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Using data from the 1999 wave of the National Longitudinal Survey of Young Women (NLS-YW), this study examined the relationship between income and selfreported depressive mood in a national sample of 772 unmarried women aged 45 to 58. ANCOVA was used to compare depressive mood among three U. S. Census-based income groups (lower, middle, and higher) net of the effects of race and self-rated health. Mean levels of depressive mood did not vary significantly between women in the lower and middle-income groups, but were significantly lower in the higher-income group. Additionally, a series of multiple regression analyses was used to predict depressive mood in the total sample and the three income groups from nine sources of income, net of the effects of race, health, and total income. In the total sample, women who had income from labor had significantly lower levels of depressive mood than those not in the work force. Women who received alimony and hardship payments had significantly higher levels of depressive mood than those without income from these sources. Similar but distinct patterns emerged for the three income groups.

## HOUSEHOLD INCOME AND DEPRESSIVE MOOD

## AMONG SINGLE WOMEN IN MIDLIFE:

## A NUANCED APPROACH ACROSS

## ECONOMIC STRATA

by

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## CHAPTER I

### INTRODUCTION

Although the relationship between women's economic resources and psychological well-being has long been of interest to social science researchers, inconsistencies in the academic literature suggest that the specific mechanisms linking household monetary measures to individual outcomes are not fully understood (Easterlin & Schaeffer, 1999; Furnham & Argyle, 1998; White & Rogers, 2000). Robust studies chronicled families' experiences of the Great Depression and Midwestern farm crisis and produced a seminal body of literature linking financial hardship and depressive symptoms in married women with young and adolescent children (Conger & Elder, 1994; Elder, 1999). More recently, the experience of economic stressors has been examined in broader populations of women, particularly those living in poverty (for a review see Belle & Doucet, 2003). Building on this research, the current investigation used data from the 1999 wave of the National Longitudinal Survey of Young Women (NLS-YW) to extend the literature by further exploring the relationship between income levels and sources and depressive mood in an early baby boom cohort of single women in midlife.

This investigation had two goals. First, the widely reported relationship between women's household income and self-reported depressive mood was examined across three economic strata (lower, middle, and higher) in a large, diverse sample of unmarried women aged 45 to 58. Although unmarried women in midlife represent a burgeoning

demographic whose economic disadvantages relative to men's and married women's are well-documented (Meyer, 1996; Ross, Mirowsky & Goldsteen, 1990), the literature reflects few studies that explore how single women's limited financial resources might be associated with their well-being in the middle years. Because women in midlife often appraise their past financial accomplishments and financially plan for retirement (Woods & Mitchell, 1997), these women may manifest a particular economic sentience that is observable in their psychological well-being. The literature also reflects a paucity of interest in the relationship between income and depressive mood in women who are not in economic crisis, although there is evidence of a graded association of economic status and psychological well-being (Adler, Boyce, Chesney, Cohen, Folkman, Kahn, & Syme, 1994). Indeed, women of all income strata experience economic stressors periodically (for a review see White & Rogers, 2000), but vary in the personal, social, and community resources thought to moderate the effects of economic stressors on psychological wellbeing (Barrera, Caples, & Tein, 2001; Belle & Doucet, 2003; Ennis, Hobfoll, & Schroder 2000). Thus, the relationship between income and depressive mood may be different for women in lower, middle, and higher-income strata.

Secondly, this investigation explored nuances in the relationship between single women's income and depressive mood in midlife. Specifically, economists' behavioral life-cycle hypothesis (Shefrin & Thaler, 1988) was used to test the relationship between categories of income distinguishable by their sources and women's self-reported depressive symptoms in the total sample and in three income groups defined by U. S. Census-based income terciles. Although variation in psychological well-being among

women with inadequate levels of total income has been the subject of extensive inquiry, this investigation instead focused on how women's depressive mood might vary as a function of sources of income. In short, this study asked whether dollars of income from different sources have different effects on women's psychological well-being and how this relationship might vary across income groups.

## The Individual Life Course Paradigm

This study was grounded in the individual life course paradigm, an interdisciplinary contextual lens that views individuals as actively constructing meaning in their life experiences (for reviews see Elder, 1995; Goldhaber, 2000). Four life course themes are central to this investigation. First, the life course paradigm views individual lives as a product of socio-historical time. In this study, household income composition was examined in an early baby boom cohort of single women distinguishable from previous cohorts in both their economic and family formation opportunities. Secondly, the life course paradigm views events as significantly related to their timing in individuals' lives. In this study, women's organization of household income in midlife may have uniquely reflected events characteristic of the middle years, including the culmination of labor force participation and transition to retirement. Thirdly, the life course perspective posits that lives are interdependent, particularly among family members. In this cohort of unmarried women, reports of marital separation, divorce, and death of a spouse underscore the significance of linked lives. And lastly, the life course paradigm recognizes the significance of human agency. Because the life course

perspective views individuals as making planned selections among available resources in ways that critically reflect their conceptualization of these resources (Goldhaber, 2000), this study focused on categories of income as an example of how dollars of income might be conceptualized.

## The Behavioral Life-cycle Hypothesis

The conceptualization of income was informed by the behavioral life-cycle hypothesis, a theoretical perspective introduced by economists Shefrin and Thaler (1988) to explain micro-economic anomalies. This perspective posits that individuals' economic behaviors reflect a cognitive categorization of dollars that is similar to the physical organization of traditional household accounts. In short, cognitive processes may segregate funds into categories between which there is little substitutability, and this cognitive organization of dollars may reflect the various sources of income (for reviews see Belsky & Gilovich, 1999; Winnett & Lewis, 1995). In this study, the categorization of dollars of income according to their sources informed the life course perspective to permit a more nuanced exploration of the relationship between household income and psychological well-being in this cohort of single women in midlife.

In the following chapters, the empirical literature on single women's household income and depressive mood in midlife is reviewed, and the tentative literature on women's discrimination among dollars of income is discussed. Additionally, the NLS-YW survey data and the measures and analytic strategy used in this study are described. Lastly, the findings are presented and discussed, and suggestions for future inquiries are made.

