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**EDUCATIONAL EXPECTATIONS AND SERIOUS MENTAL ILLNESS AMONG
MIDLIFE WOMEN**

A Thesis in
Sociology and Demography

by
Kelsey Shaulis

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The thesis of Kelsey Shaulis was reviewed and approved by the following:

Michelle L. Frisco
Professor of Sociology and Demography
Department Head
Thesis Advisor

Sarah Damaske
Professor of Sociology, Labor and Employment Relations, and Women's Studies

Jeremy Staff
Professor of Sociology, Criminology, and Demography

David Baker
Professor of Sociology, Education, and Demography
Director of the Graduate Program in Sociology

ABSTRACT

The prevalence of serious mental illness (SMI) is rising among midlife adults in the United States. Recent supporting evidence uncovers gender differences in overall prevalence and an unexpected relationship with education. For the current midlife cohort, women were the driving force behind growing postsecondary enrollment during a time of rapid change to the educational landscape. Using data from High School & Beyond, the present study explores the relationship between exceeded adolescent educational expectations and midlife SMI among women. For women in the HS&B sophomore cohort, exceeding expectations is significantly associated with increased odds of experiencing SMI in midlife compared to those who met their educational expectations. This study provides new insight into the relationship between misaligned educational expectations and SMI through the extension of analyses into midlife, consideration of exceeded expectations as a category for misalignment, and focus on women.

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Chapter 1

Introduction

Recent reports indicate an increase in a wide range of mental health concerns in the United States, including mood and anxiety disorders. From 1994 to 2017, evidence of rising despair cut across racial, gender, education, and geographic groups (Gaydos et al. 2019). While the prevalence of mental illness and serious mental illness is rising for all ages, for adults aged 50 and older, serious mental illness (SMI) has reached its highest prevalence since 2008 (SAMHSA 2021). In particular, middle-aged adults in the United States are exhibiting more severe mental health symptoms than prior midlife cohorts – a finding that is presently unique to the United States (Infurna et al. 2021). Midlife is most commonly regarded as the period of adulthood from age 40 to 65 (Lachman 2004). As SMI becomes an increasingly pressing health concern for midlife adults, examination of the underlying factors that contribute to its growing prevalence is needed.

Mirroring associations with physical health outcomes, educational attainment has gained attention as a factor of interest in examining disparate mental health outcomes. Higher levels of educational attainment have been linked to lower levels of depressive symptoms, lower rates of suicide, and lower rates of other psychological distress (Lee et al. 2013; Mandemakers and Monden 2013; Nguyen et al. 2017; Phillips and Hempstead 2017; Schieman and Koltai 2017). Yet, for those aged 50 and older, significant increases in SMI prevalence break this trend. In this age group, individuals with some college education or higher exhibit significant prevalence increases from 2005 to 2015 while those with a high school degree or less do not (Weinberger et al. 2018).

Educational variance in SMI among adults in midlife is particularly salient for women. Although postsecondary enrollment rose across U.S. adults regardless of their gender, race/ethnicity, or socioeconomic status, women's enrollment in higher education doubled from 1940 to 1980 (Fischer and Hout 2006). This rise in attainment developed alongside a rapid increase in educational expectations among young girls, particularly those living in disadvantaged households, beginning in 1970 (Jacob and Linklow 2011; Kets de Vries 2005; Lehmann 2014). The increase in educational access created greater opportunity for women to exceed their adolescent educational expectations and perhaps create a divergence from their families' socioeconomic origin.

Entrance into new educational and subsequent career environments that diverge from an individual's family socioeconomic origin or perceptions of gender roles in academic and professional spaces may lead to imposter syndrome (Kets de Vries 2005; Lehmann 2014). Similar to the gendered prevalence of SMI, women are more likely to report imposter syndrome beliefs than men (Cusack, Hughes, and Nuhu 2013). Further, imposter syndrome is associated with symptoms of SMI including anxiety, mood changes, and negative emotions (Leonhardt, Bechtoldt, and Rohrman 2017). As a result, among the cohort of midlife women, exceeding adolescent educational expectations may provide insight into their growing prevalence of SMI.

In sum, for the current midlife cohort, women were the driving force behind growing enrollment in various types of postsecondary education (Fischer and Hout 2006; Goldin 1999; Goldin, Katz, and Kuziemko 2006). Relatedly, recent evidence of rising levels of SMI among midlife adults in the United States uncovers gender differences in prevalence and an unexpected relationship with education (Almeida and Fletcher 2022; Infurna et al. 2021; Seeman 2010; Weinberger et al. 2018). Given the changes in the educational landscape that occurred in youth and adolescence for women who are currently in midlife, misaligned educational expectations offer a view into how women's relationship with education may have led to unexpected

achievement that was not uniformly protective against SMI (Infurna et al. 2021; Weinberger et al. 2018).

