

# Welfare participation and depression among youth in the United States: A systematic review

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## ABSTRACT

Welfare programs play important roles in the lives of vulnerable populations. However, since their inception, welfare programs have been accompanied by contentious debate about their impact on the wellbeing of participants and, hence, about their collective value as a strategy for alleviating poverty. This study uses welfare participation as a marker of lower socioeconomic status to identify and synthesize the relationship between welfare participation and depression among youth. A systematic review was undertaken based on literature published between 1997 and 2017 through a search of 9 electronic databases, 15 reports met criteria for study inclusion. Four descriptive studies reported mixed findings. Of the 11 comparison studies, 10 studies showed consistent findings that participation in welfare programs was associated with a higher vulnerability for depression. Discussion includes the effects of stigma related to welfare and mental health treatment, and the implications for policy makers, social workers, and future research.

## 1. Introduction

In most Westernized developed countries, social welfare resources and benefits are primarily controlled by the government, whereas the U.S. social safety network of welfare programs includes federal and private resources (e.g., private agencies as well as social welfare programs managed by government-supported private sector entities; Garfinkel, Rainwater, & Smeeding, 2010; Hacker, 2002). Social welfare programs reflect a nation's attitudes and sense of responsibility to care for its citizens. However, since their inception, welfare programs have been accompanied by contentious debate about their advantages and disadvantages as strategies for alleviating poverty and the beneficial versus harmful effect of welfare participation on recipients' well-being, especially on recipients' psychological well-being, or mental health outcomes (e.g., Auerbach & Beckerman, 2011; Cheng, 2007; Gao, 2017; Gibson et al., 2009; Wu, 2017; Wu, Fraser, Chapman, Gao, Huang, Chowa, 2018; Zerden, Wu, Wu, & Fraser, accepted). Yet, little is known about the developmental sequelae of welfare participation, which can be viewed as a marker for childhood adversity including poverty.

Based on the Social Determinants of Health (SDH) framework (Marmot, Friel, Bell, Houweling, Taylor, & Commission on Social Determinants of Health, 2008), health outcomes are influenced not only by individual factors (e.g., genetic make-up, gender, lifestyle, and

dietary habits), but also by societal factors such as work environment, transportation access, and health and social care services, including income-support programs often characterized as "welfare." As one of these social determinates, welfare contributes to health outcomes. On one hand, welfare policies and programs attempt to reduce inequality and improve conditions for low-income people. On the other hand, welfare participation could be a "marker" for poverty, representing poor access to health care, safe housing and neighborhoods, quality education, and jobs with living wages. These factors are associated with poor health outcomes. Consistent with this social determinants of health perspective, recent research suggests youth from welfare recipient families may be at high risk for poor health outcomes, including behavioral health problems such as depression (Dooley & Prause, 2002; Nebbitt, Williams, Lombe, McCoy, & Stephens, 2014), subjective well-being (Gao, 2017), and substance abuse (Wu, Zerden, Wu, 2016; Zerden et al., accepted). The specific aim of this paper was to synthesize the existing literature on the relationship between welfare participation and developmental health outcomes. Given the broad concepts of health, we narrowed the aim, and focused on mental health, specifically on depression and depressive symptoms. A systematic review was conducted to describe and summarize findings on the relationship between welfare participation and depression or depressive symptoms among youth in the United States.