## CHAPTER II

## REVIEW OF THE EMPIRICAL LITERATURE

Given enhanced economic opportunities outside of marriage and changing societal marriage patterns, women in the baby boom cohort are increasingly likely to be never married, divorced, or widowed for some part of midlife (Blau, 1998; Marks, 1995). Uhlenberg, Cooney, and Boyd (1990) used demographic trends to estimate that one-third of women born between 1955 and 1959 will be unmarried in their mid-fifties, and current measures are approaching these projections. According to U. S. Census Bureau data, among women between the ages of 45 and 54 in 2003, 8.7% were never married, 3.1% were widowed, and 20.9% were divorced or separated (Fields, 2003).

Although divorce rates decline over the life course, women's experience of divorce in midlife is not uncommon. Uhlenberg and colleagues (1990) used 1987 National Center for Health Statistics to analyze annual divorce rates between 1975 and 1985 and concluded that approximately one-fifth of divorces during that time involved women over the age of 40. Projecting divorce trends evident in these data, these researchers predicted that one in eight women will experience the dissolution of a first marriage during midlife. The likelihood of remaining single may increase for aging women in the baby boom cohort, as these women will confront a particular scarcity of suitable men, who typically prefer younger mates.

#### Single Women and Household Income in Midlife

This investigation focused on single women in midlife, because they represent a growing demographic that is distinguishable from other family groups on a number of key indicators of well-being, including household income. In its focus on women born between 1943 and 1953, this study also explored the midlife experiences of single women who were among the first generations to enjoy the benefits of the Women's Movement. Women in this cohort are more likely to pursue individual careers and attain financial independence than their predecessors (Fodor & Franks, 1990), and in a qualitative study of women born after World War II, financial successes and failures featured prominently in descriptions of significant midlife events (Woods & Mitchell, 1997). However, despite inarguable strides in women's economic opportunities, public earnings data suggest that single women's income remains inferior relative to same-aged men's and married women's. In highlighting this dual disparity, the need for understanding how single women's limited resources might be related to their psychological well-being is underscored.

### Women's Income Relative to Men's

Researchers have consistently demonstrated that women are more economically vulnerable than men across the adult life course (for a review see Estes, 2004). Women's inferior wages in midlife reflect two factors. First, women are disadvantaged by their inconsistent participation in the workforce. Secondly, although the wage gap between women and men narrowed in recent decades, women who remain consistently in the workforce continue to earn less than men. The Bureau of Labor Statistics (2003)

reported that in 2002, earnings for full-time employed women rose to only 78% of earnings for comparably employed men. In a study of single parents in the middle years, Meyer (1996) found that although women in midlife have higher earnings than younger single women, single mothers remain more economically vulnerable than single fathers.

Although the middle years may be characterized by a culmination of career successes, midlife is often associated with early retirement, and single women's retirement income is sharply inferior to men's (Gregoire, Kilty & Richardson, 2002). Women's inferior retirement income reflects two factors. First, because women enjoy diminished career earnings relative to men, women receive significantly smaller Social Security benefits (Gregoire et al., 2002). According to the Social Security Administration (2003), monthly Social Security benefits for retired women average only 77% of men's, and over one-half of retired women report Social Security as their sole source of income (Perkins, 1995). Among unmarried retired men, the larger monthly benefits comprise only 37% of total income; however, among unmarried retired women, the smaller monthly benefits represent 51% of total household income (Social Security Administration, 2003).

Secondly, women are less likely than men to benefit significantly from employersponsored and other private retirement plans (Gregoire et al., 2002). The Social Security Administration (2003) estimates that 31% of retired men, but only 18% of retired women, receive private pension benefits. Using the 1992 wave of the Health and Retirement Study, Johnson, Sambamoorthi, and Crystal (1999) explored gender differences in a detailed analysis of pension data on 3,834 full-time workers with pension coverage.

Among these workers, aged 51 to 61, men's median pension wealth was 76% greater than women's, and gender differences in wages and job tenure appeared to account for most of the observed differences.

Dietz, Carrozza, and Ritchey (2003) explored gendered behaviors in retirement planning using telephone survey data from 506 Ohio adult residents who were employed part-time or full-time. Consonant with prior research, women were found significantly less likely than men to participate in employer-sponsored plans. However, women were found equally likely to establish voluntary private plans despite their having less disposable income than men to earmark for retirement goals. These analyses suggest that gender differences in participation in employer-sponsored plans may reflect women's inferior occupational status and related limited eligibility for employer-sponsored plans, but not women's lack of financial self-efficacy.

### Single Women's Income Relative to Married Women's

Marriage is widely believed to economically benefit spouses by increasing household income and introducing a family economy of scale (Waite, 1995). Although the individual wage benefits associated with marriage accrue primarily to men (Waite, 1995), marriage economically benefits wives more than husbands (for a review see Ross, 1995). Because economic factors in midlife impact well-being in the later years, single women's economic disadvantages relative to married women's may cumulate in retirement (Brozowski, 2002; Vartanian & McNamara, 2002). Butrica and Iams (2000) used modeling data from the Social Security Administration to analyze retirement benefits for divorced women and projected an erosion of benefits among retiring women in the baby boom cohort, because these women have spent more years unmarried than previous cohorts.

Divorce and spousal bereavement are common precursors to poverty for women in the middle years (for a review see Morgan, 1993). According to Danziger and Gottschalle (1995), families headed by nonelderly women rose from 8.9% to 17.3% of households between 1949 and 1991; and, changes in family structure (primarily the growth in women-headed households) appears to explain more of the 1.8 percent increase in the overall poverty rate from 1973 to 1991 than any other demographic or economic factor. In a decade review of the literature, Amato (2001) noted that divorce poses particular economic risks to women. Divorced women are more economically vulnerable than women who are married or widowed (Uhlenberg et al., 1990), and for divorced women who do not meet the ten-year requirement for Social Security auxiliary benefits (benefits based on former husbands' earnings), the economic vulnerability of divorce is likely to extend beyond the productive years (Butrica & Iams, 2000). In sum, the empirical literature suggests that women are increasingly likely to be unmarried, and unmarried women are disadvantaged relative to married women and men during the productive years and in retirement.