The present study explores this relationship between exceeded adolescent educational expectations and midlife SMI among women. To date, research on adolescent educational expectations and adult mental health outcomes has focused primarily on missed expectations for all adults and has found little evidence of a theorized negative association. In light of midlife women's higher prevalence of SMI and educational gains, this study's focus on exceeded expectations among midlife women advances prior work on misaligned expectations and mental health in three main ways: 1) focusing on exceeded expectations as a category of misalignment; 2) focusing attention on women; and 3) extending the adult follow-up period to midlife. Results offer insight into gender-specific relationships between education and SMI that contribute to a growing literature on the disproportionate burden of SMI among women in midlife.

Chapter 2

Background

Prevalence of Serious Mental Illness

Over 5% of adults in the United States live with serious mental illness (SMI). General mental illness is any disorder that affects an individual's thoughts, mood, or behavior (SAMHSA 2022). When a mental illness interferes with or limits at least one major life activity, it is classified within the subcategory of SMI. The most common SMIs include major depressive disorder, bipolar disorder, and schizophrenia (SAMHSA 2022). As of 2020, the prevalence of SMI for adults aged 50 and older was 3.4% - the highest level of SMI in this age group since 2008 (SAMHSA 2021).

The prevalence of SMI is nearly twice as high among women (7%) than men (4%) (SAMHSA 2021). During puberty through age 18, mood disorders, such as depression, increase substantially in girls to about twice the prevalence of boys. This gap in prevalence persists throughout midlife and into late life (Kuehner 2017). As women age, their prevalence of any mood disorder (including major depressive disorder), anxiety disorder (phobia, posttraumatic stress disorder, anxiety, panic disorder), and comorbid disorders remains higher than the prevalence among men (Byers et al. 2010). In particular, after age 40, women are significantly more likely to develop SMI, such as bipolar disorder and schizophrenia, than men (Seeman 2010). The initial onset, episode recurrence, increase in severity, and decline in response to medication are all observed to be more prevalent during midlife in women than in men (Seeman 2010). The stigma associated with mental health among women and their tendency to wait longer

to seek treatment after symptoms arise compared to men (four years versus one) may contribute to their higher prevalence of SMI (Almeida and Fletcher 2022).

As the prevalence of SMI among those aged 50 years and older increased from 2005 to 2015, the increase in prevalence was not equal across educational attainment. Significant prevalence increases are recorded among those with some college and college graduates, but are not observed among those with a high school degree or less (Weinberger et al. 2018). Increased education is often associated with better mid-life health outcomes (Lee et al. 2013; Lynch 2003; Ross and Wu 1996). Generally, higher levels of education are associated with lower levels of a variety of mental health symptoms (Lee et al. 2013; Mandemakers and Monden 2013; Nguyen et al. 2017; Phillips and Hempstead 2017; Schieman and Koltai 2017). However, the returns to education for mental health are not always linear or universal (Cayuela et al. 2015; Schieman and Koltai 2017). As the gender gap in educational attainment has reversed, with more women enrolling and completing higher education than men, the protective effect of education on mental health for women is predicted to decrease (Delaruelle, Buffel, and Bracke 2018). The increasing prevalence of SMI in postsecondary education categories may support this predicted decrease in protection.

Growth in Women's Postsecondary Enrollment and Educational Expectations

Since the 1980s, women have enrolled in higher education in greater numbers than their male counterparts (Goldin 1999). The narrowing of the gender gap in college enrollment and graduation is attributed to increases for women, rather than decreases among men (Fischer and Hout 2006; Flashman 2013; Goldin 2006; Goldin et al. 2006). Modest increases in women's achievement and preparation contributed to the growth (Flashman 2013). However, how women responded to their achievement and took advantage of new pathways into college expedited the

growth. A main contributing factor to the change in response to achievement is the expansion of the two-year to four-year college pathway (Fischer and Hout 2006; Flashman 2013). Women disproportionately took advantage of the two-year to four-year pathway to college in a pattern that is not observed among men during the same period (Flashman 2013).

Similar to the trend in the expansion of enrollment in higher education, from the 1970s to the 2000s, rising educational expectations grew faster among women than men (Jacob and Linklow 2011). These increases did not occur uniformly. Young girls living in disadvantaged households exhibited the most rapid rise in expectations compared to young boys from similar households (Jacob and Linklow 2011).

Misaligned Expectations

The rapid changes in women's educational expectations and postsecondary enrollment fostered an environment for misaligned expectations. Broadly, misaligned expectations are expectations that do not fit with other life goals or levels of ability. When a student is misinformed or unprepared to meet their expectations, their expectations are labeled misaligned (Schneider and Stevenson 1999). Within this definition, and across the literature of misaligned expectations, misalignment refers exclusively to missed expectations (Cundiff 2017; Reynold and Baird 2010; Schneider and Stevenson 1999). Arguably, misinformation and over preparedness for originally low expectations can also contribute to a misalignment on the opposite end of the spectrum – exceeded expectations.