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Welfare programs, particularly health-related welfare programs (e.g., the U.S. Medicaid program), play important roles in the lives of vulnerable, low-income population. Health care programs are designed to allow the economically disadvantaged and other vulnerable populations to have access to basic health care. Health care systems take many forms around the world. Many developed countries (e.g., the United Kingdom, Canada, Australia, and most of the North European countries) have implemented systems of universal access that enable all citizens to access basic medical care. In contrast, U.S. health care is based on a fee-for-services model with payment through a third-party (insurance) or out-of-pocket payment by patients without insurance. Federal health care spending is targeted to low-income persons and older adults. Historically, middle- and working-class Americans relied on health care insurance that was available through their employers (Garfinkel et al., 2010), but the escalating cost of insurance has led many employers to eliminate this benefit. The costs of health care through employer-provided health insurance are considerably higher than the costs of equivalent care through a universal health care system. The U.S. system of health care has led to high rates of uninsured or underinsured people who have to forego or delay needed medical care because they are unable to afford the cost (Baribault & Cloyd, 1999). Since 2010, the Patient Protection and Affordable Care Act was released to increase health insurance coverage and reduce the costs of medical care, yet still about 8.9% U.S. people (24.3 million) have barriers to access health care (U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2016). To ensure all people have access to health care while controlling for reasonable, realistic costs is a complex and difficult issue. Each health care system has advantages and disadvantages. Since the inception of the first social welfare programs in America, the debate among researchers and politicians has not stopped regarding the poverty alleviation functions of social welfare programs.

In the United States, health care-related welfare programs such as Medicaid and the Children's Health Insurance Program (CHIP) provide health insurance to more than 70 million economically disadvantaged or disabled Americans (Centers for Medicare and Medicaid Services, 2017). A centerpiece of the 2010 Patient Protection and Affordable Care Act (2010) was the expansion of health coverage through Medicaid and CHIP. Although only 31 of 50 states chose to expand Medicaid, this expansion reduced the percentage of uninsured Americans from 16% in 2010 to 8.9% in 2016 (Centers for Medicare and Medicaid Services, 2017). However, the Affordable Care Act is in jeopardy, and if the Congress repeals the Act, millions of Americans who have access to affordable health coverage through the Medicaid expansion will lose their access to health care.

In addition to health care coverage, welfare programs provide various types of basic living assistance to recipients ranging from cash to job skills training. For example, financial assistance (e.g., the Aid for Families and Dependent Children [AFDC], and Temporary Assistance for Needy Families [TANF]), food and nutrition service (e.g., the U.S. Supplemental Nutrition Assistance Program [SNAP], formerly Food Stamps), public housing, and job-skills training (e.g., Work First programs). Statistical data from Western countries has shown welfare programs have been effective in helping some of the most vulnerable to maintain a basic standard of living (Piven & Cloward, 1993).

Despite the varied types of welfare programs, many researchers have pointed out the failure of welfare programs to bring sustainable solutions to reducing poverty (Dinitto & Johnson, 2015). For example, in the United States, researchers found that although the U.S. government spent in excess of \$1 trillion annually to fund more than 100 welfare programs to fight poverty, the current U.S. poverty rate is one of the highest among developed countries (Organisation for Economic Co-operation and Development, 2017). Indeed, since the 1996 welfare reform efforts, the U.S. poverty rate has not fallen below 11% (Tanner, 2012). In addition, an increasing number of studies have found strong associations between participating in welfare programs and risk factors

such as overweight and obesity (Baum, 2011); marginalized and unsafe neighborhoods (Massey, Gross, & Eggers, 1991; Oreopoulos, 2003), and elevated exposure to crime (e.g., high crime rates in public housing units; Oreopoulos, 2003). Therefore, using welfare participation as marker of lower socioeconomic status (SES) helps to identify recipients' risk factors for negative health and mental health outcomes that have significant implications for policy makers and poverty alleviation practitioners.

### 1.1. Correlations between welfare participation and mental health outcomes

Many studies have documented the prevalence of mental health issues (e.g., depression) among welfare recipients, and have examined the relationship between welfare participation and mental health outcomes. This body of research has primarily focused on health care related welfare programs such as the U.S. Medicaid. Notably, about 1 in 4 low-income persons who qualify for Medicaid also suffers from a mental health or behavioral health disorder (Centers for Medicare and Medicaid Services, 2017). Overall, Medicaid recipients have significantly higher rates of both schizophrenia and depression than the general population (Berg, Donnelly, Warnick, Medina, & Miller, 2014). Medicaid plays an important role in providing access to mental health services for those who would otherwise be unable to afford treatment. Medicaid is the single largest payer for U.S. mental health treatments, and the Medicaid program is playing an increasing role in providing access to substance-use treatment (Centers for Medicare and Medicaid Services, 2017). In addition, Medicaid plays a critical role in maternal and child health by covering half of all U.S. births and helping low-income women access mental health services to help with perinatal maternal depression (Centers for Medicare and Medicaid Services, 2017; Dinitto & Johnson, 2015).