#### Single Women and Depressive Mood in Midlife

There is a rich tradition of research examining women's depressive mood, the outcome of interest in this investigation. Across the adult life course, levels of depressive symptoms among women are widely reported to exceed those reported by men. In midlife, hormonal changes may contribute to the incidence of women's depressive mood.

Among premenopausal women, premenstrual exacerbation of depressive symptoms affects the majority of women suffering from a depressive disorder (Kornstein, Harvey, Rush, Wisniewski, Trivedi, Svikis, McKenzie, Bryan & Harley, 2005), and among perimenopausal and menopausal women in the middle years, declines in estrogen levels also elevate the risk of depression (University of Michigan Health System, 2004).

Previous studies have consistently reported higher levels of depressive symptoms among single women than those who are married (Earle, Smith, Harris & Longino, 1998; Ross et al., 1990). However, in a more nuanced approach to the study of women's marital status and depressive mood, only separated, divorced, and widowed women were found significantly more psychologically distressed (Marks, 1996). In this study of 3,684 women in midlife, never-married women's mental health reports were comparable to married women's. These findings may mirror in part the well-recognized stresses of midlife divorce and widowhood, transitions repeatedly linked to depressive symptoms in women (McDaniel & Coleman, 2003; Turner et al., 2004). Women may also be sensitive to their prospects for coupling; in a study of unmarried women middle-aged and younger, perceived lack of mate availability was associated with depressive mood among White and Latina women (Tucker & Mitchell-Kernan, 1998).

#### Women's Income and Depressive Mood

The literature on women's household income and depressive mood principally reflects a deficit model in which economic stressors, as variously defined and operationalized, have been associated with poor psychological outcomes. Consistent with other researchers' (Elder & Caspi, 1988; Voydanoff, 1990) distinctions among

economic stressors, this review focuses on (a) sustained inadequate levels of absolute household income, such as poverty, (b) economic hardship, an acute erosion of economic status resulting from the loss of income and an inability to meet current financial obligations, and (c) economic strain, a measure that combines objective indicators of economic stressors with more evaluative reports of financial inadequacy, including, for example, financial worries and behavioral adjustments.

In a review of the literature on selected women's disadvantages, Belle and Doucet (2003) concluded that poverty remains among the most significant predictors of clinical depression and self-reported depressive symptoms in women. Poor women suffer from a number of factors that contribute to depressive mood, including inconsistent nutrition, inadequate housing, political powerlessness, and uncontrollable life events. The challenges of living in poverty roughly double women's risk of depressive symptoms, and poor women's social networks do not appear to buffer their economic stressors (Belle & Doucet, 2003). Women whose household income measures are inadequate despite exceeding the poverty level have been associated with higher incidence of depressive mood, as well. In a quasi-experimental study, MacFadyen, MacFadyen, and Prince (1996) compared groups of mental health inpatients and outpatients with a control group and associated greater "economic risk" (a composite of measures including a number of household income factors) with significantly elevated levels of psychological distress, including clinical depression. Because household income was more discriminating than individual income in these analyses, these findings may also highlight the particular vulnerability of single women.

Although relatively little is known about economic hardship in women-headed households (Voydanoff, 1990), the relationship between married women's economic hardship and depressive mood is well established in the literature on families who experienced the Great Depression (for a review see Elder, 1999) or Midwestern farm crisis (for a review see Conger & Elder, 1994). Based on the evaluations of Depressionera women by researchers who visited in their homes, Elder (1999) linked the erosion of financial resources and incumbent loss of status to feelings of fatigue, insecurity, inadequacy, and dissatisfaction in women of all economic strata.

Because the literature reflects a distinction between chronic income inadequacy and acute economic hardship, Ennis and colleagues (2000) explored the relative effects of these economic stressors on women's psychological well-being. In these analyses, sustained economic stressors were operationalized by annual income, and acute economic stressors were operationalized by self-reported material losses in the most recent 90 days. Although enduring stressors are unquestionably difficult, Ennis and colleagues' findings suggest that the material losses associated with acute economic hardship are more strongly related to women's depression than chronic poverty. Ennis and colleagues posited that much of the difficulty of living in chronic poverty may reflect discrete stressful events that comprise acute economic hardship.

The construct of economic pressure, a dimension of economic strain, was introduced in research on families in the Midwestern farm crisis to explain the path by which economic hardship leads to depressive mood (Conger & Elder, 1994). In a selected review of longitudinal research on Midwestern farm crisis families, Conger and

Conger (2002) described a stress model by which economic hardship (indicated by objective measures of per capita family income, unstable work, debts-to-assets ratio, and income loss) created economic pressure (indicated by participants' reports of inadequate cash flow, unmet material needs, and compensating adaptive behaviors). Economic pressure was found to mediate economic hardship and women's depressed mood (as measured by self report, spouse report, and observer report) in a number of studies (for a review see Conger & Elder, 1994). In short, women's subjective evaluations of their economic circumstances appear to influence the incidence of depressive symptoms, because economic pressure serves as a linking mechanism by which women give psychological meaning to their economic stressors (Conger & Conger, 2002). Consonant with this stress model, Mills and Grasmick (1992) found that economic strain (indicated by four measures of perceived financial worries and interferences) is significantly related to women's self-reported depressive symptoms and feelings of failure.

Craft, Johnson, and Ortega (1998) explored economic strain and depressive mood among women aged 55 and older who experienced the Midwestern farm crisis. Based on data collected in random telephone interviews of 623 rural and urban Nebraskan women, this composite of economic stressors was predictive of self-reported depressive symptoms as hypothesized. Craft and colleagues also suggested that the effects of economic hardship on women in the middle years may be particularly harsh:

Women aged 55 and over have less time to rebuild either finances or relationships than do younger women and thus may experience more concerns, feelings of loss and associated depressive symptoms. The timing of economic hardships later in the life cycle may perpetuate economic difficulties and contribute to prolonged depression (Craft et al., 1998, p. 7).