The theorized danger of misaligned expectations (limited to missed expectations) on mental health has received considerable attention in large part due to the United States' "college for all" mentality that appears misaligned with educational access and attainment. In 2015, nearly 76% of high school sophomores in the United States expected to complete a college degree

(OECD 2016). However, in the same year, only 22% of adults aged 25 and older health a bachelor's degree or higher (U.S. Census Bureau 2021). Theoretical observations predict that unattained educational goals result in adverse mental health outcomes, including depression, anxiety, and self-doubt (Dannefer 1984; Higgins 1987, 1989; Morgan 2004; Walker and Pettigrew 1984). However, empirical research has been unable to confirm these theoretical predictions for missed expectations and adverse mental health outcomes (Reynold and Baird 2010).

Given the shift in educational expectations for women and their rising educational attainment, misaligned expectations in the form of exceeded expectations may offer insight into women's increasingly high prevalence of SMI in midlife. The extraordinary growth in women's postsecondary enrollment and subsequent entry to the workforce followed an evolution in women's decision-making and long-term expectations (Goldin et al. 2006). As available workplace expectations for women began to shift, high school-aged girls started to invest more heavily in their academic achievement, college enrollment, and workforce preparation (Goldin 2006). These changes throughout high school may have led women to unexpectedly exceed their adolescent expectations and attain higher levels of educational and workplace success than was once imaginable. In alignment with recent theoretical observations of imposter syndrome, if these unexpected achievements diverged from their family origins and adolescent understandings of gender roles, they may be associated with the higher prevalence of SMI observed among women in midlife.

Imposter Syndrome

Initially, the evidence of protective effects of educational attainment on mental health coupled with women's gains in educational attainment would lead to expectations that higher

levels of education would result in a universally beneficial effect on mental health symptoms. Nevertheless, the prevalence of imposter syndrome among high achieving women suggests that unexpectedly overachieving could have unforeseen consequences for mental health. Imposter syndrome is characterized by a lack of internalization of success despite concrete evidence of accomplishment such as degrees, credentials, and professional recognition (Clance and Imes 1978). The tendency to attribute success to external circumstances rather than personal ability or talent results in feelings of being an imposter or fake (Langford and Clance 1993). Fears of being unable to live up to a successful public image, and consequently being exposed as an imposter, have been associated with a variety of adverse mental health outcomes. Clinical research on feelings of impostorism has found significant correlations with depression (Chrisman et al. 1995), anxiety (Ross et al. 2001), lower expectations of success (Thompson, Davis, and Davidson 1998), and psychosis (Lester and Moderski 1995).

In alignment with early imposter syndrome literature, a recent study of professionals confirmed that those with higher levels of imposter syndrome experience more anxiety, dysphoric moods, and negative emotions than those with lower imposter concerns (Leonhardt et al. 2017). However, these adverse mental health associations do not only apply to individuals in traditional pathways through the highest levels of education and professional careers. For example, women who return to college at a non-traditional age have expressed concerns that their success results from lower expectations of them compared to their peers rather than their own ability (Parkman 2016). Even among high school students who have not yet entered into higher education or the workforce, higher feelings of impostorism have been significantly associated with prior suicidal ideation, psychoticism, neuroticism, irrational thinking, and manic and depressive tendencies (Lester and Moderski 1995). The observation of significant relationships between imposter syndrome and adverse mental health outcomes in a variety of educational contexts suggests that

contrary to original observations, imposter syndrome is not exclusive to only the highest levels of education and professional settings.

Originally observed among women in postsecondary education and professional careers, Clance and Imes (1978) first referred to the trait as the imposter phenomenon to proactively combat mental health stigmatization of women. Although imposter syndrome has since been observed in men and women (Bravata et al. 2020; Lehmann 2014), women are more likely to report imposter beliefs and exhibit stronger symptoms than men (Cusack et al. 2013; Kets de Vries 2005; McGregor, Gee, and Posey 2008). Early psychological research on imposter syndrome focused on the need to consider family dynamics and societal gender roles in the syndrome's development. Clance and Imes (1978) focused on the ways in which gender stereotyping could contribute to the development of imposter syndrome in their first study on women in professional occupations. Following the phenomenon's emergence, an exploration of family background was encouraged to provide insight into family pressures that lead a child to aim at pleasing others for approval (Langford and Clance 1993). However, recent research has suggested that a divergence between successful positions in adulthood and family origins or the family of origin's perception of gender roles could promote feelings of impostorism (Kets de Vries 2005; Lehmann 2014). Together, women's adolescent educational expectations and their attainment in midlife may offer insight into the divergence of family origin and gender role perception in adolescence compared to their standing in midlife.

Current Study

This study explores the association between exceeding educational expectations and SMI among women in midlife. SMI is defined as scoring a total of 13 or greater on the Kessler

Psychological Distress Scale which measures self-reported feelings of nervousness, hopelessness, restlessness, worthlessness, effort, and depression, and has been clinically validated as a screening tool for SMI (Kessler et al. 2003, 2010). Midlife data from the High School and Beyond (HS&B) sophomore cohort is used to examine the association between exceeded adolescent educational expectations and SMI among women who are approximately 50 years old. Members of the sophomore cohort began their participation in the survey during their sophomore year of high school in 1980. Given the rising educational expectations, educational attainment, and SMI prevalence among women over the past four decades, the HS&B sophomore cohort can provide new insight into the relationship between misaligned expectations and mental health outcomes that has typically been analyzed within ten years of an expected high school graduation.