Despite the benefits afforded by participating in welfare programs, an increasing number of studies have observed a positive correlation between welfare participation and negative mental health outcomes (e.g., Auerbach & Beckerman, 2011; Cheng, 2007; Dooley & Prause, 2002; Gibson et al., 2009; Lehrer, Crittenden, & Norr, 2002; Petterson & Friel, 2001). Although studies have shown higher rates of mental disorder (e.g., depression) among welfare participants, that relationship is likely due to the debilitating effects of mental disorder, which often make it challenging for a person to maintain employment. Thus, a greater number of people with severe mental illness are likely to be in the low-income strata, making them eligible to receive welfare (e.g., Medicaid). What is less clear in the research is the relation of participation in other welfare programs such as TANF with the mental health of recipients.

Studies have also shown demographic differences regarding prevalence of mental disorders among welfare recipients. For example, females, especially those of childbearing age or pregnant, comprise a high-risk population for depression (Danziger, Carlson, & Henly, 2001; Orr, Blazer, James, & Reiter, 2007). In addition, White welfare recipients reported higher levels of depression than African American recipients (Dosreis, Zito, Safer, and Soeken, 2001; Richardson, Digiuseppe, Garrison, & Christakis, 2003). Moreover, people with low SES were found to have higher risk of mental illness than those with higher SES (Gilman, Kawachi, Fitzmaurice, & Buka, 2002; Hudson, 2005).

Given the rich body of empirical studies in this research area, summarizing the available evidence on the mental health outcomes among welfare recipients can be helpful to generating a better understanding of the relationship of welfare participation with recipients' mental health outcomes. Therefore, the authors undertook a systematic review to identify and synthesize the findings regarding the relationships between welfare participation and mental health outcomes and prevalence of mental health disorders. Further, to increase the specificity of this review, the authors chose to narrow the focus to the population of youth welfare recipients and mental health outcomes of depression or depressive symptoms.

## 2. Methods

This systematic review followed the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines. Before conducting the data search, a systematic review protocol for the current study was developed and published with PROSPERO International (CRD: 42017056645), which is a prospective register of systematic reviews hosted at the Centre for Reviews and Dissemination at the University of York in the United Kingdom.

### 2.1. Search terms and databases

Based on consultation with a health sciences reference librarian, the following search terms were used to identify studies: (“welfare\*” OR “welfare participation” OR “welfare use” OR “welfare recipients” OR “receive welfare benefits” OR “AFDC” OR “TANF” OR “Food Stamp” OR “Aid to Families with Dependent Children” OR “Temporary Assistance for Needy Families” OR “Medicaid” OR “Supplemental Security Income food and nutrition programs”) NOT (“Child welfare”) AND (“depressi\*”).

Given that this paper focused on social welfare and depression and depressive outcomes, social sciences and health related databases were expected to yield the bulk of studies for this review. Therefore, the following nine social sciences and health-related databases were identified for this search: ASSIA (Applied Social Sciences Index and Abstracts), PsycINFO, Social Work Abstracts, Social Services Abstracts, Sociological Abstracts, SSCI (Social Sciences Citation Index), CINAHL (Cumulative Index to Nursing and Allied Health Literature), Global Health, and PubMed. In addition, a search of the gray literature and unpublished reports was conducted via Google that used “welfare participation depression youth” as the search term.

As shown in Fig. 1, the searches of the nine databases yielded 2603 studies; after removing duplicate studies, 1796 articles were retained for a title and abstract review via RefWorks (a Web-based software package for reference management). In addition, the Google search yielded two reports from the gray literature.

### 2.2. Criteria for considering studies for this review

To identify studies addressing the associations between welfare participation and depression outcomes among youth, a priori eligibility inclusion and exclusion criteria were developed to guide the screening process. These criteria were related to the type of study, type of participants, and type of welfare program; each of these criteria is discussed below. Search results were first screened by title and abstract, and studies that clearly did not meet any of the following eligibility criteria were removed.