These findings highlight the advantages of a life course perspective in exploring nuances in the relationship between women's economic stressors and depressive mood.

### Women's Discrimination among Dollars of Income

Although the relationship between women's economic stressors and depressive mood is well-established in the empirical literature, one question salient to this investigation remains: Does the source of income matter? If dollars of income are viewed as interchangeable, sources of income are unlikely to matter. However, there is growing evidence that women discriminate among dollars of income based on their sources. For example, single women's reluctance to participate in the Aid to Families with Dependent Children program, a behavior inconsistent with traditional assumptions that individuals maximize their inflow of resources, suggests that income from some sources is undesirable (Moffitt, 1983). Furthermore, a growing body of evidence suggests that women behave differently with income from different sources. For example, in a study of divorced women, Fisher and Lyons (2004) found that the likelihood of default on financial obligations decreases as income from welfare payments increases, but is unaffected by levels of alimony and child support. In a more inductive inquiry, Winnet and Lewis (1995) found different spending propensities based on sources of income. In these analyses, participants reported greater likelihoods of spending income from regular wages than windfall wages (e.g., monthly salary increases versus lump-sum bonuses) and greater likelihoods of spending income from labor than capital

(e.g., salary versus investment income). Selart and Karlsson (1997) combined data from a nationwide sample of 966 respondents with data on 277 students and found different propensities to spend income from monthly wages and lump-sum bonuses, as well. However, these authors reported greater likelihoods of spending windfalls than regular wages. Selart and Karlsson (1997) interpreted their results for income level and found significant differences in spending propensities between low, moderate, and high income levels. These findings support the hypothesis that dollars of income from various sources are not viewed as interchangeable and suggest that the relationship between sources of income and behaviors may vary with levels of total income. The current investigation built on this tentative literature by exploring (a) how the categorization of income according to its various sources might elucidate the relationship between women's income and depressive mood beyond that which is explained by total income and (b) how this relationship might vary between lower, middle, and higher-income single women. Further, because race and health are widely-recognized correlates of women's income and depressive mood in midlife (Belle & Doucet, 2003; Blau, 1998; Mitchell & Helson, 1990; Turner et al., 2004), this study examined the relationship between income and depressive mood net of these effects.

#### **Research Questions and Hypotheses**

The overarching purpose of this investigation was to further an understanding of the relationship between women's household income and depressive mood by examining a diverse sample of unmarried women in midlife. In this effort, two specific research goals were pursued. The first goal was to compare depressive mood in single women of

three economic strata, lower, middle, and higher-income. Although the relationship between economic stressors and psychological well-being is well-established in the literature, previous studies primarily focused on women experiencing pronounced economic stressors, and less is known about households experiencing more normative periodic stressors (Adler et al., 1994; White & Rogers, 2000). Because the frequency of acute stressors may be related to depressive mood (Ennis et al., 2000), it was hypothesized that women in the lower-income group would have the highest mean level of depressive mood. Further, consistent with Adler and colleagues' (1994) suggestion that economic status and psychological well-being are related across income strata well above the poverty level, it was hypothesized that mean levels of depressive mood would be moderate in the middle-income group and lowest in the higher-income group.

The second goal of this study was to explore how income from various sources (e.g., income from labor, investment income, and hardship payments) might be associated with depressive mood net of the effects of total income in (a) the total sample and (b) each of the three income groups. Because variation in income by sources has been associated with variation in economic behaviors, it was hypothesized that these categories of income would vary significantly as predictors of depressive mood. Further, because women of disparate economic strata have reported different source-specific spending behaviors, it was hypothesized that the relationship between sources of income and depressive mood would vary among the three income groups. However, this investigation built on a tentative empirical foundation, and the relationships among the expected differences were not hypothesized.

### CHAPTER III

### METHOD

## NLS-YW Survey Data

## Procedure

The NLS-YW is one of four cohorts selected for longitudinal surveys in the mid-1960s by the Bureau of Labor Statistics. The NLS-YW provides detailed sociodemographic, economic, and health data on a diverse cohort of 5,159 women who were aged 14 to 24 in 1968 when the first wave of data was collected. Since 1968, interviews of this cohort have been conducted annually or biennially, and the 1999 survey marked the twentieth interview. The previous 19 waves of data were collected in personal or telephone interviews, and the 1999 survey was administered using computer-assisted personal interviews (CAPI).

## Sample

In 1999, 2900 women, 56.2% of the original sample, participated in the survey. Because this investigation focused on unmarried women, 1,828 married respondents and 115 respondents who were cohabiting with a partner were not included in these analyses. Of the remaining 957 women who participated in the 1999 survey, 949 were either White or Black. Eight women (.8%) who reported other races were dropped, because their sample size was too small to permit the interpretation of findings for racial differences. Nineteen respondents (2.0%) refused to answer one or more questions on depressive

mood, the outcome of interest in this investigation, and those respondents were dropped from these analyses. Additionally, 158 (16.5%) respondents with missing data on one or more of the 34 income measures were excluded, because this investigation focused on the conceptualization of income by source, and respondents' awareness of and willingness to disclose income composition were critical to these analyses. Missing data on the income measures were fairly evenly distributed (i.e., one or two respondents with missing data on each of the measures), except for concentrations on measures of annual wages and annual interest and dividend income. Seventy-one (7.4%) respondents with unknown or refused data on annual wages were dropped from these analyses. These respondents did not differ significantly from those with reported data on annual wages on race, age, or education. Eighty-two (8.6%) respondents with unknown or refused responses on annual interest and dividend income were also dropped. These respondents did not differ significantly from those with reported data on interest and dividend income on race or age, but were more likely to be college graduates, F(3, 926) = 12.73, p < .001.