I begin with descriptive analyses of the study sample who completed the long-form questionnaire in the HS&B midlife follow-up in 2014-15. Logistic regression models are then used to estimate the likelihood of having SMI given a specific condition of educational expectation alignment (missed, met, or exceeded). In alignment with imposter syndrome literature and the rising prevalence of SMI in midlife, I predict that exceeding adolescent educational expectations is associated with an increased likelihood of experiencing SMI in midlife among women in the HS&B cohort.

Chapter 3

Data and Methods

Data

To explore the relationship between misaligned educational expectations and SMI among women in midlife, I use data from the restricted-use version of the 1980 HS&B study and its 2014-15 midlife follow-up. The original sophomore cohort included 28,240 sophomore students, 8,790 of whom participated in the 2014-15 midlife follow-up.¹ Of these sample members, approximately 3,710 participated in the 2014-15 long form questionnaire that included questions about SMI and 2,010 were women. Among female respondents, 420 had missing data on at least one study covariate. To retain these cases, I multiply imputed missing data using chained equations to create ten imputed data sets. The final sample study includes 2,010 complete female cases. 2014-15 HS&B midlife follow-up panel weights are applied to adjust for unit nonresponse, initial selection, and panel attrition (Muller et al. 2019).

Measures

I measure SMI, the study's dependent variable, using the Kessler Psychological Distress Scale (K6+), a 6-item self-report measure of psychological distress that has been validated as an assessment for serious mental illness in the general population (Kessler et al. 2003, 2010). The

¹ All unweighted sample sizes have been rounded to the nearest 10, as required by the NCES restricted data license.

2014-15 HS&B midlife follow-up long-form questionnaire includes the K6 items, which measure self-reported feelings of nervousness, hopelessness, restlessness, worthlessness, effort, and depression within the past month. Each item includes responses coded from zero to four (0 = None of the time, 1 = A little of the time, 2 = Some of the time, 3 = Most of the time, and 4 = All of the time). The scale can be used as a count of adverse mental health symptoms or condensed into a dichotomous variable indicating the presence or absence of SMI. For this study, I dichotomize it using a score of 13 or more to indicate SMI (1=yes) in line with previous research that has validated this cut-off in clinical settings (Kessler et al. 2003, 2010).

Misaligned educational expectations is my primary independent variable. It is measured using a series of three dummy variables indicating whether individuals completed less education than expected (missed expectations), what they expected (met expectations=reference), or more education than they expected (exceeded expectations). It is constructed by comparing 1980 reports of educational expectations and the highest degree HS&B sample members earned by 2014. Measures of educational expectations and attainment are both composed of five equivalent categories indicating whether HS&B sample members earned: less than a high school degree, a high school degree or equivalency, some college, an associate's or vocational degree, a four-year college degree, or a graduate or professional degree.

Because misaligned expectations can occur at varying levels of attainment (i.e., expected a high school degree but earned a college degree; expected a professional degree but earned a high school degree), I include five dummy variables constructed from 2014-15 HS&B midlife data to measure educational attainment as a separate independent variable (reference = less than a high school degree).

I control for a measure of 1980 depression to account for its long-term consequences for later life mental health (Copeland et al. 2021; Johnson et al. 2018) and educational attainment (Breslau et al. 2008; Simson, Brekke, and Hardoy 2021; Wickersham, Dickson, et al. 2021;

Wickersham, Sugg, et al. 2021). The measure is a self-reported rank of the frequency of feeling depressed or unhappy (0 = Never, 1 = Once, 2 = Several times, 3 = A lot). I dichotomize the measure to represent having ever experienced feeling depressed or unhappy (=1) versus never experiencing the feeling of depression.

Other control variables account for sociodemographic background, cognitive ability, and non-cognitive skills, which are all measured in adolescence. Respondent's self-identified race is dichotomized as white (=1) and nonwhite due to sample size constraints. Family socioeconomic status in 1980 is an HS&B constructed variable. It is a continuous composite measure that sums standardized values of father's occupation and education, mother's education, family income, and material possessions that is centered at 0 and ranges from -3 to 3. I use the 1980 sophomore math standardized test scores as an indicator of academic achievement because of its strong correlation with educational attainment (Lee et al. 2008; Thompson et al. 2006) and skills (Alexander and Pallas 1984; Grogger and Eide 1995; Murnane, Willett, and Levy 1995). The 1980 math standardized test included 38 items to measure skills in basic numeracy, algebra, and geometry (Rock et al. 1985). Test scores range from 25 to 69 and are condensed into quartiles. Locus of control serves as a measure of noncognitive skill in adolescence that reflects the extent to which students feel that they control their destinies. The measure is a composite scale of four questions regarding perceived internal control (Rotter 1966). The scale results in a continuous standardized score that is centered at 0 and ranges from -3 to 3. As indicated by a higher locus of control score, a higher level of perceived control is associated with fewer mental health symptoms (Awaworyi Churchill et al. 2020, Yu and Fan 2016).

