Jorm, 2012) also promote this mission. Although these efforts are commendable and some preliminary outcome data appears positive, the vast majority of students, faculty, and staff are not reached by such trainings, and very little data exists on how inexperienced individuals recognize and respond to

distressed students in a university setting. We know that early recognition is needed, but we also know that over-recognition (i.e., "false alarms") can over-burden the staff at counseling centers and other offices that provide consultation to concerned university community members (Gallagher, 2008; Grasgreen, 2012). Therefore, it appears critical for researchers, clinicians, and academic institutions alike to have an understanding of the factors involved when a potentially untrained individual interacts with a student experiencing symptoms of depression.

**Purpose of Present Study**

Clearly, a gap in the literature exists surrounding the specific contextual and demographic characteristics that affect an individual's recognition and response to a student with emotional problems. The current study is designed to focus on major depressive disorder (American Psychiatric Association, 2013) in particular because of its relatively high prevalence among college students, high risk of suicide, low treatment utilization rates, potentially life-threatening outcomes, and negative impact on academic functioning (ACHA, 2013; Blanco et al., 2008). Therefore, the primary goal of this study was to systematically investigate several key variables identified from previous research that affect university community members' identification and response to students experiencing symptoms of depression.

Although useful information regarding college-age mental health literacy has been studied through the past research, several gaps remain. First, much of the previous research on mental health literacy has typically operationalized depression recognition as whether or not people are able to use the correct label (depression) after being shown a vignette. However, this does not assess the qualitative severity of depression, and limits the definition

of recognition to simply being able to name depression symptoms instead of appraising the severity of depression symptoms (e.g., is someone depressed or not, vs. how depressed is someone), which seems to have more real-world application. Second, although research exists on the relation between depression recognition and help-seeking, not much is known about the relation between recognition and response behavior. It is possible that depression recognition serves as an important explanatory variable that precedes how strongly someone decides to respond. Relatedly, it is unknown whether the intensity of response might differ depending on a person's role on campus. Clinically, it seems important to explore each campus subgroup individually to understand the mechanisms involved in recognition and response to a depressed student to identify any specific interventions based on the unique findings of each group. Third, there is a gap in the literature regarding the specific variables involved in predicting who may not be able to recognize and appropriately respond to a severely depressed student. This knowledge appears critical given the reliance on university laypeople to refer at-risk students.

Therefore, my main research objectives for the current study were to investigate a) whether laypeople in the university community were able to differentiate among students with different depression severity and select corresponding intensities of interventions for these different presentations; b) the potential mediating function of depression appraisal in the relation between depression presentation and response behavior, across the whole university sample and within specific campus roles; and c) which layperson-specific variables were potentially related to under-appraisal and under-responding with a highly depressed student presentation.

The findings of this research provide a much-needed analysis of the factors related to the ability of students, faculty, and staff to serve as an effective conduit to link depressed students to appropriate help. The results shed light on how much participants are able to recognize and refer a student with depression, how particular demographic characteristics affect the likelihood of recognizing and referring a student, and the severity and specific symptoms to which participants are most likely to identify and respond. This information can also provide universities in general with a broader understanding of who might benefit from additional education, and what specific gaps in training, communication, and program development could be addressed. Taken together, the results may lead to greater and more effective utilization of the university's mental health support services, earlier identification of students at risk for developing a mental illness, and potentially a better prognosis for those identified students.

**Research Questions and Hypotheses**

This study addressed the following research questions:

**Research Question 1:** Can undergraduates, graduate students, faculty, and staff differentiate between Vignette Severity, and might they respond with corresponding levels of Behavioral Response Intensity?

Hypothesis 1: Yes. The participants can differentiate Vignette Severity, and their reported Behavioral Response Intensity is consistent with the perceived severity.

**Research Question 2:** Is the relation between Vignette Severity and Behavioral Response Intensity mediated by depression recognition, both across the university sample and within each campus role?

Hypothesis 2: The relation between Vignette Severity and Behavioral Response Intensity will be mediated by depression recognition (operationalized as Depression Rating) across the university sample and within each campus role.

**Research Question 3:** Which, if any, participant demographics (e.g., age, gender, education level, campus role) and experience variables (e.g., personal, job-related, or training experience with mental illness) relate to Depression Rating and Behavioral Response Intensity among those who saw the highest severity vignette?

Hypothesis 3: Female gender, older age, higher education level, faculty and staff campus roles, and having personal, job-related, or training experience with mental illness will be significantly positively related to Depression Rating and Behavioral Response Intensity ratings.

# Chapter III

# Method

## Study 1

A pilot study was conducted to provide a validation of two of the independent variables used in the larger project: 1) severity of depression presented in three vignettes, and 2) intensity rating of possible responses to the person in the vignette.

**Participants.** An *a prioi* power analysis using G*Power 3 (Faul, Erdfelder, Lang, & Buchner, 2007) was computed to determine the required sample size for an ANOVA to detect an effect at the $p = .05$ statistical significance level. Cohen (1992) recommends power of $d = .80$ or greater. The results of the power analysis indicated that a sample size of 36 would yield adequate power ($1 - \beta$) set at $d = .80$ and $\alpha = .05$, two-tailed. The actual sample size of the pilot study was 37 participants, exceeding the minimum number determined by the power analysis. Participants for the pilot study consisted of doctoral-level ($n = 16$) and masters-level ($n = 21$) clinicians recruited from the University of California, Santa Barbara (UCSB) and the Santa Barbara County Psychological Association (SBCPA). The pilot study was advertised via e-mail solicitations to the UCSB Counseling, Clinical, and School Psychology faculty and graduate student listservs, as well as emails to the SBCPA listserv. Six participants identified as men, 30 identified as women, and one identified as other gender. The mean age was 30.3 ($SD = 4.9$), and the mean number of years practicing psychotherapy or assessment (including in graduate school) was 5.2 ($SD = 2.5$). Fifty-seven percent reported having a masters degree and 43% reported having a doctoral degree; 27% were licensed for professional practice by at least one state licensing board/agency.

**Measures.** I created three vignettes that differed by depression symptom severity. Updating the vignettes employed in previous studies (e.g., Jorm et al., 2005; Leite, 2011), the researcher-generated vignettes were distinguished from each other *a priori* by the number and severity of symptoms based on cut-off scores from the Patient Health Questionnaire-9 (PHQ-9; Kroenke, Spitzer, & Williams, 2001), the DSM-5 criteria for major depressive disorder (American Psychiatric Association, 2013), and a previous study (Jorm et al., 2005) that added suicidal thoughts to the original vignette and resulted in increased depression recognition.

The mild level severity vignette was designed to present only a few indicators of depression to create a more ambiguous picture; the moderate level severity vignette was designed to present a more comprehensive set of depression symptoms to create a clearer picture of depression, but without suicidal ideation (similar to the level used in the Jorm et al. (1997) original vignette); and the high level severity vignette was designed to present a clearer picture of depression with suicidal ideation. (See Appendix A for vignettes.)

***Depression Severity Rating.*** The three vignettes were presented to participants, who were asked to rate the vignettes in terms of severity of depression. Perceived severity of depression was measured using a Likert-type scale ranging from 1 (not depressed) to 10 (very depressed), in which participants indicated how depressed they thought the person depicted in the vignette was. A definition of *depression* was not provided to the participants in order to maximize the possibility of participants relying on their own conceptualization of depression. The use of this single-item measure of depression is consistent with previous research successfully distinguishing several depression vignettes from each other (e.g., Heim, Smallwood, & Davies, 2005). Means (with standard deviations in parentheses) for the

proposed milder, moderate, and higher depression severity vignettes were 3.76 (1.09), 6.97 (1.04), and 9.19 (0.70), respectively.

A repeated measures ANOVA revealed that mean Depression Ratings were significantly different between the three vignettes ($F(2, 72) = 467.24$, $p < 0.001$). Post hoc tests using a Bonferroni correction revealed that the proposed lower-severity vignette received lower depression severity ratings than the moderate-severity vignette ($p < .001$) and the higher severity vignette ($p < .001$). The moderate-severity vignette and higher severity vignette were also significantly different from each other ($p < .001$). Therefore, we can conclude that each of the three researcher-generated vignettes were distinctively representative of three relatively different levels (lower, moderate, and higher) of depression symptom severity.

It should be noted these Depression Severity Ratings reflect differences in relative degrees of severity, but not necessarily absolute ratings of severity. The observation that the low depression Vignette Severity mean was close to 4 on the 10-point scale indicates that there may be an identification bias such that the data are skewed toward positive identification. Therefore, the vignettes are referred to as lowest, moderate, and highest severity to reflect this relative (and not absolute) difference.

***Behavioral Response Intensity Rating.*** Clinicians provided an intensity rating for a list of possible response behaviors that laypeople might do upon encountering a student with emotional problems. Response behaviors were adapted from the Reavley, McCann, and Jorm (2012) study, in which Australian university students and staff described how they responded to a family member or friend similar to the person in the depression vignette. Additional response behaviors deemed pertinent to the study were generated by the dissertation

committee during the proposal meeting. Participants were asked to rate the intensity of each of 13 possible responses on a six-point Likert scale generated by the dissertation committee. The following instructions were given: “Below is a list of possible responses/interventions that an average layperson (e.g., a college student or staff member; not a mental health professional) might do upon encountering a college student with emotional problems. Please rate the level of intensity of each intervention on a scale from 1-6, where 1 = least intense intervention, and 6 = most intense intervention.” Using the mean intensity rating provided by the participants, each of the responses were ranked in order of Behavioral Response Intensity rating, from 1-13. This created a weighted intensity value for each response, with one being the lowest weight and 13 being the highest intensity weight. See Table 1 for Behavioral Response Intensity means, standard deviations, and Behavioral Response Intensity weights.

**Procedure.** An online survey was used to collect data. Participants received an email containing a link to the survey website. They were provided with an information statement explaining the purpose of the study, the criteria for participation, risks and benefits to participation, and informed consent. If they agreed to the informed consent, they were directed to the survey. The three vignettes were presented in a counterbalanced order (randomly assigned to receive one of six different possible order presentations). Participants were asked to complete a depression severity rating following presentation of each vignette.