The total sample included in these analyses represented 772 respondents aged 45 to 58 with a mean age of 50.2 (SD = 3.13) who were White (59.2%; n = 457) or Black (40.8%; n = 315). Most respondents were divorced (54.7%; n = 422), although the sample included women who were never married (24.9%; n = 192), widowed (10.5%; n = 81), and separated (10.0%; n = 77). Respondents reported a diversity of residential area types, including small cities or towns with populations of less than 50,000 (38.6%; n = 289), mid-sized cities or towns (21.4%; n = 160), and large cities with populations of more than 250,000 (15.8%; n = 118). Fewer respondents reported living on farms, in

suburban areas, or in the open country. Most respondents lived alone (45.2%; n = 349) or with a child (29.5%; n = 228). Over one-fifth of respondents failed to finish high school (21.2%; n = 164), and the remainder graduated from high school (33.8%; n = 261), attended college or trade school (21.5%; n = 166), or graduated from college (23.4%; n = 181). Most respondents were employed (75.6%; n = 584) or disabled (14.6%; n = 113), although a small number reported being unemployed (2.2%; n = 17) or retired (1.0%; n = 8).

### Measures

## Income

The independent variables used in these analyses were based on annual income measures from 28 sources reported directly in the survey data (e.g., annual wages) or constructed (e.g., months Social Security benefits were received times the average monthly benefit). These items of income were reduced to nine categories of income distinguishable by their sources (*income from labor, retirement income, investment income, alimony, child support, unemployment compensation, disability income, hardship payments,* and *other income*). Annual *income from labor* included wages, selfemployment income, self-employment loss, farm income, and farm loss. *Retirement income* included Social Security and Railroad retirement benefits, veteran, private employer, military, federal government, state government, and union pension benefits, other pension benefits, and IRA and Keogh distributions. *Investment income* included rental income, rental loss, and interest and dividend income. *Unemployment compensation* included regular and extended benefits. *Disability income* included

workers' compensation, Social Security disability and other disability payments. *Hardship payments* included Supplemental Security Income (SSI), AFDC, and food stamp receipts. *Alimony, child support,* and *other income* were single annual income measures reported in the survey data. Because distributions of each of the nine categories of income were severely positively skewed by the frequency of responses of zero (i.e., most respondents reported having no income in some categories), the operationalization of continuous measures of income violated assumptions of normality. Therefore, dummy coding (0 = *did not have income from source* and 1 = *did have income from source*) was used to construct independent variables from each of the nine sources of income. *Income Groups* 

U. S. Census (2001) data on 1999 female-headed nonfamily households were used to construct Census-based income terciles (e.g., lower, middle and higher-income groups). Accordingly, NLS-YW respondents who reported total annual income of \$13,283 or less were included in the lower-income group (n = 259). Respondents who reported total annual income between \$13,284 and \$29,203 were included in the middleincome group (n = 249) and those who reported total annual income greater than \$29,203 in the higher-income group (n = 264). Compared to the total sample, respondents in the lower-income group were more likely to be Black (59.8%), disabled (39.8%), and have not graduated from high school (42.5%). Respondents in the higher-income group were more likely to be White (75.4%) and have graduated from college (46.2%).

### **Depressive** Mood

Depressive mood was measured by a seven-item abbreviated version of the 20item CES-D Scale (Radloff, 1977), a scale designed to assess self-reported depressive symptoms in survey research. Respondents were asked to describe how often during the past week: (1) I felt I could not shake off the blues, even with help from my family or friends, (2) I had trouble keeping my mind on what I was doing, (3) I felt that everything I did was an effort, (4) My sleep was restless, (5) I felt lonely, (6) I felt sad, and (7) I could not get "going". Responses were reported on a four-point Likert-type scale: 1 =*rarely or none of the time (less than one day)*, 2 = *some or a little of the time (1-2 days)*, 3 =*occasionally or a moderate amount of time (3-4 days)*, and 4 = *most or all of the time* (*5-7 days*). Cronbach's alpha for the CES-D subscale used to measure depressive mood in this investigation was .87.

#### Correlates of Depressive Mood

Race (*White* or *Black*), a single measure representing respondents' appraisals of their own health (*excellent, good, fair,* or *poor*) compared to other same-aged women, and *total income* were included in these analyses as control variables. Total income was a continuous measure representing the sum of income from all sources included in the data. Because the nine composite sources of income were used to construct dichotomous independent variables (i.e., respondents either had or did not have income from each of the various sources), the inclusion of a continuous measure of total income did not introduce multicollinearity in the analyses.

### CHAPTER IV

## RESULTS

## Analytic Strategy

Analyses to explore the two research questions are presented separately. To address the first research question, an ANCOVA was conducted to compare levels of mean depressive mood in the three income groups (lower, middle and higher) net of the effects of race and self-rated health. To address the second research question, a series of multiple regression analyses was conducted to predict depressive mood from the nine categories of income (income from labor, retirement income, investment income, alimony, child support, unemployment compensation, disability income, hardship payments, and other income) for (a) the total sample and (b) each of the three income groups beyond that explained by race, health, and total income.

Mean Differences in Depressive Mood by Income Group

To address the first research question, levels of mean depressive mood in the three income groups (lower, middle and higher) were compared. It was hypothesized that mean levels of depressive mood would vary inversely with income among the three groups. That is, it was expected that depressive mood would be highest in the lowerincome group, moderate in the middle-income group, and lowest in the higher-income group. An ANCOVA was conducted treating income group as the independent variable,

depressive mood as the dependent variable, and race and health as covariates. Mean levels of depressive mood were 13.63 (SD = 5.91) for the lower-income group, 11.33 (SD= 4.64) for the middle-income group, and 9.85 (SD = 3.66) for the higher-income group. As hypothesized, the main effect of income group on depressive mood was significant, F(2, 767) = 8.78, p < .001, net of the effects of the covariates. One of the covariates, health, was significantly related to depressive mood, F(1, 767) = 104.00, p < .001, although race, the remaining covariate, was not significant. Bonferroni t-tests revealed that mean levels of depressive mood did not vary significantly between the lower and middle-income groups (p = .17). However, the mean level of depressive mood in the higher-income group was significantly lower than levels in the lower (p = .00) and middle-income (p = .03) groups. Overall, there was partial support for the hypothesized effect of income group on depressive mood. That is, although the lower and middleincome groups did not vary in their mean levels of depressive mood, the higher-income group had a lower mean level depressive mood and differed significantly from both the lower and middle-income groups.