I also control for midlife employment status, job satisfaction, and health status. Employment status (1 = yes) is a dichotomous measure of employment as of the interview in 2014. The Employed (1=yes) category includes those who are currently working for pay and do not report retirement or disability. These categories were collapsed due to the small number of

individuals who are retired or disabled. Employment has been found to have a robust positive relationship with mental health (Murphy and Athanasou 1999).

Job satisfaction is based on responses to a 5-item Likert scale that ranges from being very dissatisfied to very satisfied with a respondent's current or most recent job in 2014-15. The measure is then dichotomized into an indicator of dissatisfaction (1 = yes) because it is associated with adverse mental health and psychological concerns (Faragher, Cass, and Cooper 2005).

Lastly, self-assessed health is a self-reported measure from the 2014-15 questionnaire that indicates whether respondents perceive their health to be poor, fair, good, very good or excellent. I dichotomize it to compare those with excellent or good health (= 1) to those with fair or poor health.

Method

I begin with descriptive analyses of the study sample followed by bivariate analysis of misaligned educational expectations and SMI. I then use logistic regression models to estimate the relationship between misaligned expectations and SMI. The first model includes misaligned expectations, educational attainment, and depression in adolescence. The second model adds adolescent race, family socioeconomic status, standardized mathematics test scores, and locus of control to Model 1. The third model then incorporates midlife employment status, job satisfaction, and self-assessed health into Model 2. Lastly, predicted probabilities of experiencing SMI are calculated following the estimation of the third logistic regression model. All analyses are weighted and corrected for design effects.

Chapter 4

Results

Results in Table 1 indicate the percentage of women with SMI in the study sample is 3.4%. The prevalence of SMI among women in the study sample is lower than that of women in the general United States population as a result of the level of education among sample members. Similar to the trend in the general population, SMI prevalence is highest among study sample members who dropped out of high school (8.0%). Given that the survey collection began in respondents' sophomore year of high school, the sample does not include those who drop out prior to sophomore year. In 1982, the normative year for high school graduation in this cohort, the dropout rate for women was 13.3% (Chapman et al. 2011).

The women's expectations, attainment, and alignment are consistent with the trend of growth in women's enrollment in postsecondary education. Less than half of the women's educational attainment at midlife was aligned with their adolescent educational expectations. While 37% of women missed their expectations, nearly one quarter of women had exceeded their adolescent expectations. Overall, more women attained a four-year college degree by midlife (26.1%) than was expected in 1980 (22.6%). Additionally, 61.4% of women attained some level of postsecondary education by midlife.

In addition to their SMI and educational characteristics, the majority of women reported at least one occurrence of feeling depressed in adolescence (80.6%) and 88.1% of women reported their general health to be good or better in midlife. In adolescence, the women's standardized math scores fell above the 50th percentile on average and their mean locus of control score fell close to the scale's center of zero. In midlife, the women are likely to be employed for pay (77.3%) and satisfied with their current job (88.4%).

Table 1. Descriptive Statistics

N	2,010
2014 Serious Mental Illness (weighted percent)	
Yes	0.034
No	0.966
Expectation Alignment (weighted percent)	
Met	0.400
Missed	0.371
Exceeded	0.233
1980 Educational Expectations (weighted percent)	
< HS	0.018
High School	0.231
Voc/Assoc/Some College	0.335
College	0.226
Graduate or Professional	0.189
2014 Degree (weighted percent)	
< HS	0.033
High School	0.353
Voc/Assoc/Some College	0.232
College	0.261
Graduate or Professional	0.121
1980 Depression (weighted percent reporting once or more)	0.806
Health Status (weighted percent good or better)	0.881
Math Score Quartile (weighted mean)	2.442
1980 Locus of Control Scale (weighted mean)	0.092
1980 Composite Family SES (weighted mean)	-0.108
Employment Status (weighted percent employed for pay)	0.773
Job Satisfaction (weighted percent dissatisfied)	0.116
Nonwhite (weighted percent)	0.236

SOURCE: U.S. Department of Education, National Center for Education Statistics, High School & Beyond, 1980, 1992, 2015

The bivariate analysis of misaligned educational expectations and SMI prevalence (Table 2) shows the SMI prevalence within the three categories of alignment: missed, met, and

exceeded. Women who exceeded their educational expectations have the highest prevalence of SMI (3.9%). Their prevalence is nearly twice that of those who missed their expectations (2.0%). The most common alignment category is meeting expectations with an SMI prevalence of 2.6%. Additional detail on SMI prevalence within levels of alignment (i.e., expecting high school and attaining college) can be found in Appendix A.