**Study 2**

Following the pilot study, the larger dissertation study was implemented with non-mental health providers from UCSB in order to investigate laypeople’s appraisal and response to a hypothetical student with depression symptoms.

**Participants.** An email was sent to the entire campus community, consisting of 33,582 people. A total of 1,724 responses were received. During the data cleaning process, 69 cases (2%) were removed for missing data occurring in any independent and dependent variables. In addition, 30 participants who self-identified as "other campus role" were removed because these individuals identified themselves as either alumni or exchange students, and were deemed not representative of the larger university campus sample under investigation. Therefore, a total of 1,625 participants remained, yielding a 4.8% response rate.

Participants consisted of 59.5% undergraduates, 15.1% graduate students, 24.0% staff, and 1.4% faculty from UCSB. Sixty-nine percent identified as women. Demographic characteristics of the sample are displayed in Table 2.

The study sample was approximately representative of the overall demographics of UCSB at the time of data collection. The makeup of the 33,582 individuals in the UCSB population was comprised of 60.3% undergraduates, 8.4% graduate students, 28.1% staff, and 3.2% faculty. There were more women in the study sample compared to the general UCSB population (50.9%). The study sample was comprised of relatively more people identifying as White (59.2% in the study sample vs. 45% in UCSB) and fewer people identifying as Latino/a (17.0% in the sample vs. 22.9% in UCSB).

**Measures.** Demographic and descriptive data were collected from each participant. For the purposes of these analyses, gender was coded as a dichotomous variable in which men were coded "0" and women were coded "1." Given the relatively small number of faculty participants, the staff and faculty member participants were combined as one "faculty/staff" group. For the purposes of statistical analyses, I created three mutually

exclusive dummy variables to represent membership in each campus role (e.g., one dummy variable for undergraduates, another for graduate students, and another for faculty/staff).

***Mental Health Experience Questions.*** Participants were asked to answer questions about their general mental health experience. Because one of the purposes of the study was to survey non-mental health professionals in a university community, if participants answered "yes" to the question "Are you a mental health professional OR a graduate student in counseling, clinical, or school psychology?" they were automatically exited from the survey and their data were not included in the analyses.

Information was collected to identify the participants' exposure to mental illness and/or mental health resources. Results indicated that 12.9% reported ever having had a job involving providing treatment or services to people with mental illness, and 50.7% have had someone close to them (e.g., family or friend) with a mental illness in the last three years. Fifty-four percent identified themselves as never personally having had a mental illness; 26.2% identified as having had a mental illness, and 19.5 % indicated that they were not sure if they have had a mental illness. For statistical analysis purposes, dummy variables were created to represent membership in different groups (e.g., one dummy variable for never having a mental illness, another for having a mental illness, and another for being unsure if they have had a mental illness). Each dummy variable represented only one group and the groups were mutually exclusive.

Participants also responded to a single item asking whether they had ever attended a *Responding to Distressed Students* training at UCSB. This training is a non-standardized, tailored presentation given to select campus groups, lasting anywhere from one to three hours. The training generally covers the university distressed student protocol, campus

resources, common warning signs of distress or concerning behaviors in students, and how to respond in urgent and non-emergency situations. It was hypothesized that this mental health related training experience might be related to participants' recognition and response to the vignette. Of the entire sample, 16.8% (composed of 5.5% students, 11.3% faculty/staff) reported that they had attended this training.

***Vignettes.*** Participants were randomly assigned to receive one of the three vignettes from the pilot study. Randomization resulted in 33.6% of participants receiving the lower severity vignette, 31.6% receiving the moderate severity vignette, and 34.8% receiving the higher severity vignette.

***Depression Severity Rating.*** After reading their assigned vignette, participants were asked to rate how depressed the person in the vignette was. Severity of depression was assessed using the Depression Severity Rating from the pilot study. Perceived severity of depression was measured using a Likert-type scale ranging from 1 (not depressed) to 10 (very depressed). A definition of depression was not provided to the participants in order to maximize the possibility of participants relying on their own conceptualization of depression. The use of this single-item measure of depression is consistent with previous research successfully distinguishing several depression vignettes from each other (e.g., Heim, Smallwood, & Davies, 2005), and was successfully used to distinguish the three vignettes from each other in Study 1. The distribution of Depression Ratings for each vignette are displayed in Table 3.

***Anxiety and Eating Disorder Severity Rating.*** In order to avoid priming participants for depression symptoms, they were asked to rate how anxious and eating disordered the person in the vignette was, using the same 1-10 Likert-type scale.

***Behavioral Response Intensity Rating for Vignette*.** Participants were asked to select one or more of the 13 responses (described in Study 1) that they might have upon encountering the person in the vignette. Using the Behavioral Response Intensity weights generated in Study 1, each of the possible responses was assigned a weighted intensity value (one being the lowest weight and 13 being the highest intensity weight). The percentages of responses chosen for each vignette is listed in Table 4.

For the purposes of the larger dissertation study, two variables were created from these data in order to generate a continuous indicator measuring the intensity of a participant's response(s). The first variable, referred to as the weighted sum, reflects the sum of all possible response intensities selected. For example, if a participant selected one response weighted three and another weighted four, the participant's weighted sum would equal seven. The maximum possible weighted sum would equal 91 (the sum of numbers 1-13). The other variable, referred to as the highest response weight, reflects the highest response weight of all responses a participant may have selected. The maximum possible highest response weight would equal 13, as this is the highest response weight (1-13).

**Procedure.** A confidential online survey was used to collect data between February and April 2015. Participants were asked to click on a link from an email sent to the entire campus community. The link took them to the survey website, where they were provided an information statement explaining the purpose of the study, the criteria for participation, risks and benefits to participation, and informed consent. Participants were informed that upon completion of the survey, they had the option of entering a drawing to win a $20.00 Amazon.com gift card. Interested participants were asked to email me a code that appeared on-screen upon completion of the survey; thus, participants' contact information was

separated from their survey response data. After signing the informed consent and agreeing to participate by clicking a box on the informed consent page, participants were directed to complete the online survey using Surveygizmo data collection software. All procedures were in full compliance with the University Human Subjects Committee.

**Data Analysis Plan**

A one-way ANOVA and a series of Spearman's rank-order correlations were conducted to examine the relation between Vignette Severity, Depression Rating, and Behavioral Response Intensity. Specifically, a one-way ANOVA was conducted with Vignette Severity as the grouping variable and Depression Ratings and Behavioral Response Intensity as the dependent variables in order to identify whether the three vignettes received significantly different Depression Ratings and response intensities from each other. Spearman's rank-order correlations were used to explore the relation between Vignette Severity (an ordinal, ranked variable) and Depression Rating and Behavioral Response Intensity.

In order to evaluate the hypothesis that an observer's response is influenced by how they judge depression severity, depression severity rating was investigated as a potential mediator of the relation between Vignette Severity and Behavioral Response Intensity (Baron & Kenny, 1986). In these analyses, the independent variable was Vignette Severity, the proposed mediator was Depression Rating, and the dependent variable was Behavioral Response Intensity. See Figure 1 for the proposed mediation analysis. Following Baron and Kenny's (1986) classic approach to mediation, in the first step I tested the path between Vignette Severity and Behavioral Response Intensity for significance. In the second step, I tested the path between Depression Rating and Vignette Severity for significance. In the third

step, I tested the path between Depression Rating and Behavioral Response Intensity while controlling for Vignette Severity to evaluate the effect of the mediator on the outcome. In the first model I tested, I used weighted sum as the index of Behavioral Response Intensity measured. In the second model, I used highest response weight as the index of Behavioral Response Intensity. Additionally, I tested whether Depression Rating functioned as a mediator within each type of campus role (undergraduates, graduate students, and faculty and staff).

Finally, I focused the subsequent analyses on only the participants who saw the highest severity vignette. This was done in order to identify the specific variables pertinent to participants who under-recognized and under-responded to the most blatant presentation of depression. I conducted a series of multiple linear regression analyses to explore the negative predictors of Depression Rating and Behavioral Response Intensity. Participants' demographic and experience variables were entered into the regression model as predictor variables for both regression analyses; the criterion variables were Depression Rating for the first model, and Behavioral Response Intensity for the second model. Standardized Beta weights were compared in order to identify the strongest predictors of lower Depression Rating and lower Behavioral Response Intensity.

**Data Cleaning and Assumptions.** Steps were taken in order to screen data prior to analysis (as outlined by Tabachnik & Fidell, 2007). The minimum and maximum values for each variable were compared with the ranges of values on the questionnaire and any values that fell outside of the designated ranges were deleted. In order to appropriately interpret statistical results of linear regression, the following assumptions must be met: normality, heterogeneity of variance, and linearity (Tabachnik & Fidell, 2007). All were assessed prior

to proceeding with the subsequent analyses. Independence of observations was also considered.

**Normality.** The assumption of normality posits that variables tend to be symmetric around a mean value when plotted in a histogram and assume a reasonable bell-shaped distribution (e.g., 67% of the population within one standard deviation of the mean, 95% within two standard deviations). Normality of Depression Rating and both measures of Behavioral Response Intensity (Highest Response Weight; Weighted Sum) were estimated using examination of histograms, boxplots, and calculation of skewness values. The distribution was examined using Bulmer's (1979) criteria of highly skewed distributions reflected by skewness values greater than +1 or less than -1. Results indicated that all skewness statistics fell within the acceptable range.

**Heterogeneity of Variance.** The assumption of heterogeneity of variance posits that, for each linear model, the variance around y, for all values of x, is the same (Tabachnik & Fidell, 2007). For the t-test and ANOVAs, Levene's test for homogeneity of variance was used to determine whether the assumption of heterogeneity of variance was met. In the case that Levene's test was significant, statistical calculations took into account that equal variances were not assumed. For the regression models, residual plots were used in order to test whether the assumption of constant variance was met.