#### Sources of Income and Depressive Mood

To address the second research question, four multiple regression analyses (one for the total sample and one for each of the three income groups) were performed to explore the relationship between nine sources of income and depressive mood. It was hypothesized that sources of income would predict depressive mood beyond that which was explained by race, health, and total income. Frequency distributions of the sources of income are shown in Table 1. Preliminary analyses examined bivariate relationships between the various sources of income. Income from labor was significantly negatively correlated with retirement income (r = -.28, p < .001), disability income (r = -.50, p < .001), and hardship payments (r = -.51, p < .001). Retirement income was also positively correlated with disability income (r = .12, p < .001) and hardship payments (r = .08, p < .05).

In the first regression analysis, the nine categories of income (income from labor, retirement income, investment income, alimony, child support, unemployment compensation, disability income, hardship payments, and other income) were used to predict depressive mood net of the effects of race, health, and total income in the full sample. As shown in Table 2, the model significantly predicted depressive mood. Income from labor was associated with significantly lower levels of depressive mood, and alimony and hardship payments were associated with significantly higher levels of depressive mood. One of the control variables, health, significantly predicted depressive mood, and the remaining controls, race and total income, did not.

Next, a series of multiple regression analyses examined the relationship between categories of income and depressive mood in each of the three income groups. Specifically, in the lower, middle, and higher-income groups (n = 259, 249, and 264, respectively), the nine categories of income were used to explain depressive mood beyond that which was explained by race, health, and total income. As shown in Tables 3, 4, and 5, all three models significantly predicted depressive mood. In the lower-income group, women who reported hardship payments had significantly higher levels of depressive mood than those who did not. Health also significantly predicted depressive

mood in the lower-income group, and race and total income did not. In the middleincome group, a different pattern emerged, and women with alimony and disability income had significantly higher levels of depressive mood than those without income from these sources. None of the control variables, race, health and total income, were significant predictors of depressive mood in the middle-income group. In the higherincome group, women who received hardship payments had significantly higher levels of depressive mood than those who did not. Also in the higher-income group, health was a significant predictor of depressive mood, and race was not.

## CHAPTER V

### DISCUSSION

Informed by the individual life course paradigm and economists' behavioral lifecycle hypothesis, this study examined the relationship between household income levels and sources and self-reported depressive mood in a cohort of unmarried women in midlife. Although the extant literature reflects a robust interest in women experiencing specific economic stressors, this investigation focused on women across economic strata to explore a nuanced relationship between women's income and depressive mood. The discussion of these findings focuses on (a) the role of race, health, and total income in these analyses, (b) variation in mean levels of depressive mood among three income groups (lower, middle, and higher), and (c) the relationship between women's sources of income and depressive mood in the total sample and the three income groups.

Race and physical health were included as covariates in these analyses, because both are widely recognized correlates of depressive mood. However, as Belle and Doucet (2003) noted, race, depressive mood, and income are dynamically interdependent; Black women may suffer higher levels of depressive mood than White women, because discrimination truncates Black women's economic opportunities. Consonant with this argument, in these analyses, race did not explain depressive mood when income group membership or sources of income were considered. Similarly, health was included in these analyses, because it is commonly associated with women's depressive mood in

midlife (Turner et al, 2004). The findings in this study underscore the importance of physical health to women's psychological well-being, as health was significantly related to depressive mood in most of these analyses. Lastly, because Adler and colleagues (1994) posited a graded association between economic status and psychological well-being, total income was included as a control in analyses that examined sources of income and depressive mood. However, in these analyses, disparate sources of income significantly predicted depressive mood, but total income did not. This finding suggests that the operationalization of single measures of total household income may fail to capture important nuances in the relationship between women's income and depressive mood.

This first goal of this study was to compare levels of mean depressive mood among women in U. S. Census-based income terciles (lower, middle, and higherincome). It was hypothesized that levels of mean depressive mood would vary inversely with income and, therefore, be highest in the lower-income group (with earnings less than \$13,284), moderate in the middle-income group (with earnings between \$13,284 and \$29,203), and lowest in the higher-income group (with earnings over \$29,204). However, in this diverse, nationally representative sample of single women, levels of mean depressive mood did not differ significantly between the lower and middle-income groups, although the level of mean depressive mood in the higher-income group was significantly lower than levels in the lower and middle-income groups. Thus, there was support for the research hypothesis that greater income would "buy" psychological wellbeing, but this benefit was reserved for women in the higher-income group.

The higher levels of mean depressive mood in the lower and middle-income groups both support and extend the literature on economic stressors in women-headed households. For example, in a discussion of depressive mood among poor women, Belle and Doucet (2003) noted that efforts to chronicle women's experience of economic stressors often fail to highlight the challenges of maintaining income adequacy in households that exceed the poverty level. Similarly, in a decade review of the literature on family economic well-being, White and Rogers (2001) noted that economic stressors are experienced by households well above the poverty line in ways that have not been examined. Because only higher-income women in this study reported lower levels of depressive mood, it is possible that the economic stressors experienced by middle-income women differ in form but not substance from those of their lower-income counterparts. Although the effects of lower-income subsistence on depressive mood are apparent and well-documented, the trials of middle-income sustenance may present a more veiled menace to the well-being of single women in midlife, particularly those who once enjoyed the economic benefits of marriage.

The higher levels of mean depressive mood among women in the lower and middle-income groups also reflect gendered income inequality. That is, women whose income fell within the 1999 Census-based middle tercile for female householders enjoyed considerably less disposable income than their male counterparts. According to 1999 Census (2001) data, the median income for male householders was 54.4% greater than the median income for female householders (\$30,753 and \$19,917, respectively). Thus, women who were categorized as middle-income in this study were hardly afforded a

middle-class lifestyle. Indeed, women at the upper limit of the middle-income group earned only 51.3% of the median household income for all householders aged 45 to 54 (U. S. Census, 2001).