Table 2. Bivariate Analysis of SMI Prevalence by Expectation Alignment

Expectation Alignment	SMI Prevalence
Missed	0.020
Met	0.026
Exceeded	0.039

Table 3 reports results from three logistic regression models that estimate the relationship between misaligned educational expectations and SMI. Estimates from Model 1 suggest that women are significantly more likely to experience SMI in midlife if they have exceeded their educational expectations compared to having met their expectations. In this limited model, the odds of experiencing SMI at midlife are more than six times higher for women who have exceeded their expectations versus met them, while holding their level of educational attainment and adolescent depression constant. In this model, earning any educational credential also reduces the odds of SMI in midlife relative to not earning a high school degree. Depression in adolescence is not related to SMI in midlife. The lack of relationship between depression in adolescence and SMI in midlife may be attributable to the higher likelihood of midlife onset of SMI among women (Seeman 2010), as well as the lower severity of symptoms captured by the adolescence measure.

The addition of variables indicating adolescent sociodemographic background, math test scores and locus of control into Model 2 slightly reduces the odds of experiencing SMI in midlife among those who have exceeded their expectations. When added individually to the model,

Table 3. Odds Ratios of Experiencing Serious Mental Illness in Midlife among Women

	Model 1		Model 2		Model 3	
N	2,010		2,010		2,010	
	OR	Se	OR	se	OR	se
1980 Educational Expectations (vs. Met)						
Missed	0.808	(0.539)	1.428	(1.085)	1.904	(1.606)
Exceeded	7.406	(5.180) **	6.693	(4.685) **	5.533	(4.009) *
2014 Degree (vs. <HS)						
High School	0.103	(0.067) **	0.114	(0.077) **	0.084	(0.077) **
Voc/Assoc/Some College	0.091	(0.061) **	0.151	(0.120) *	0.112	(0.105) *
College	0.017	(0.014) **	0.043	(0.046) **	0.102	(0.121) +
Graduate or Professional	0.005	(0.006) **	0.014	(0.020) **	0.084	(0.125) +
1980 Depression (Vs. Never)	2.724	(2.471)	2.993	(2.555)	3.615	(3.176)
Nonwhite			0.315	(0.198)	0.235	(0.158) *
1980 Composite Family SES			0.520	(0.241) +	0.515	(0.226)
Math Score			0.957	(0.267)	0.772	(0.287)
1980 Locus of Control Scale			0.615	(0.284)	0.918	(0.392)
Employment Status (Employed For Pay)					0.223	(0.108) **
Job Satisfaction (Dissatisfied)					5.268	(2.915) **
Health Status (Good/Very Good/Excellent vs. Fair/Poor)					0.051	(0.024) **

+ < .10; * < .05; ** < .01

SOURCE: U.S. Department of Education, National Center for Education Statistics, High School & Beyond, 1980, 1982, 1986, 1992, 2015

family socioeconomic status contributes the largest reduction in the magnitude of odds of experiencing SMI. However, these measures are not significantly related to SMI within Model 2.

When I add midlife employment status, job satisfaction and self-assessed health to Model 3, the odds of experiencing SMI for women in midlife remain high and significant for those who exceed their educational expectations. However, the odds are reduced slightly in comparison to the two prior models. Of note, degree attainment at the college level and higher become marginally significant predictors of midlife SMI.

The predicted probabilities for experiencing SMI in midlife were calculated following the estimation of the third logistic regression model and are presented in Tables 4, 5, and 6. Table 4 presents the predicted probabilities for SMI in midlife for each level of educational expectation alignment (met, missed, and exceeded). Those who exceeded their educational expectations have the highest predicted probability of experiencing SMI at 0.012. The predicted probabilities of experiencing SMI for each level of 2014-15 degree attainment are presented in Table 5. Women who have less than a high school degree have the highest predicted probability of midlife SMI (0.040) and are followed by women who have completed at least some college, an associate's degree, vocational degree, or college degree (0.005). Women with a high school degree or a graduate or professional degree have equivalent predicted probabilities of SMI at 0.003. Lastly, Table 6 includes the predicted probabilities for each level of 2014-15 degree attainment by educational expectation alignment. In general, women with less than a high school degree have the highest predicted probabilities of midlife SMI. However, among women with a high school degree or greater, those who exceeded their educational expectations have the highest predicted probabilities of SMI regardless of degree level.

Table 4. Predicted Probabilities of SMI for Expectation Alignment

Predicted Probability of SMI	
Met	0.002
Missed	0.004
Exceeded	0.012

SOURCE: U.S. Department of Education, National Center for Education Statistics, High School & Beyond, 1980, 1992, 2015

Table 5. Predicted Probabilities of SMI for 2014-15 Degree Attainment

Predicted Probability of SMI	
< High School	0.040
High School	0.003
Voc/Assoc/Some	
College	0.005
College	0.004
Graduate or Professional	0.003

SOURCE: U.S. Department of Education, National Center for Education Statistics, High School & Beyond, 1980, 1992, 2015

Table 6. Predicted Probabilities of SMI for 2014-15 Degree Attainment by Expectation Alignment