# Chapter IV

# Results

## Preliminary Analyses

**Descriptive Statistics.** Descriptive statistics for Depression Rating and Behavioral Response Intensity ratings were examined separately for each vignette. Refer to Table 5 for means and standard deviations for Depression Ratings, Highest Response Weight and Weighted Sum scores for each of the three vignettes. Notably, the low depression Vignette Severity mean was close to six on the 10-point scale, highlighting a large identification bias such that the scores leaned toward positive identification.

Anxiety Rating means (and standard deviations) for the milder, moderate, and higher depression severity vignettes were 4.81 (1.84), 6.52 (2.39), and 7.09 (2.62), respectively. Eating Disorder Rating means and standard deviations were 3.45 (1.89), 5.05 (2.4), and 5.54 (2.61), respectively.

Because of the apparent similarities of the Anxiety Rating means and the Depression Rating means, a paired-samples t-test was used to determine whether there was a statistically significant mean difference between the Anxiety and Depression Ratings. Ten outliers were detected, however, inspection of their values revealed that these appeared to be genuine data points and they were kept in the analysis. Although the data were not normally distributed, paired-samples t-tests are considered robust if sample size is large (Tabachnik & Fidell, 2007). The results of the t-test indicated significantly higher Depression Ratings compared to Anxiety Ratings for all three vignettes (all $p$'s $< .001$).

**Correlations.** In order to investigate the relation between the variables, Pearson correlation coefficients were conducted (see Table 6). Results indicated positive and

statistically significant correlations between Depression Severity Rating, Anxiety Severity Rating, Eating Disorder Severity Rating, and both Behavioral Response Intensity Ratings. The strongest correlations were found between Behavioral Response Intensity Ratings and Depression Severity Ratings (r = .46, $p < .001$). Therefore, as Depression Severity Ratings increased, Behavioral Response Intensity Ratings increased.

**Rater Comparison.** In order to investigate whether significant differences existed between the depression severity ratings given by mental health clinicians and laypeople, a series of independent t-tests were conducted. Equal variances were not assumed given the large difference in sample sizes for each group comparison. Results indicated that for all three vignettes, laypeople gave higher Depression Ratings than the clinicians; this difference was statistically significant for both the lower severity vignette ($t = -9.88$; $p < .001$) and the moderate severity vignette ($t = -6.78$; $p < .001$), but not for the highest severity vignette ($t = -1.55$; $p = .13$).

**Research Question 1: Can undergraduates, graduate students, faculty, and staff differentiate between Vignette Severity, and might they respond with corresponding levels of Behavioral Response Intensity?**

To address the first research question, a one-way ANOVA was conducted with Depression Ratings and Behavioral Response Intensity as the dependent variables, and Vignette Severity as the grouping variable. Consistent with the hypothesis, mean Depression Ratings differed significantly between the three vignettes ($F(2, 1622) = 1011.61$, $p < .001$). A Tukey post-hoc test revealed that the lower severity vignette received significantly lower depression severity ratings than the moderate-severity vignette ($p < .001$) and the higher

severity vignette ($p < .001$). The moderate-severity vignette and higher severity vignette were also significantly different from each other ($p < .001$). These results indicate that the three vignettes received distinctive Depression Ratings consistent with the intended levels (lower, moderate, and higher) of depression symptom severity. Similarly, participants reported significantly different Behavioral Response Intensity levels for each vignette (Highest Response Weight $F(2, 1622) = 153.51$, $p < .001$; Weighted Sum $F(2, 1622) = 174.13$, $p < .001$). A Tukey post-hoc test revealed that the moderate severity vignette received significantly higher intensity responses than the low severity vignette, and also significantly lower intensity ratings compared to the higher severity vignette (all *p*s < .001). These results illustrate that regardless of which measure was used to assess Behavioral Response Intensity (highest response weight or weighted sum), participants selected increasingly higher levels of intensity of responding consistent with the different Vignette Severity levels (lower, moderate, and higher).

In order to investigate the relation between Vignette Severity (an ordinal variable) and the other variables under consideration, a set of non-parametric Spearman's rank-order correlations were conducted (see Table 7). Vignette Severity was significantly positively correlated with Depression Severity Rating ($r_s = .75$, $p < .001$), as well as with both measures of Behavioral Response Intensity Ratings (Weighted Sum $r_s = .42$, $p < .001$; Highest Response Weight $r_s = .42$, $p < .001$). Vignette Severity was also significantly positively correlated with Anxiety Severity Rating and Eating Disorder Severity Rating. Therefore, the higher the severity of the vignette, the higher the Behavioral Response Intensity. Notably, Vignette Severity is more strongly correlated with Depression Rating than with Behavioral Response Intensity (.75 vs .42).

**Research Question 2: Is the relation between Vignette Severity and Behavioral Response Intensity mediated by depression recognition, both across the university sample and within each campus role?**

In order to address Research Question 2, I conducted a mediation model to ascertain whether Depression Rating mediated the relation between Vignette Severity and Behavioral Response Intensity. Baron and Kenny (1986) have delineated a classic approach to mediation that entails several steps. Step 1 involves testing path *c*, i.e., whether there is a statistically significant relation between Vignette Severity (independent variable; IV) and Behavioral Response Intensity (dependent variable; DV). Step 2 involves testing path *a*, i.e., regressing Depression Rating (proposed mediator; M) on IV. Step 3 involves testing path *b,* regressing DV on M, and regressing DV on both IV and M for path *c'* (see Figure 1). A decrease in strength from c to c' represents partial mediation, whereas a reduction in significance reflects full mediation (Baron & Kenny, 1986).

Two models were tested, one using the Behavioral Response Intensity measured by Weighted Sum, and the other using Behavioral Response Intensity measured by Highest Response Weight. The difference between the two measurements is found in the way the Behavioral Response Intensity was calculated. Weighted sum reflects the sum of all possible response intensities selected. For example, if a participant selected one response weighted three and another weighted four, the participant's weighted sum would equal seven. The maximum possible weighted sum would equal 91. The other measurement, highest response weight, reflects the single highest response weight of all responses a participant may have selected. The maximum possible highest response weight would equal 13, as this is the highest response weight (1-13).

**Weighted Sum of Behavioral Response Intensity.** I conducted a three-step series of regressions following Baron and Kenny's (1986) approach to investigate the hypothesis that Depression Rating mediates the effect of vignette on Behavioral Response Intensity. The results of Steps 1 and 2 indicated that Vignette Severity was a significant predictor of weighted sum (B = 8.95, β = .41, $p < .001$), and that Depression Rating was a significant predictor of vignette (B = 1.85, β = .720, $p < .001$). In Step 3, I entered Vignette Severity (independent variable) and Depression Rating (proposed mediator) as predictor variables, and weighted sum as the dependent variable. Vignette Severity remained a significant, albeit weaker, predictor of weighted sum after controlling for the proposed mediator, Depression Rating (B= 3.55, β = .16, $p < .001$). These results are consistent with partial mediation (see Figure 2). The overall equation was significant ($R^2 = .23$, $F(2, 1622) = 251.30$, $p < .001$, meaning that approximately 23% of the variance in Behavioral Response Intensity was accounted for by both predictors.

**Highest Response Weight.** The three steps delineated above were repeated substituting highest response weight as the Behavioral Response Intensity measurement to investigate whether the two Behavioral Response Intensity measures have different results. I entered Vignette Severity (independent variable) and Depression Rating (proposed mediator) as predictor variables, and highest response weight as the dependent variable. The relation between Vignette Severity and highest response weight remained significant but became weaker in this analysis (β = .14, $t = 4.46$, $p < .001$) compared to the direct relation (β = .38, $t = 17.20$, $p < .001$). These results again reflected a partial mediation (see Figure 3). The overall equation was significant ($R^2 = .22$, $F(2, 1622) = 236.02$, $p < .001$), meaning that

approximately 22% of the variance in Behavioral Response Intensity was accounted for by both predictors.

Taken together, both models showed that Depression Rating was a partial mediator of the relation between Vignette Severity and Behavioral Response Intensity. The two mediation models yielded similar results for both types of Behavioral Response Intensity style (i.e., weighed sum and highest response weight). Regardless of which measure of Behavioral Response Intensity is used, the results are interpreted similarly. This reflects an equivalency in the two measurements, which was also shown in the correlations indicating similar relations between both measures of Behavioral Response Intensity and the other variables of interest. Therefore, given their apparent redundancy, the decision was made to select only one of these measures for subsequent analyses. I considered both statistical and conceptual implications in the decision. Statistically, weighted sum provides more variance and greater specificity given the larger range (1-91) compared to highest response weight (1-13). Clinically, weighted sum incorporates the cumulative number of responses someone might make, which may reflect a higher level of time and psychological energy in reacting to a student of concern. Therefore, in subsequent analyses, weighted sum was chosen as the most informative measurement of Behavioral Response Intensity.

The next analyses involved conducting three separate mediation models within each type of campus role (undergraduates, graduate students, and faculty/staff) to evaluate the possible mediating role of Depression Rating within each campus role. I replicated the steps delineated above following Baron and Kenny (1986). The independent variable was Vignette Severity, the mediator was Depression Rating, and the dependent variable was Behavioral

Response Intensity (weighted sum). In all three samples, the relation between Vignette Severity and Behavioral Response Intensity was partially mediated by Depression Rating.

**Undergraduates (*n* = 931).** Looking at undergraduates only, the results of Steps 1 and 2 indicated that Vignette Severity was a significant predictor of weighted sum (B = 7.62, β= .35, $p < .001$), and that Depression Rating was a significant predictor of vignette (B = 1.71, β = .68, $p < .001$). In Step 3, Vignette Severity and Depression Rating were entered as predictor variables, and weighted sum as the dependent variable. Vignette Severity remained a significant but weaker predictor of weighted sum after controlling for the proposed mediator, Depression Rating (B= 2.31, β = .11, $p = .008$). These results are consistent with partial mediation. The overall equation was significant ($R^2 = .19$, $F(2, 928) = 114.51$, $p < .001$, such that approximately 19% of the variance in Behavioral Response Intensity was accounted for by both predictors (see Figure 4).