The second goal of this study was to explore the relationship between nine categories of income (income from labor, retirement income, investment income, alimony, child support, unemployment compensation, disability income, hardship payments, and other income) and depressive mood in the full sample and each of the three income groups. Support was found for the hypothesis that sources of income would explain variation in depressive mood net of the effects of race, health, and total income. Additionally, as hypothesized, different patterns of significant predictors emerged in the full sample and the three income groups.

In the full sample, three sources of income, income from labor, alimony, and hardship payments, accounted for variation in depressive mood beyond that which was explained by race, health, and total income. That is, in this sample of single women in midlife, having income from at least one of these three sources was predictive of depressive mood. Specifically, women who had income from labor had significantly lower levels of depressive mood than those who were not in the work force. This finding supports the literature suggesting that the workplace is a milieu for socialization that provides transferable benefits (Perry-Jenkins, Repetti, & Crouter, 2001). Additionally, because this investigation focused on single women in midlife, these women may have avoided the interpersonal conflict, role overload, and role conflict associated with stress transfer in married working women with young children (Perry-Jenkins et al., 2001).

Indeed, because self-effectance and a sense of utility appear to be particularly important to women in midlife (McQuaide, 1998), women at this stage of the life course, particularly independent householders, may benefit uniquely from work.

Secondly, women who received alimony had significantly higher levels of depressive mood than those who did not report alimony income. This finding does not appear to be a proxy for women's adjustment to marital disruption; although 499 women reported being separated or divorced, only 23 women received alimony. In an interdisciplinary review of the literature, Shehan, Berardo, Owens, and Berardo (2002) described alimony as an area of family law that is poorly represented in social science research. Because economic decline is thought to mediate women's adjustment to divorce (Amato, 2001), receipt of alimony might be expected to benefit women psychologically by providing some continuity of lifestyle. However, this finding suggests otherwise, and three plausible explanations consistent with the scant literature on alimony are proffered. First, women who are awarded alimony may be more fragile psychologically and less able to provide for themselves, and alimony income may identify women who otherwise suffer from depressive mood. Secondly, women whose level of alimony is periodically adjusted for income from other sources have a disincentive to work and may enjoy fewer of the psychological benefits associated with income from labor. Consonant with this explanation, in this sample, income from labor and alimony income were mildly negatively correlated. Thirdly, various features of longterm alimony awards, including extended contact with former spouses, ongoing litigation of levels of support, and standard provisions that alimony cease upon recipient spouses'

remarriage, may be detrimental to women psychologically. In short, divorced women in midlife who are reliant upon their former husbands for support may suffer higher levels of depressive mood, particularly when alimony negotiations are continual and fraught with conflict.

Lastly, women who received hardship payments, specifically AFDC, food stamps, and SSI, had significantly higher levels of depressive mood than those who did not report income from these sources. This finding supports the literature on welfare stigma (for a review see Jarrett, 1996), particularly the psychological costs of receiving public assistance. Because age is indirectly associated with welfare stigma, women in midlife may experience greater stigma than their younger counterparts; older women have typically received benefits over a longer period of time, and the duration of benefits increases the stigma (Horan & Austin, 1974). Further, dependence on needs-based programs, particularly those for which administration is politically polemical, may heighten vulnerability among women experiencing abject economic stressors. Hayo and Seifert (2003) associated optimistic expectations with significantly lower levels of depressive mood in women facing economic stressors, but Seccombe (2001) noted that for many women on public assistance, welfare reforms (including time limits on benefits and employment mandates) have fostered a climate of despair.

When the nine sources of income (income from labor, retirement income, investment income, alimony, child support, unemployment compensation, disability income, hardship payments, and other income) were used to predict depressive mood in the three income groups (lower, middle, and higher), similar but distinct patterns

emerged. Although frequency distributions warrant caution in the interpretation of these findings, there was support for the hypothesis that the relationship between sources of income and depressive mood would vary among income strata.

In the lower-income group, women who received hardship payments (AFDC, food stamps, and SSI) reported significantly higher levels of depressive mood than those who did not report income from these sources. Qualitative studies (Jarrett, 1996; Rogers-Dillon, 1995) suggest that poor women's experience of welfare stigma is uniquely multidimensional. Poor women on public assistance, particularly single mothers, are often discredited as lacking traditional core values of family, work, and community. In the middle-income group, women who reported alimony and disability income had significantly higher levels of depressive mood than those who did not report income from these sources. Health has been consistently associated with women's psychological wellbeing in midlife (McQuaide, 1998), but this finding suggests that the receipt of disability income may predict depressive mood beyond that explained by health. Plausible explanations for this finding include an extension of welfare stigma to publicly funded programs for the disabled, uncertainty associated with ongoing eligibility for benefits, and isolation from the psychological benefits of work. In the higher-income group, women who received hardship payments had significantly higher levels of depressive mood than those who did not. Receipt of AFDC, food stamps, or SSI benefits by women in the higher-income group supports the literature suggesting that households of all income levels experience periodic economic stressors (White & Rogers, 2001). That is, at some point during the year, these women were eligible for means-tested payments

despite having an annual income that placed them in the highest income tercile of female householders. Higher levels of depressive mood among these women is consistent with Ennis and colleagues' (2000) finding that discrete economic stressors are more predictive of women's depressive mood than enduring stressors. Elevated levels of depressive mood among women in the higher-income group who received hardship payments also support the literature contextualizing welfare stigma; women in mixed-class neighborhoods experience and internalize harsher stigma than those in poorer communities (McCormack, 2004). Further, higher-income women in this study were better educated than women in the lower and middle-income groups, and education has been associated with increased welfare stigma (Horan & Austin, 1974).