Predicted Probability of SMI (Alignment by Attainment)			
	Missed	Met	Exceeded
< High School	0.040	0.022	
High School	0.004	0.002	0.010
Voc/Assoc/Some College	0.005	0.002	0.013
College	0.004	0.002	0.012
Graduate or Professional		0.002	0.010

SOURCE: U.S. Department of Education, National Center for Education Statistics, High School & Beyond, 1980, 1992, 2015

Sensitivity analyses were conducted using the continuous Kessler Psychological Distress Scale score which ranged from 0 to 24. I estimated three models of a negative binomial regression for the continuous Kessler scale that align with the three logistic regression models. The results of this analysis can be found in Appendix B. While exceeding expectations has a small positive relationship with the scale score, it does not reach significance at the .10 level in the third model. Additionally, having experiencing depression at the 1980 baseline survey is

significantly positively related to the scale score which is not true in the relationship to SMI in the logistic regression models. These differences may be a result of the difference in severity in the included measures of mental health. The 1980 measure of depression may be more associated with unit increases at the lower end of the Kessler Psychological Distress Scale due to similar, more mild levels of symptom severity versus the transition from low or mild mental illness to serious mental illness as measured in the dichotomous variable for SMI.

In sum, the odds of experiencing SMI are consistently and significantly higher for women who exceeded their educational expectations relative to women with aligned educational expectations. These results align with the bivariate analysis that demonstrates a higher prevalence of SMI among women who exceeded their educational expectations compared to women who met or missed their expectations. While adolescent and midlife characteristics may reduce the magnitude of the association, they do not explain the total effect nor impact the overall significance.

Chapter 5

Discussion

This study examines the association between misaligned educational expectations and SMI among women in midlife. As SMI is currently at its highest prevalence of the past decade among those ages 50 and older, understanding contributing factors is a pressing concern for the wellbeing of midlife adults. Given that the prevalence of SMI among women is nearly twice the prevalence among men, and that little is known about the gender-specific relationship between misaligned educational expectations and SMI, particularly in midlife, this study focused exclusively on women.

For women who belonged to the high school class of 1982, the landscape of educational expectations and educational attainment for women in the United States was rapidly changing in their early life course years. The availability of college expanded, and more opportunities were available for women to seek education beyond high school. For their mothers, increased labor demand led to increased opportunities to join the workforce, but with limited opportunity for advancement. As the women of this cohort observed the rapidly increasing labor force participation of married women, they were better positioned to tailor their education to career-oriented goals. However, as they continued to come of age, the increased availability of contraceptives and increased age at first marriage allowed women to extend their education and place career preparation ahead of marriage (Goldin 2006). As such, female high school students may have understated educational expectations and later exceeded them with respect to attainment. I posited that this could have had unforeseen consequences for mental health given what is known about imposter syndrome among women in higher education and professional environments (Clance and Imes 1978; Langford and Clance 1993; Parkman 2016).

For women in the HS&B sophomore cohort, exceeding expectations is significantly associated with increased odds of experiencing SMI in midlife compared to those who met their educational expectations. Among women who exceeded their educational expectations, the highest prevalence of SMI is concentrated among women who expected to receive a high school degree, but attained at least some college, an associate's degree, vocational degree, or college degree. This observation may be related to the uniquely gendered role of the two-year to four-year degree pathway among women in this cohort.

While the significance of exceeding educational expectations for SMI in midlife may support aforementioned theories of imposter syndrome alone, the added significance of job satisfaction may provide additional support for imposter syndrome in midlife. Within Model 3, the odds of experiencing SMI are nearly five times higher for women who express job dissatisfaction than for those who do not. While this result is large and significant, it does not diminish the relationship between the expectation alignment and SMI.

Individuals with imposter syndrome have experienced decreased job satisfaction over time (Bravata et al. 2020). In an analysis of determinants of job satisfaction for male and female workers, education and social background were found to be more important components for women's job satisfaction than for men. Specifically, higher education has a stronger negative association with job satisfaction for women (Miller 1980). As a result, even though women may be less likely to report low levels of job satisfaction, when they do report negatively, it may be meaningfully connected to their education and feelings of imposture. Given its large effect on SMI despite expectation alignment, job dissatisfaction should be considered as a direction for future research.

This study provides new insight into the relationship between misaligned educational expectations and SMI through the extension of analyses into midlife, focus on exceeded expectations as a category for misalignment, and focus on women. To date, much of the research

on the mental health consequences of misaligned expectations have been constrained to missed expectations and follow up outcomes measured while students were still within a normative age for completion of a college degree (Cundiff 2017; Kao and Tienda 1998; Mello 2009; Reynold and Baird 2010). Given the rising prevalence of SMI beyond age 50, the midlife study sample can illuminate new patterns in the relationship between misaligned expectations and SMI.