**Graduate Students (*n* = 274).** In the graduate student only sample, Vignette Severity was again a significant predictor of weighted sum (B = 10.49, β= .51, $p < .001$), and Depression Rating was a significant predictor of vignette (B = 2.04, β = .76, $p < .001$). In Step 3, the coefficient for Vignette Severity decreased but remained statistically significant (B= 4.90, β = .24, $p = .002$). These results are again consistent with partial mediation. The overall equation was significant ($R^2 = .30$, $F(2, 271) = 64.04$, $p < .001$), meaning that approximately 30% of the variance in Behavioral Response Intensity was accounted for by both predictors (see Figure 5).

**Faculty and Staff (*n* = 420).** In the faculty and staff sample, Vignette Severity was a significant predictor of weighted sum (B = 11.23, β= .50, $p < .001$), and Depression Rating was a significant predictor of vignette (B = 2.09, β = .79, $p < .001$). Vignette Severity

remained a significant but weaker predictor of weighted sum after controlling for Depression Rating (B = 5.96, β = .27, $p < .001$). These results are consistent with partial mediation. The overall equation was significant ($R^2 = .29$, $F(2, 417) = 87.13$, $p < .001$), meaning that approximately 29% of the variance in Behavioral Response Intensity was accounted for by both predictors (see Figure 6).

The results of the campus role mediation analyses paralleled the previous analyses, indicating that Depression Rating was a stronger predictor of Behavioral Response Intensity compared to Vignette Severity. After controlling for Depression Rating, Vignette Severity was revealed to be a weaker predictor for undergraduates compared to faculty/staff and graduate students. However, overall, the mechanisms predicting Behavioral Response Intensity did not appear to differ depending on a person's role on campus.

**Research Question 3: Which, if any, participant demographics (e.g., age, gender, education level, campus role) and experience variables (e.g., personal, job-related, or training experience with mental illness) relate to Depression Rating and Behavioral Response Intensity among those who saw the highest severity vignette?**

The demographics of the sample of participants who were shown the highest severity vignette are presented in Table 2. Because no *a priori* hypotheses had been made to determine the order of entry of the predictor variables, a direct method was used for the multiple linear regression analyses. One regression model was constructed in order to examine the influence of demographic and experience variables on participants' ability to recognize depression symptoms, and another model was constructed to examine the influence of these variables on participants' response to the vignette. The sample for both models was limited to those participants who saw the high severity vignette ($n = 566$) to isolate the

predictors that relate specifically to recognition and response with the most unambiguous case of depression.

Participants' demographic and experience variables were entered into the regression model as predictor variables. To test whether ever having had a mental illness is a predictor, the regression model used "I have never had a mental illness" as the reference category. This allowed the regression to test whether there was a significant difference in the criterion variable between participants who identified as never having a mental illness and those who were unsure whether they ever had a mental illness or identified as having had a mental illness. To test campus role as a predictor, the regression model used undergraduates as the reference category, and compared whether graduate students and faculty/staff were different from undergraduates.

In the first model, Depression Rating was the criterion variable. The model's adjusted $R^2$ shows that all of the predictors taken together account for 5.1% of the variance in participants' Depression Rating ($R^2 = .05$, $F(10, 556) = 3.93$, $p < .001$). As observed in Table 8, only two predictors were significantly related to Depression Rating. Women were found to have significantly higher Depression Rating than men ($\beta = -.18$, $t(556) = -4.05$, $p < .001$), and surprisingly, participants who had a mental health related job had significantly lower Depression Rating than those without that work experience ($\beta = -.09$, $t(556) = -2.18$, $p = .03$).

In the second model, the same demographic and experience variables were entered as predictor variables, and Behavioral Response Intensity (weighted sum) was the criterion variable. All of the predictor variables produced an adjusted $R^2$ of .07 ($F(10, 556) = 4.81$, $p < .001$), reflecting that these variables accounted for 6.6% of the variance in Behavioral Response Intensity. Overall, four predictors were significantly related. The strongest

predictor was gender, with women having significantly higher Behavioral Response Intensity than men ($\beta = -.16$, $t(556) = -3.69$, $p < .001$). The next highest predictor was attending a Distressed Students training at UCSB ($\beta = .13$, $t(556) = 2.66$, $p = .008$). The last two significant predictors were having a mental health related job ($\beta = .10$, $t(556) = 2.29$, $p = .02$) and having a family or friend with a mental illness ($\beta = .10$, $t(556) = 2.16$, $p = .03$).

Finally, a post-hoc analysis of Depression Rating and Behavioral Response Intensity differences across vignette and participant race or ethnicity was conducted to detect any potential vignette-specific variance related to racial or ethnic group. The three largest self-identified racial or ethnic groups – White/European American (59.2%), Asian or Asian American/Pacific Islander (18.3%), and Hispanic or Latino/a (17.0%) – were included in analyses, as the remaining groups made up less than 6 percent of the sample. The results were filtered by vignette severity to identify any racial or ethnic differences emerging with different presentations of depression. For each vignette severity, a one-way ANOVA was conducted with race or ethnicity as the grouping variable, and Depression Rating and Behavioral Response Intensity as the dependent variables. Notably, no significant differences were found for Behavioral Response Intensity Ratings in any of these analyses. However, significant results were found for Depression Rating within the lowest and highest severity vignettes. In the lowest severity vignette, mean Depression Ratings differed significantly between the three groups under study, $F(2, 509) = 11.8$, $p < .001$. A Tukey post-hoc test revealed that the mean Depression Rating given by White/European American participants (5.4) was significantly lower than participants identifying as Hispanic or Latino/a (6.3) or Asian or Asian American/Pacific Islander (6.0). In the highest severity vignette, mean Depression Ratings differed significantly between the three groups, $F(2, 542) = 4.6$, $p = .01$.

Further inspection using a Tukey post-hoc test revealed that the mean Depression Ratings given by White/European American participants (9.5) was significantly higher than participants identifying as Asian or Asian American/Pacific Islander (9.1).

# Chapter V

## Discussion

The high rates of untreated depression in university students and the increasing reliance on referrals from laypeople in the university community requires an investigation of the utility and mechanisms involved in linking students to appropriate resources. Therefore, I designed the current study to investigate the variables involved in laypeople's appraisal of, and response to, a depressed student. I assessed the overall patterns in laypeople's depression appraisal and responses when given presentations of varying depression severity. In addition, I investigated the potential mediating function of depression appraisal in the relation between severity of depression presentation and Behavioral Response Intensity among the whole campus sample and within specific campus roles. Finally, I identified layperson-specific variables (e.g., gender, campus role, previous experience with mental illness) involved in who under-appraises and under-responds with a student presenting with severe depression.

This study provided a unique examination of how individuals in a heterogeneous university community distinguish and respond to early, more ambiguous signs of depression, as well as more clinically severe presentations. The study also contributed to a broader understanding of the specific mechanisms involved in the depression identification and response process with different levels of depression severity. In addition, it also isolated the specific factors most related to under-rating and under-responding to a student with severe depression, which provides essential information for training and program development.

### Summary of Important Findings

Across research questions, three primary findings emerged as the most important: 1) Laypeople can identify depression; 2) Perception of depression is needed for action; 3) Men

and people with no mental health experience under-respond. Each of these findings are explored in turn.

***1) Laypeople can identify mental illness.*** The results indicated that students, faculty, and staff who saw the low severity vignette reported significantly lower Depression Ratings and lower response intensities compared to the participants who saw more severe vignettes. Likewise, those who saw the highest severity vignette reported significantly higher Depression Ratings and higher response intensities compared to participants who saw lower severity vignettes. There was a linear relation between the severity of a student's clinical presentation and participants' judgment of the student's depression level, as well as the intensity of how they respond. This supports the notion that the general university community does have the ability to identify students who are expressing differing levels of depression symptoms, not just the most severe. It also indicates that the community is broadly able to differentially select responses to a hypothetical depressed student which are consistent with their perceived depression severity. This finding is important, given the limited existing data on the capacity of U.S. university affiliates to recognize and respond to a student with depression. Study results set an important baseline for future research to make comparisons and track any potential changes.

Two findings add nuance to these particular results. First, it should be noted that Vignette Severity, Depression Ratings, anxiety ratings, and eating disorder ratings were all positively and significantly correlated with each other, illustrating that participants who were shown more severe depression vignettes also perceived the student to have other psychopathology not explicitly described in the vignette. This may reflect a tendency to conflate depression symptoms with other disorders, which is not surprising given that the

participants are not trained to make a differential diagnosis between anxiety, depression, and eating disorders. Second, the participants rated the lowest and moderate severity vignettes as having significantly higher Depression Ratings compared to mental health clinicians. This indicates a tendency among laypeople to potentially over-identify behavior as more pathological or extreme. There appears to be a large identification bias, indicating that the threshold for raising a flag of concern is lower among non-mental health clinicians. However, this should not necessarily be considered a flaw, as it is preferable to have over-identification as a first gate.

***2) Perception of depression is needed for action.*** The current study's results provide support for the intuitive notion that it is important for people to recognize depression symptoms for them to respond. There is an implicit assumption that people will respond more intensely when the situation is serious, but perception of a serious situation is necessary for this to happen. People's assessment of depression level is a meaningful conceptual variable in predicting how they will respond. The intensity of a response is more closely related to **how** someone judges depression severity, rather than the presentation in and of itself. Fundamentally, how someone judges another's depression level will influence how they respond. However, response depends on both context (i.e., presentation alone) and the recognition of depression. Both Vignette Severity and Depression Rating were significant predictors of Behavioral Response Intensity, so it is possible to predict the magnitude of a person's response from the type of vignette they received, but the intensity of their response is more strongly based on their depression identification rating. Put simply, very depressed people will get a response, but they are more likely to get a higher intensity response if people recognize them as being depressed.