Overall, as hypothesized, in this sample of single women in midlife, categories of income distinguishable by their sources significantly predicted depressive mood beyond that explained by race, health, and total income. Further, different patterns of significant predictors emerged in the full sample and the lower, middle, and higher-income groups when separate analyses were conducted. In sum, there appears to be a relationship between women's sources of income and depressive mood, and this relationship appears to vary across economic strata.

This investigation was grounded in the individual life course paradigm, and its findings mirror three central tenets of the life course perspective. First, the single women in midlife who were the focus of this study represent a unique cohort in socio-historical time. Unlike earlier generations of women, women in this study maintained households and enjoyed independent income from a variety of sources. However, these women also

evidence the struggle for economic equality left to future generations of women; middleincome women in this study were hardly afforded middle-class accoutrements. Secondly, the interdependency of lives is underscored by findings suggesting that women who receive alimony have higher levels of depressive mood. Perhaps for these women, alimony represents a vestigial linking of lives and dependence on former spouses. And lastly, consonant with the individual life course paradigm, a theme of human agency emerged in these analyses. That is, although discrete sources of income were associated with depressive mood, generally women who were dependent on others for income reported higher levels of depressive mood than those who were not.

## Limitations

This study focused on a large sample of single women in midlife to explore nuances in the relationship between income and self-reported depressive mood across economic strata. Caution is advised in generalizing these findings to minority women not represented in NLS-YW data (e.g., Latina and Asian-American women), married women, and men. Additionally, women in this sample may have experienced midlife economic stressors not observable in other cohorts or at other stages in the adult life course. Because this investigation relied on cross sectional data, causal interpretation of these findings is inappropriate. Indeed, the relationship between women's income and depressive mood may be circuitous, as economic stressors fuel a sense of hopelessness and a despairing outlook dampens perceived economic opportunity and functioning. Longitudinal studies of changes in income composition over time may further clarify the relationship between women's income, sources of income, and depressive mood.

### Directions for Future Research

Because this investigation was exploratory, its findings may be more suggestive than definitive. Indeed, many questions were raised, and few were answered. Future research may consider, for example, if single women benefit uniquely from work. Additionally, alimony remains poorly understood, and examining how the receipt of temporary and long-term alimony is related to women's adjustment to divorce would extend family scholarship. Lastly, future investigations may explore whether welfare stigma extends to women who receive disability income benefits.

Because efforts to capture economic well-being by a single measure of household income may be reductionistic, future research may benefit from a nuanced approach to the study of women's economic resources and psychological well-being. The relationship between income and depressive mood among single women in midlife is complex, and efforts to examine it may benefit from broad perspectives that extend across economic strata. Likewise, an approach that considers women's discrimination among dollars of income may facilitate a more thorough understanding.

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## APPENDIX. TABLES

## Table 1

# Frequencies of Sources of Income for Total Sample (n = 772)

Variable	No Income	Income Reported	
Income from labor	173	599	
Retirement income	703	69	
Investment income	581	191	
Alimony	749	23	
Child support	756	16	
Unemployment compensation benefits	744	28	
Disability income	681	91	
Hardship payments	672	100	
Other income	755	17	

## Table 2

Variable	В		SE B	ß
Race	42		.35	04
Health	1.58	***	.22	.28
Total Income	0.00		0.00	06
Income from labor	-1.49	**	.57	12
Retirement income	.67		.60	.04
Investment income	29		.43	02
Alimony	2.01	*	.96	.07
Child support	.11		1.13	.00
Unemployment compensation benefits	17		.87	01
Disability income	.15		.59	.01
Hardship payments	1.90	*	.59	.13
Other income	1.77		1.11	.05
R <sup>2</sup>	.24			
Adjusted R <sup>2</sup>	.23			

Summary of Regression Analysis for Sources of Income Predicting Depressive Mood in Total Sample (n = 772)

\*p < .05. \*\* p < .01. \*\*\* p < .001.

Table 3

Variable	В		SE B	ß
Race	.07		.70	.01
Health	2.43	***	.40	.40
Total Income	0.00		0.00	05
Income from labor	88		1.06	07
Retirement income	.82		1.03	.05
Investment income	95		1.50	04
Alimony	.71		2.30	.02
Child support	.91		2.43	.02
Unemployment compensation benefits	62		1.83	02
Disability income	-1.06		.87	08
Hardship payments	1.68	*	.79	.13
Other income	-1.20		3.09	02
R <sup>2</sup>	.26			
Adjusted R <sup>2</sup>	.22			

Summary of Regression Analysis for Sources of Income Predicting Depressive Mood in Lower-income Group (n = 259)

\*p < .05. \*\* p < .01. \*\*\* p < .001.

Table 4

Variable	В		SE B	ß
Race	31		.60	03
Health	.82		.43	.13
Total Income	0.00		0.00	03
Income from labor	-1.16		1.65	06
Retirement income	.69		1.20	.04
Investment income	.66		.78	.06
Alimony	5.91	**	2.02	.18
Child support	.15		1.86	.00
Unemployment compensation benefits	40		1.29	02
Disability income	3.18	*	1.48	.17
Hardship payments	10		1.55	00
Other income	2.40		1.91	.08
R <sup>2</sup>	.14			
Adjusted R <sup>2</sup>	.10			

Summary of Regression Analysis for Sources of Income Predicting Depressive Mood in Middle-income Group (n = 249)

\* *p* < .05. \*\* *p* < .01.

Table 5

Variable	В		SE B	ß
Race	-1.00		.53	12
Health	.83	*	.34	.16
Total Income	0.00		0.00	03
Income from labor	70		1.61	03
Retirement income	17		.94	.01
Investment income	27		.47	04
Alimony	1.40		1.10	.08
Child support	84		1.56	03
Unemployment compensation benefits	.40		1.46	.02
Disability income	.90		1.30	.04
Hardship payments	9.29	***	2.41	.27
Other income	1.30		1.28	.06
R <sup>2</sup>	.15			
Adjusted R <sup>2</sup>	.11			

Summary of Regression Analysis for Sources of Income Predicting Depressive Mood in Higher-income Group (n = 264)

\* p < .05. \*\* p < .01. \*\*\* p < .001.