Approximately 60% of the original HS&B cohort members enrolled in formal education between the ages of 28 and 50 (Grotsky and Doren 2015). The inclusion of new education credentials for those in the midlife follow up have the potential to capture a new dynamic within the relationship between misaligned expectations and mental health. Beyond the extension of the follow-up period, recognizing exceeding expectations as a misalignment category offers novel insight into the development and consequences of misaligned expectations. Study results show that prior assumptions of exceeding expectations operating similarly to met expectations may suppress the effects of misalignment, especially among subgroups vulnerable to adverse experiences in higher education and professional environments. The focus on midlife women who experienced a shifting educational and professional landscape illustrates the importance of acknowledging the potential for adverse outcomes associated with unexpected achievement.

Chapter 6

Limitations

While this study provides new evidence for a potentially adverse relationship between misaligned expectations and SMI, there are limitations. One limitation and area for future research is the inability to formally test the role of imposter syndrome in the relationship between misaligned expectations and SMI. The theoretical basis of imposter syndrome provides a framework to understand the association between exceeded expectations and SMI. However, future research should aim to test components of imposter syndrome empirically. Further, although the study sample includes women who dropped out of high school, it is likely that this group is underrepresented due to the collection of data in schools. Women who dropped out of high school prior to their sophomore year are not included and may have a higher likelihood of experiencing SMI. Additionally, race categories were collapsed into the dichotomy of white and nonwhite due to small sample sizes. Lastly, the applicability of the results is limited to the cohort of women currently in midlife.

Chapter 7

Conclusion

Despite study limitations, highlighting the relationship between adverse mental health outcomes and exceeded expectations among women in midlife has implications for future research on misaligned expectations in changing social environments. Presently, the negative relationship between unexpected achievement and SMI provides new insight into the rising prevalence of SMI among midlife adults, particularly women, in the United States. Renewed attention to the relationship between misaligned expectations (including exceeding) and mental health, should be considered in future research with the availability of midlife data. The large proportion of adults returning to education beyond a normative age and the increasing prevalence of SMI necessitates a follow up period beyond a normative timeline for degree completion.

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Appendix A

1980 Educational Expectations by 2014-15 Attainment with SMI Prevalence

Educational Expectations 1980	Highest Degree 2014					
	<HS	HS	Associate's, Vocational, Some College	College	Graduate or Professional	Total
< HS	<10	10	Estimates suppressed	Estimates suppressed	Estimates suppressed	20
Weighted Row %	29.17	45.83				
SMI Prevalence		0.00				
HS	20	140	60	20	<10	250
Weighted Row %	6.2	58.2	26.23	6.15	3.28	
SMI Prevalence	0.27	0.04	0.11	0.07		
Associate's, Vocational, Some College	<10	190	160	140	60	550
Weighted Row %	0.54	34.05	28.49	25.99	10.93	
SMI Prevalence		0.04	0.01	0.03	0.00	
College	<10	90	60	220	120	490
Weighted Row %	0.41	18.24	12.09	44.47	24.80	
SMI Prevalence		0.01	0.00	0.00	0.01	
Graduate or Professional	<10	70	50	200	160	480
Weighted Row %	0.21	15.05	10.31	41.03	33.40	
SMI Prevalence		0.00	0.04	0.00	0.00	
Total	30	500	330	580	350	1,790
	1.56	28.07	18.68	32.13	19.57	

SOURCE: U.S. Department of Education, National Center for Education Statistics, High School & Beyond, 1980, 1982, 1986, 1992, 2015

Appendix B

Negative Binomial Regression of Educational Expectations on 2014 Serious Mental Illness (SMI) among Women

	Model 1		Model 2		Model 3	
	Coef	Se	Coef	se	Coef	Se
N	1,600		1,600		1,600	
1980 Educational Expectations (vs. Met)						
Missed	-0.066	(0.123)	-0.029	(0.122)	0.069	(0.088)
Exceeded	0.167	(0.095)	0.168	(0.098)	0.138	(0.088)
2014 Degree (vs. <HS)						
High School	-0.399	(0.309)	-0.421	(0.307)	-0.417	(0.278)
Voc/Assoc/Some College	-0.454	(0.315)	-0.474	(0.318)	-0.338	(0.286)
College	-0.622	(0.313)	-0.630	(0.328)	-0.412	(0.298)
Graduate or Professional	-0.886	(0.325)	-0.879	(0.342)	-0.527	(0.308)
1980 Depression (Vs. Never)	0.359	(0.093)	0.359	(0.092)	0.358	(0.090)
Nonwhite			-0.164	(0.113)	-0.159	(0.097)
1980 Composite Family SES			0.051	(0.065)	0.013	(0.056)
Math Score			-0.008	(0.042)	0.001	(0.037)
1980 Locus of Control Scale			-0.117	(0.064)	-0.035	(0.062)
Employment Status (Employed For Pay)					-0.373	(0.089)
Job Satisfaction (Dissatisfied)					0.308	(0.116)
Health Status (Good/Very Good/Excellent vs. Fair/Poor)					-0.813	(0.105)

+ < .10; * < .05; ** < .01

SOURCE: U.S. Department of Education, National Center for Education Statistics, High School & Beyond, 1980, 1982, 1986, 1992, 2015