The results indicated that the same general patterns were found when computing mediation models for each campus role subgroup. Notably, Vignette Severity was a weaker predictor for undergraduates compared to faculty/staff and graduate students. The finding that undergraduates' response intensities were less influenced by Vignette Severity compared to those of graduate students, faculty, and staff might indicate that there are other factors in addition to a student's presentation that influence how undergraduates will respond.

Overall, this mediation is an important contribution to the literature on mental health literacy, as it provides evidence of the central importance of recognizing depression in taking action. Previous mental health literacy research has shown that inadequate mental health literacy is related to a lack of help-seeking behavior (Rickwood et al., 2005); if people downplay someone's depression, they are less apt to take appropriate action. Therefore, this research expands on the previous research by showing the importance of people perceiving another's distress as a meaningful contributor to how they will respond.

These findings are also in line with the decision model process initially outlined in the bystander intervention research (Latane & Darley, 1970). Before responding, a person with the potential to intervene goes through a step-wise process that begins with recognizing a concerning situation that could benefit from intervention, followed by deciding what kind of help would be appropriate to provide and how to carry it out. This parallels the assumption behind the mediating role of Depression Rating preceding a response action.

***3) Men and people with no mental health experience under-respond relative to women and those with mental health experience.*** By isolating the results to those who saw the most marked presentation of depression, certain variables emerged as most pertinent to under-recognizing and under-responding to a student in dire need of recognition and

response. In particular, the results indicated that gender is a significant predictor of Behavioral Response Intensity, such that men are more likely to under-react to a student with highly severe depressive symptoms. Women were more likely to respond with higher intensity to the highest severity vignette.

There were three additional significant predictors of Behavioral Response Intensity, all of which involved having some degree of experience or training with a person with a mental health concern. First, not having a mental health related job was a significant negative predictor of Behavioral Response Intensity. In contrast, people who have had a job providing treatment or services to people with mental illness reported that they would intervene more strongly than those without that job experience. This finding makes intuitive sense given the notion that people with job experience in mental health a) are more likely to be attuned to the risks of under-responding to someone with highly severe depression symptoms, and b) are aware of effective interventions to help the person and will therefore be more likely to enact those options.

Second, people who reported not having a family or friend with a mental illness in the last three years were significantly more likely to under-respond to the severely depressed student. This indicates the impact of having direct experience with someone in influencing how an individual will respond to a student expressing serious depressive symptoms.

Finally, people who had not attended a Distressed Student training at UCSB were more likely to under-respond to the severely depressed student. This finding indicates that attending the training may be a promising and effective way to target people who are otherwise unlikely to respond appropriately when faced with a depressed student.

Similar to previous research, the current results indicated that participants who endorsed having a personal experience of mental illness did not have significantly better or worse recognition than those who did not have such personal experience. This finding was consistent with Goldney et al. (2001), who found that participants with major depression were no more likely than healthy participants to recognize depression in a vignette. Notably, Kim, Saw, and Zane (2015) found that individuals who themselves had severe depression had worse recognition and were less likely to recommend help-seeking. These findings suggest that having psychological symptoms may impact certain aspects of recognition and response.

The variables involved in under-recognizing depression are worthy of discussion as well. It should be noted that only 5% of the variance in Depression Rating is attributable to the demographic and experience variables under study, illustrating that Depression Rating is primarily influenced by Vignette Severity. However, looking at only participant-level variables provides meaningful information about who specifically may under-appraise someone with serious depression symptoms. Two significant predictors emerged. Gender, again, was a significant predictor of Depression Rating, such that men rated the vignette as significantly less depressed than women. This finding reveals the important role that gender has on identifying the seriousness of a person's depression. This finding is also consistent with previous research (Lauber et al., 2005; Reavley, McCann, & Jorm, 2012; Swami, 2012) indicating that men had the lowest recognition. The notion that men are more likely to underreport a person's depression symptoms is particularly notable as a point of intervention for training. Taken together, men were more likely to both underestimate and under-respond

with the student with the highest severity of depression. This finding signifies an important gap in training for men to both recognize and respond when conditions are quite serious.

The other significant finding was that participants who have had a job providing treatment or services to people with mental illness were more likely to underrate the vignette's depression level. This is in contrast to previous studies (Lauber et al. 2003, 2005) that found that participants who had exposure to people with mental illnesses, either personally or through a job, had better recognition. The results of the present research are somewhat counterintuitive, as it would be expected that people who have worked in clinical settings would be better able to identify severe depression; however, it is possible that people who have had mental health related jobs, but yet do not identify as mental health professionals or trainees, are not properly trained to evaluate depression severity. Although they have been exposed to severe depression before, perhaps they consider the vignette to be less severe compared to their clinical experience due to being "desensitized." They therefore may be comparing the vignette to more clinically severe depression, and judged the vignette with less severity compared to their clinical experiences.

Overall, the finding that there were different predictors of depression appraisal than there were for Behavioral Response Intensity is meaningful. Specifically, participants who have had someone close to them with a mental illness don't necessarily appraise the depression any more severely than other people, but they are likely to respond with more intensity. The same finding was true for people who attended a Distressed Student training, indicating that people with these experiences don't perceive depression level differently from other people, but they are more likely to respond in a stronger way.

Taken together, the results of the current study indicate that the general university community of students, faculty, and staff are able to appropriately recognize a student in different levels of distress and indicate that their type of responding would correspond with the level of distress. However, not everyone will necessarily respond with the same level of intensity. The reasons for this are complex and provide openings for future research.

## Reflection on Institutional Context

It must be noted that the participants in the current study were all affiliated with an institution, the University of California, Santa Barbara, where a national tragedy occurred several months before the study's data was collected. On May 23, 2014, six people were killed, all UCSB students, at the hands of a disturbed young man on a killing rampage adjacent to the UCSB campus. The families of some victims filed a federal lawsuit alleging a failure to recognize "red flags" and take action to prevent the tragedy. The campus was traumatized and grief-stricken, and discussions about the cause and how it could have been prevented were prominent everywhere, from national news to intimate conversations on and off campus. Many of these discussions raised both awareness about early recognition of mental illness, and also contributed to a natural concern and hypervigilance about the safety of the university community. It would therefore be important to recognize that the results of the current study may be quite unique to the experience of the UCSB community given the timing of the tragedy.

## Limitations

One major limitation lies in the vignette methodology used in this study. Although easily and quite frequently used, vignettes may not be the most accurate way of assessing mental health literacy; the employment of other methods, such as examining actual behavior

or informant report, allows for more precise or triangulated measurement. The use of vignettes provides an efficient method for assessing people's hypothetical attitudes and behaviors in situations that may be otherwise challenging to replicate (Hughes, 1998). However, research is mixed regarding the effectiveness of vignettes as a way to measure actual attitudes and behaviors. Past research has indicated that using vignettes may actually assess how people think they *should* react in a given situation, not necessarily their actual behavior in a situation (Parkinson & Manstead, 1993). Consistent with this notion, other research has found that vignettes elicit different impressions and affective reactions compared to an in-vivo (Collett & Childs, 2011) or video-recorded comparison (Rashotte, 2003). Overall, it appears that the use of a written vignette to gather an accurate assessment of the public's mental health literacy may have significant limitations.

Another significant limitation relates to the ambiguous nature of the participants' relationship with the student described in the vignette. This was also one of the most common reasons participants gave in explaining why they said they would "do nothing/ignore it" in response to the moderate or highly severe vignette (see Appendix B). This limitation may be directly related to third step in Latane and Darley's (1970) bystander intervention decision model process, regarding the decision of whether the observer takes personal responsibility for carrying out an intervention. This study was designed to keep situational factors constant, or at least undefined (e.g., unknown diffusion of responsibility, unknown costs/rewards of intervening; the nature of the relationship between the bystander and the person in distress), as these situational factors impact the likelihood of helping (Latane & Darley, 1970). However, the purposefully limited context provided in the prompt,

“If you encountered Alex, how would you respond?” limits the participants’ ability to assess their personal responsibility and creates a somewhat artificial context.

There are also several sampling limitations. First, the small participation rate (4.8%) limits the accuracy of the findings. There may be a selection bias of the participants who chose to take the survey, such that participants with more interest in student mental health issues may have self-selected to take the survey. These participants may also be more likely to recognize and respond to the vignette given their interest in mental health issues. Second, the sample did not include enough faculty to create a separate category, so the faculty were combined with the staff category. There may be a difference between staff and faculty recognition and response, but due to the limited number of faculty responses, this analysis was not possible. Finally, the unequal sample sizes between women and men in the sample introduces additional variance, and does not accurately reflect the base rates in the population.

**Strengths**

This study provides an important examination of how individuals in a heterogeneous university community are able to distinguish and respond to early, more ambiguous signs of depression, as well as more clinically severe presentations. This study also investigated the specific mechanisms involved in the depression identification and response process with different levels of depression severity. In addition, the current research also isolates the specific factors most related to under-rating and under-responding to a student with severe depression, which provides essential information for training and program development.

A key step in developing targeted programming and policy for improving university mental health is to identify a clear description of the problem (The Jed Foundation and

Education Development Center, 2011). The current research provides an essential assessment of the university-specific needs that will enable future strategic planning. By collecting objective data about the scope and patterns of the university community's ability to support and link students to appropriate resources, this study yields some important conclusions to guide future policy, programming, and training.

**Contributions to the Literature**

Given the relative infancy of the mental health literacy body of research, the current study advances the literature and adds nuance to the broad conceptual understanding of what encompasses mental health literacy. For example, the current study highlights an important difference in the operationalization of mental health "recognition." As discussed previously, past mental health literacy studies have often operationalized mental illness recognition as whether or not people can correctly label a disorder. However, the use of a continuous severity rating appears to provide more nuanced information about how we judge severity of a mental health concern. In other words, mental health literacy research is moved forward by refining the tools of identifying degree instead of presence or absence of a concern.

Second, the current results captured an important distinction between depression recognition and response, which have been confounded in some previous mental health literacy research. The results indicate that a) recognition is a major influence in how someone responds and b) there are different predictors of recognition and response. Both of these factors are clearly complex and warrant additional study to advance their understanding in the context of mental health literacy.

## Implications and Future Directions

Given the findings that laypeople in the campus community over-rate depression severity compared to trained clinicians, and may make referrals reflective of the perceived severity, there appears to be the potential for an abundance of identification and referral of at-risk students. Improving the precision of referrals would entail substantial time and resources, given that it requires laypeople to be trained to the level of paraprofessionals. In addition, the danger of encouraging the campus community to raise their threshold for concern may dissuade people from referring students who are actually at risk. Rather, this over-detection appears better served by ensuring that critical services, policies and procedures, and institutional commitment are in place to support the high demand. For example, at the individual level, it would be essential that sufficient mental health services and staff are available to assess, triage, manage, and respond to the referrals. At the administrative level, involvement of key stakeholders and campus leaders is needed to continually oversee efforts to evaluate how the community is utilizing the services, whether their needs are being met, and how to triage students with more or less severe needs.

Nonetheless, despite the apparent robust identification and response tendencies of the campus community, the results of the current research indicate that there are still individuals who under-rate depression severity and under-respond when faced with a suicidal student. Given limited resources, it seems wise to focus future training and outreach efforts on men in the community, as gender was a significant predictor of both under-rating and under-responding with the most severely depressed vignette. Although there was no finding that highlighted a deficit within a particular campus role, prior research supports a focus on male students in particular. Previous studies (e.g., Drum et al., 2009) indicate that two-thirds of

students who disclosed suicidal ideation first chose to tell a peer; therefore, to avoid missing any potentially life-threatening situations, it appears important to focus on training male students about identifying and responding to their peers. Moreover, other data indicates that a majority of students (64%) who have received treatment for suicidal ideation report that encouragement from others was a key motivator for them to seek help (Downs & Eisenberg, 2012). The value of direct encouragement from a peer highlights the opportunity for trained students to have a deeper and more enduring impact on campus suicide prevention.

Attending a Distressed Students training proved to be an impressive predictor of who would respond with more intensity to the highest severity vignette. This data support the utility and effectiveness of the training. It is noteworthy that attending a Distressed Students training is the easiest method of improving response compared to the other significant predictors identified (i.e., having a friend or family with mental health issues, having job experience, and gender). The results of other similar gatekeeper training programs, which are designed to train people on identifying and referring people in distress, indicate some promising outcomes. However, similar to vignette studies, it is unclear how these gatekeeper training programs are translating to actual behavior (Eisenberg, Hunt, & Speer, 2012).

Future research would also benefit from gathering more qualitative information to supplement the quantitative survey data gathered in the current study. Data gathered from focus groups and interviews with students, staff, and faulty would add depth to our current understanding of the variables relevant to how individuals recognize and respond to depressed students.

Overall, the growing landscape of college mental health continues to remain a developing and dynamic field. Future developments may include a shift from devoting

resources primarily to identifying and referring the most severe students, to cultivating a broader and more public health-oriented, prevention-focused approach (Drum et al., 2009). By adopting a university-wide effort to promote mental health awareness and prevention, it is hoped that the welfare and psychological wellbeing of every student could benefit.

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# Appendix A

*Lowest severity vignette*

Alex is a 19 year-old undergraduate student at your school. Once in a while, Alex feels sad and hopeless, although Alex more often has periods of normal mood. Alex intermittently has a poor appetite and has difficulty falling asleep. Alex is sometimes less interested in doing things Alex previously enjoyed and is less motivated to do school work, but is still able to go to class and concentrate on school assignments. Alex's friends have not noticed any change in Alex.

*Moderate severity vignette*

Alex is a 19 year-old undergraduate student at your school. Alex has been feeling unusually sad and miserable for the last few weeks. Even though Alex is tired all the time, Alex has trouble sleeping nearly every night. Alex doesn't feel like eating and has lost weight. Alex cannot concentrate on school work and puts off making any decisions. Even day-to-day tasks seem too much for Alex. This has come to the attention of Alex's friends, who are concerned about how Alex is doing.

*Highest severity vignette*

Alex is a 19 year-old undergraduate student at your school. Nearly every day for the last few weeks, Alex has been feeling unusually sad and miserable. Even though Alex is tired all the time, Alex has trouble sleeping nearly every night. Alex doesn't feel like eating and has lost weight. Alex cannot concentrate on school work and puts off making any decisions. Even day-to-day tasks seem too much for Alex. Alex's friends are concerned because Alex has made statements to them like, "I would be better off dead." Alex feels Alex will never be

happy again and believes Alex's family would be better off without Alex. Alex has been so desperate, Alex has been thinking of ways to commit suicide.

Appendix B

Qualitative responses to, "Why did you select 'Do nothing/Ignore it'" asked to participants shown the moderate or highest severity vignette.

| | | |
|---|---|---|
| 1 | Graduate student | As a graduate student, I know very few undergrads, and feel little connection to them as a community. Unless Alex was a student in my class, or someone I was already friends with, I would feel uncomfortable approaching a stranger and discussing the deeply personal issue of their mental health. |
| 2 | Undergraduate | Because I feel at one point or another this is the majority of students at UCSB |
| 3 | Undergraduate | Because if he was a random person I most likely wouldn't take the time to hear that he has these issues |
| 4 | Undergraduate | cultural norms |
| 5 | Undergraduate | Depends what you mean 'encountered': if I just saw him on campus, I would do nothing. If we were hanging out together and he expressed his feelings to me, I would provide some counselling and advice. |
| 6 | Staff | I consciously minimize my contact with students. |
| 7 | Undergraduate | I don't interact with people I don't know. |
| 8 | Undergraduate | I don't know him |
| 9 | Undergraduate | I probably wouldn't notice anything g wrong, and if I did I wouldn't know what to do to really help. |
| 10 | Undergraduate | I would not be aware of any problem if I just "encountered" him. |
| 11 | Undergraduate | if he is not a close friend of mine, I would not try and get involved with a stranger's problems |
| 12 | Graduate student | If I don't really know Alex, it would be hard for me to advise Alex: it would feel like I was "out of bounds". |
| 13 | Graduate student | It depends on how well I know him and how frequently I see him. I don't want to misinterpret his behavior as depressed and offend him in any way, although I realize that the risk of offending him is worth ensuring he is in a good mental state. |
| 14 | Staff | It depends on my role with Alex and how comfortable I would feel talking to him. |
| 15 | Graduate student | It would depend on context. I would never ignore or do nothing if "Alex" came directly to me. However the prompt doesn't list how I've come to know so much about Alex, most of this would not become apparent through normal teaching duties without some outreach on the part of the student. Very likely I wouldn't even notice a situation like this without Alex coming directly to me. I'm not sure how I would respond if it was Alex's friends coming to me. |
| 16 | Undergraduate | It would depend on our relationship. |
| 17 | Undergraduate | My own priorities and commitments may take precedence. |

| | | |
|---|---|---|
| 18 | Undergraduate | That is one option I may do, assuming the specific circumstances. Sometimes I don't want to be around others who will tax and drain me emotionally. Other times, I'm very eager to help just by being a pleasant energy |
| 19 | Undergraduate | That Shit Happens. I'm supposed to know what the Fuck to do about it? |

Table 1

*Mean Behavioral Response Intensity Ratings Given by Mental Health Clinicians*

| Possible responses to the vignette | *M* | *SD* | Weight |
|---|---|---|---|
| Doing nothing/ignoring it[a] | 1.05 | 0.33 | 1 |
| Encouraging the person to do more activities[b] | 2.22 | 0.95 | 2 |
| Spending time or socializing with the person[b] | 2.24 | 1.04 | 3 |
| Encouraging self-help[b] | 2.65 | 0.79 | 4 |
| Providing practical support, giving advice or information[b] | 2.84 | 1.07 | 5 |
| Encouraging the person to seek medical help[b] | 2.95 | 1.05 | 6 |
| Listening and talking to the person, providing emotional support[b] | 3.30 | 1.41 | 7 |
| Encouraging the person to seek counseling[b] | 3.38 | 0.79 | 8 |
| Contacting the counseling center[a] | 4.00 | 1.18 | 9 |
| Telling a supervisor or trusted authority[a] | 4.05 | 0.94 | 10 |
| Accompanying the person to professional help[b] | 4.68 | 1.06 | 11 |
| Contacting distressed student response/campus administration[a] | 4.70 | 0.94 | 12 |
| Contacting police/ambulance[a] | 5.59 | 0.90 | 13 |

*Note*. Behavioral Response Intensity Ratings ranged from 1-6.
$N = 37$.
[a]Responses generated by the dissertation committee. [b]Responses from Reavley et al. (2012).

Table 2

*Demographics of the Total Sample and the Participants Shown the Highest Severity Vignette*

| | | Percentage | |
|---|---|---|---|
| | | Total Sample | Highest Severity Vignette |
| | | ($N$ = 1,625) | ($n$ = 566) |
| Age | | | |
| | 18 | 10.7 | 9.1 |
| | 19 | 10.2 | 13.4 |
| | 20 | 12.9 | 12.3 |
| | 21 | 11.8 | 12.9 |
| | 22 | 6.7 | 5.4 |
| | 23-29 | 21.5 | 20.5 |
| | 30-39 | 11.8 | 10.1 |
| | 40-49 | 3.9 | 5.8 |
| | 50-59 | 6.8 | 7.3 |
| | 60-73 | 3.7 | 3.2 |
| Gender | | | |
| | Women | 69.4 | 70.9 |
| | Men | 28.9 | 27.0 |
| | Other | 1.6 | 2.1 |
| Ethnicity | | | |
| | Black/African-American | 1.9 | 1.8 |
| | Asian American | 18.3 | 19.2 |
| | Multiracial | 1.5 | 2.0 |
| | Latino/a | 17.0 | 16.2 |
| | Middle Eastern | 0.8 | 1.1 |
| | Native American | 0.4 | 0.7 |
| | White | 59.2 | 57.7 |
| | Other | 0.9 | 1.3 |
| Role | | | |
| | Undergraduate | 59.5 | 58.1 |
| | Graduate student | 15.1 | 16.9 |
| | Faculty | 24.0 | 23.4 |
| | Staff | 1.4 | 1.6 |
| Highest Level of Education | | | |
| | Some high school | 0.5 | 0.2 |
| | High school/GED | 10.6 | 10.2 |
| | Some college | 47.0 | 48.7 |

| | | | |
|---|---|---|---|
| | Bachelors degree | 15.7 | 15.3 |
| | Some graduate work | 8.7 | 9.5 |
| | Masters degree | 14.0 | 12.8 |
| | Doctoral degree | 3.4 | 3.3 |
| Mental health related job | | | |
| | Yes | 12.9 | 12.8 |
| | No | 87.1 | 87.2 |
| Had family or friend with a mental illness in last 3 years | | | |
| | Yes | 50.7 | 48.3 |
| | No | 49.3 | 51.7 |
| Have you ever had a mental illness | | | |
| | Yes | 26.2 | 27.2 |
| | No | 54.3 | 55.0 |
| | I'm not sure | 19.5 | 17.8 |
| Attended Distressed Students Training | | | |
| | Yes | 16.8 | 15.5 |
| | No | 83.2 | 84.5 |

Table 3

*Percentage Distribution of Depression Ratings for Each Vignette*

| Depression Rating (1-10) | Lowest Severity Vignette ($n$ = 546) | Moderate Severity Vignette ($n$ = 513) | Highest Severity Vignette ($n$ = 566) |
|---|---|---|---|
| 1 | 0.7% | 0.2% | 0.0% |
| 2 | 2.7% | 0.0% | 0.2% |
| 3 | 8.0% | 0.4% | 0.0% |
| 4 | 11.3% | 0.4% | 0.2% |
| 5 | 25.1% | 5.4% | 1.5% |
| 6 | 17.0% | 4.1% | 1.4% |
| 7 | 21.8% | 14.2% | 2.9% |
| 8 | 9.7% | 30.1% | 9.5% |
| 9 | 2.8% | 26.4% | 19.7% |
| 10 | 0.9% | 18.9% | 64.9% |

Table 4

*Percentage of Participants Selecting Possible Behavioral Responses to the Vignettes*

| Possible responses to the vignette | Response Weight | % of Participants | | |
|---|---|---|---|---|
| | | Lowest Severity Vignette ($n$ = 546) | Moderate Severity Vignette ($n$ = 513) | Highest Severity Vignette ($n$ = 566) |
| Doing nothing/ignoring it | 1 | 7% | 3% | 1% |
| Encouraging the person to do more activities | 2 | 38% | 39% | 37% |
| Spending time or socializing with the person | 3 | 56% | 50% | 48% |
| Encouraging self-help | 4 | 30% | 32% | 31% |
| Providing practical support, giving advice or information | 5 | 46% | 47% | 47% |
| Encouraging the person to seek medical help | 6 | 25% | 56% | 67% |
| Listening and talking to the person, and providing emotional support | 7 | 79% | 83% | 86% |
| Encouraging the person to seek counseling | 8 | 53% | 76% | 80% |
| Contacting the counseling center | 9 | 8% | 26% | 41% |
| Telling a supervisor or trusted authority | 10 | 7% | 19% | 34% |
| Accompanying the person to professional help | 11 | 18% | 38% | 47% |
| Contacting distressed student response/campus administration | 12 | 6% | 22% | 39% |
| Contacting police/ambulance | 13 | 1% | 1% | 4% |

*Note*. Percentages do not add up to 100%, as participants could select multiple responses.

Table 5

*Descriptive Statistics for Depression Rating and Behavioral Response Intensity Rating*

| | Depression Rating | | Highest Response Weight | | Weighted Sum | |
|---|---|---|---|---|---|---|
| Vignette Severity | M (SD) | Actual Range (Potential Range) | M (SD) | Actual Range (Potential Range) | M (SD) | Actual Range (Potential Range) |
| Lowest ($n$ = 546) | 5.67 (1.71) | 1-10 (1-10) | 7.85 (2.54 ) | 1-13 (1-13) | 21.31 (14.30) | 1-77 (1-91) |
| Moderate ($n$ = 513) | 8.21 (1.42) | 1-10 (1-10) | 9.44 (2.38) | 1-13 (1-13) | 32.10 (16.66) | 1-87 (1-91) |
| Highest ($n$ = 566) | 9.37 (1.10) | 2-10 (1-10) | 10.26 (2.25) | 1-13 (1-13) | 39.23 (18.34) | 1-88 (1-91) |

Table 6

*Bivariate Correlations for Behavioral Response Intensity Rating, Depression Rating, Anxiety Rating, and Eating Disorder Rating*

| | | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|
| 1 | Highest Response Weight | -- | | | | |
| 2 | Weighted Sum | .81** | -- | | | |
| 3 | Depression Rating | .46** | .46** | -- | | |
| 4 | Anxiety Rating | .21** | .24** | .44** | -- | |
| 5 | Eating Disorder Rating | .23** | .28** | .40** | .40** | -- |

*Note.* N = 1,625
** $p < .01$.

Table 7

*Spearman Correlations for Vignette Severity, Behavioral Response Intensity Rating, Depression Rating, Anxiety Rating, and Eating Disorder Rating*

| | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| 1 Vignette Severity | - | | | | | |
| 2 Highest Response Weight | .42** | - | | | | |
| 3 Weighted Sum | .42** | .87** | - | | | |
| 4 Depression Rating | .75** | .47** | .48** | - | | |
| 5 Anxiety Rating | .38** | .23** | .25** | .44** | - | |
| 6 Eating Disorder Rating | .34** | .23** | .28** | .38** | .40** | - |

*Note*. N = 1,625
** $p < .01$.

Table 8

*Summary of Regression Analyses for Variables Predicting Depression Rating and Behavioral Response Intensity in the High Severity Vignette*

| | Depression Rating | | | | Behavioral Response Intensity | | | |
|---|---|---|---|---|---|---|---|---|
| Variable | *B* | SE B | β | *t* | *B* | SE B | β | *t* |
| I don't know if I have ever had mental illness | -0.07 | 0.13 | -0.03 | -0.55 | 0.25 | 2.15 | 0.01 | 0.12 |
| I have had mental illness | 0.08 | 0.12 | 0.03 | 0.72 | -2.48 | 1.93 | -0.06 | -1.29 |
| Age | 0.01 | 0.01 | 0.05 | 0.74 | -0.08 | 0.09 | -0.06 | -0.88 |
| Gender | -0.42 | 0.11 | -0.18** | -4.05 | -6.37 | 1.73 | -0.16** | -3.69 |
| Level of education | 0.02 | 0.05 | 0.03 | 0.38 | -1.35 | 0.87 | -0.10 | -1.55 |
| Graduate Student | 0.14 | 0.18 | 0.05 | 0.74 | 2.78 | 3.05 | 0.06 | 0.91 |
| Faculty and/or Staff | 0.07 | 0.22 | 0.03 | 0.31 | 4.13 | 3.56 | 0.10 | 1.16 |
| Had mental health related job | -0.30 | 0.14 | -0.09* | -2.18 | 5.26 | 2.29 | 0.10* | 2.29 |
| Had family or friend with mental illness | 0.14 | 0.10 | 0.06 | 1.38 | 3.58 | 1.66 | 0.10* | 2.16 |
| Ever attended UCSB Distressed Students training | 0.14 | 0.14 | 0.05 | 0.98 | 6.25 | 2.35 | 0.13** | 2.66 |
| Adjusted $R^2$ | | 0.05 | | | | 0.07 | | |
| *F* | | 3.93** | | | | 4.81** | | |

*$p$ < .05. **$p$ < .01.
*Note.* $n$ = 566.

Figures

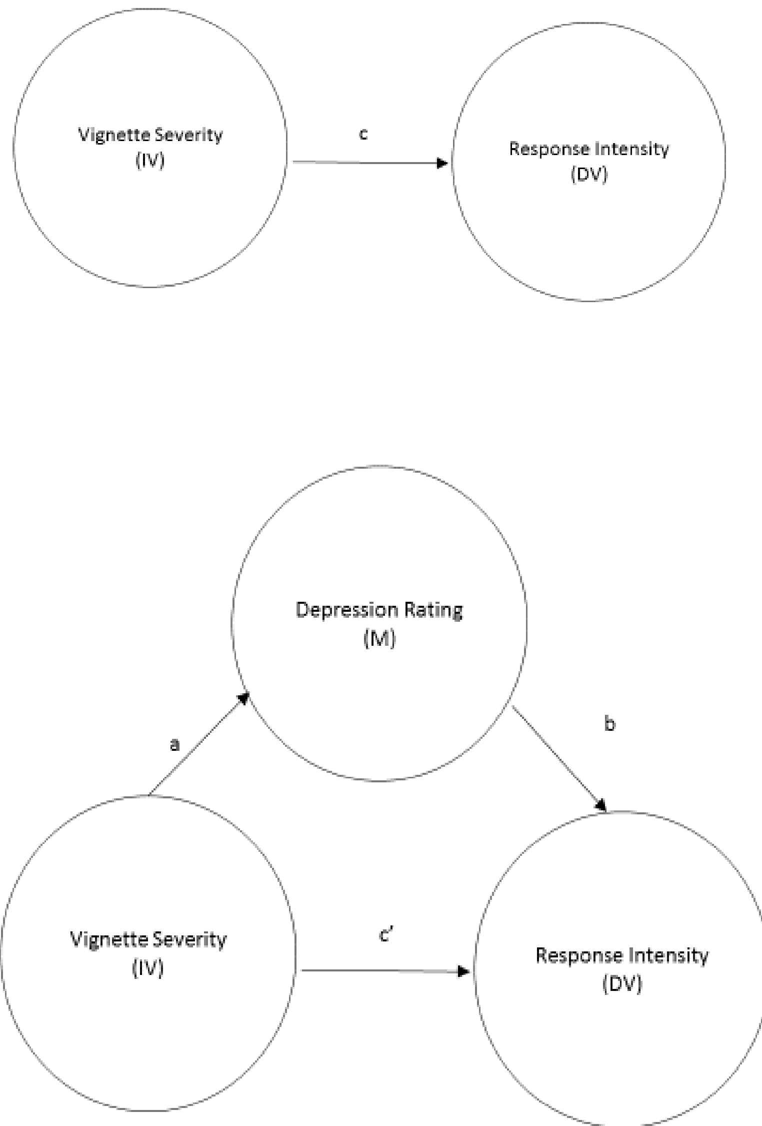


*Figure 1.* Proposed Mediation Analysis.

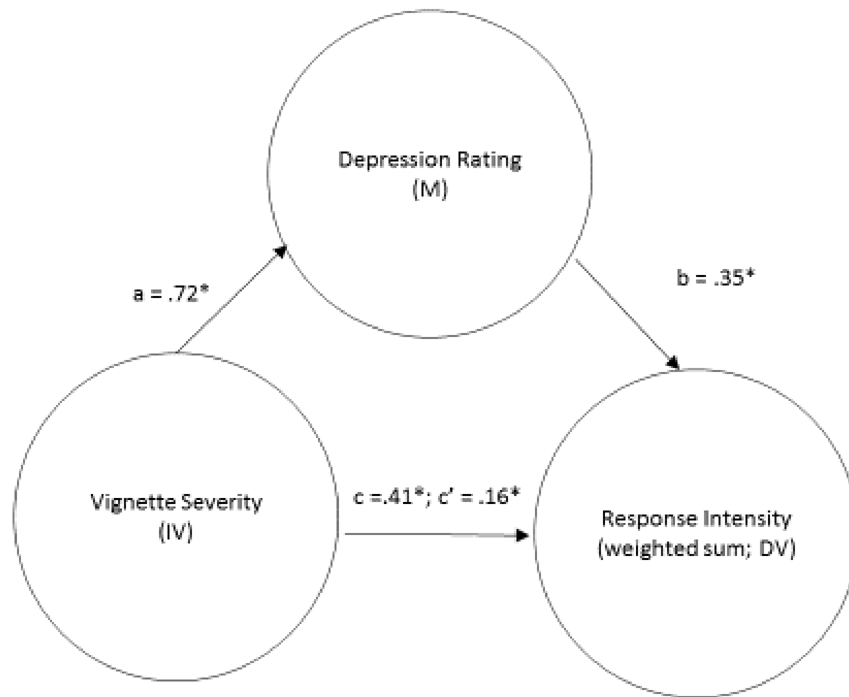


*Figure 2.* Mediation Model with Standardized Beta Coefficients using Weighted Sum as Behavioral Response Intensity Measure.

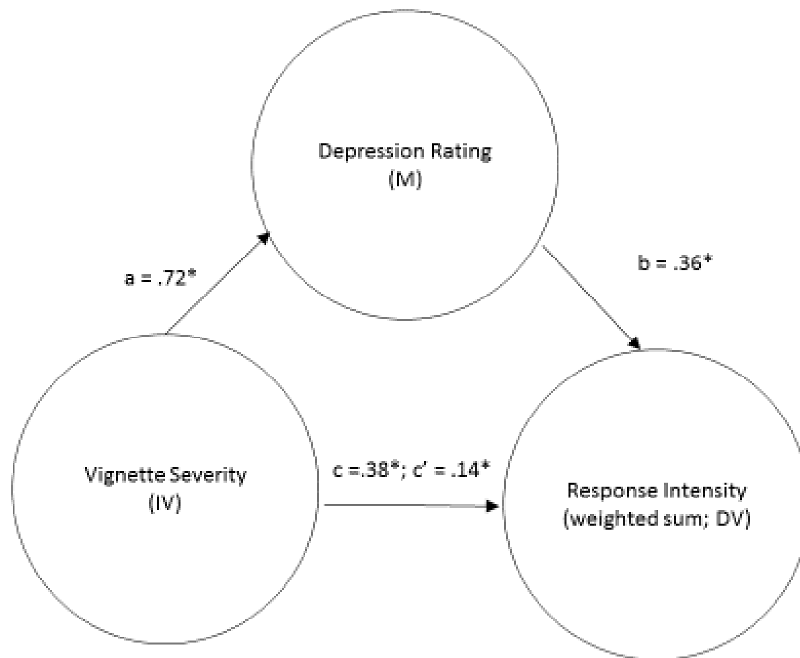


*Figure 3.* Mediation Model with Standardized Beta Coefficients using Highest Response Weight as Behavioral Response Intensity Measure.

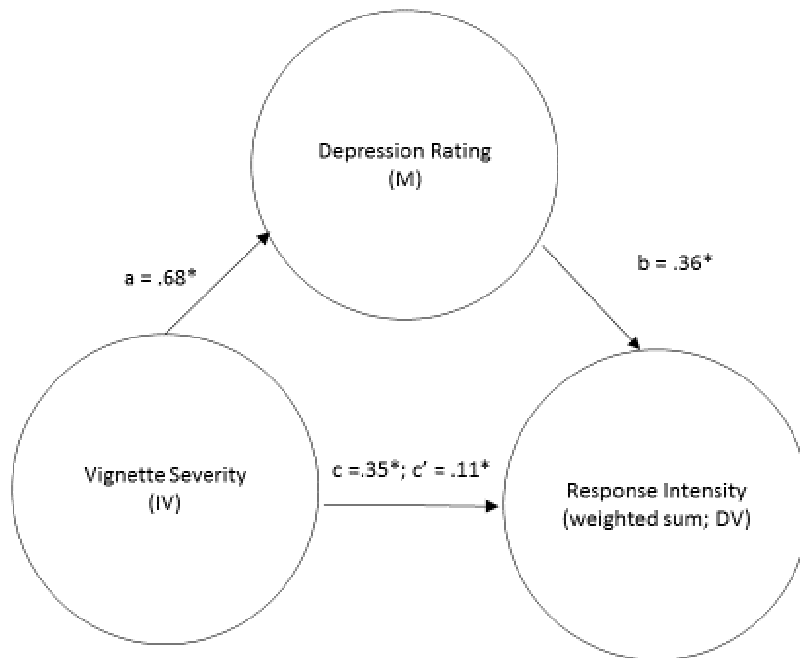


*Figure 4.* Mediation Model with Standardized Beta Coefficients with Undergraduate Sample.

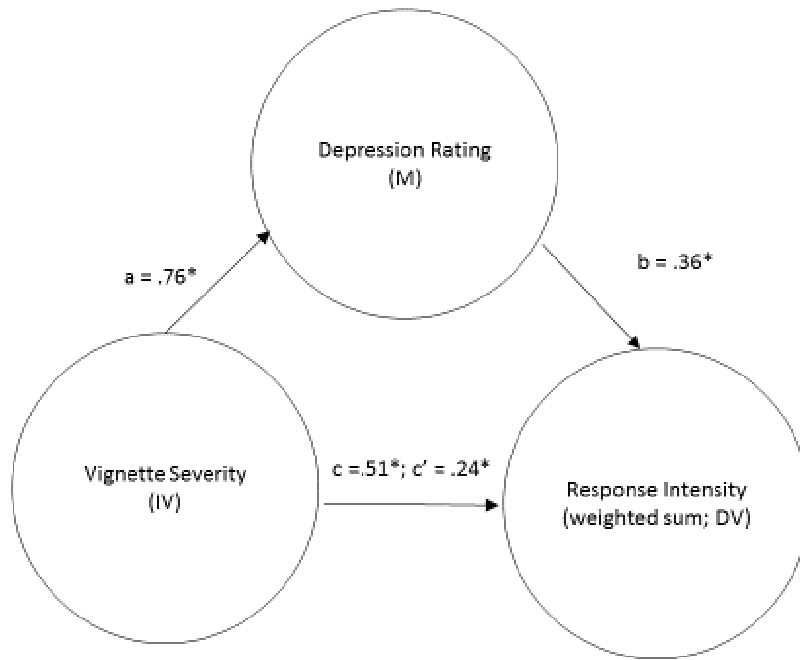


*Figure 5.* Mediation Model with Standardized Beta Coefficients with Graduate Student Sample.

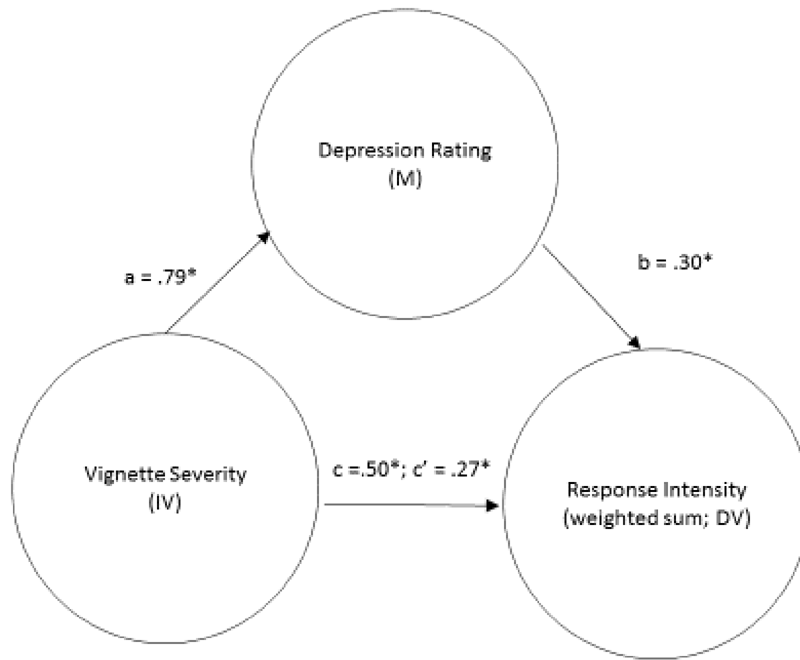


*Figure 6.* Mediation Model with Standardized Beta Coefficients with Faculty and Staff Sample.