#### 2.2.1. Types of studies

All empirical studies describing the effects or correlations of welfare participation on youth depression or depressive symptoms outcomes, or examining the relationships between welfare participation and depression among youth were included in this review. This systematic review included studies in English published between January 1, 1997 (i.e., after the 1996 welfare reform) and March 1, 2017.

#### 2.2.2. Types of participants

This review focused on youth, adopting the U.S. Bureau of Labor Statistics (2016) definition of youth as those between ages 16 and 24 years. These age parameters were used to screen studies given the inconsistent definition of youth across studies, with those within this age range alternately labeled as youth, adolescents, or young adults.

#### 2.2.3. Types of welfare programs

Public welfare is a broad concept, and therefore, this review considered a wide range of welfare programs (i.e., any form of public assistance) funded by federal, state, or local governmental entities in the

United States. These programs ranged from general welfare programs to highly structured, bureaucratic welfare programs such as TANF, SNAP, and Medicaid.

An experienced researcher (the first author) extracted study characteristics from each identified report. Another trained researcher (the second author) independently screened each of the 1798 studies by using the inclusion criteria as listed above. Studies were included or excluded through a title and abstract review. For studies that could not easily be classified based on a title and abstract review, the two researchers screened the full source document to determine eligibility. Disagreements between the two screeners were resolved after examining the full source documents. After the initial review, 1638 records were excluded using the inclusion and exclusion criteria, and 160 articles were retained for a full-text review. Based on the full-text review, 15 research reports were included in the final systematic review.

### 2.3. Data extraction and management

For the 15 included studies, the first author created a data extraction sheet by using Microsoft Excel 2013, to identify and collect relevant information. The following characteristics of each of the 15 studies were collected: research purpose; setting; name of welfare program; measure used to assess depression; depression prevalence; sample description; sample size; participants' age, race/ethnicity, and gender; research dataset; number of data collection waves; analytical strategies; and findings about welfare effects on depression or correlation between welfare participation and depression outcomes. The first author extracted the information as listed before, then the second author compared the completed extraction sheets with the full text of each paper to check the accuracy of the extractions. Any disagreements between the extractor and the checker were resolved by re-consulting the full text and discussions between the two researchers.

Given the heterogeneity of measures and designs across studies, and the broad concepts of welfare, a quantitative synthesis such as meta-analysis was not advisable. Therefore, we adopted a narrative thematic synthesis approach (Thomas, Harden, & Newman, 2012) for this review. The substantive findings on the relationship between depression and welfare participation were first categorized based on the study design (i.e., descriptive studies and comparison studies), and then summarized within each category.

## 3. Results

As shown in Fig. 1, A total of 15 studies were included in the final systematic review: 12 peer-reviewed journal articles, 1 doctoral dissertation, and 2 working papers. A summary of the study characteristics of these 15 reports is presented in Table 1. We also summarized the depression measures and prevalence from the 15 studies in Table 2.

### 3.1. Characteristics of studies

#### 3.1.1. Characteristics of research data and study designs

Shown in Table 1, two studies used nationally representative datasets with probability sampling approach: Dooley and Prause (2002) used data from the National Longitudinal Survey of Youth (NLSY79), and Rhee et al. (2005) used data from the National Longitudinal Study of Adolescent to Adult Health (Add Health). Four studies used administrative data or Medicaid claims data to represent the target study population (Dosreis et al., 2001; Nebbitt et al., 2014; Olfson et al., 2011; Richardson et al., 2003). Other nine studies used non-probability sample.

A majority of the 15 studies ( $n = 8$ ) used a cross-sectional research design, and collected or analyzed one wave of data (e.g., Bachman et al., 2015; Cook et al., 2004; Nebbitt et al., 2014). One study used a longitudinal design to collect 17 waves of annual data over a 17-year study period (Gavin et al., 2011), and six studies used two waves of data

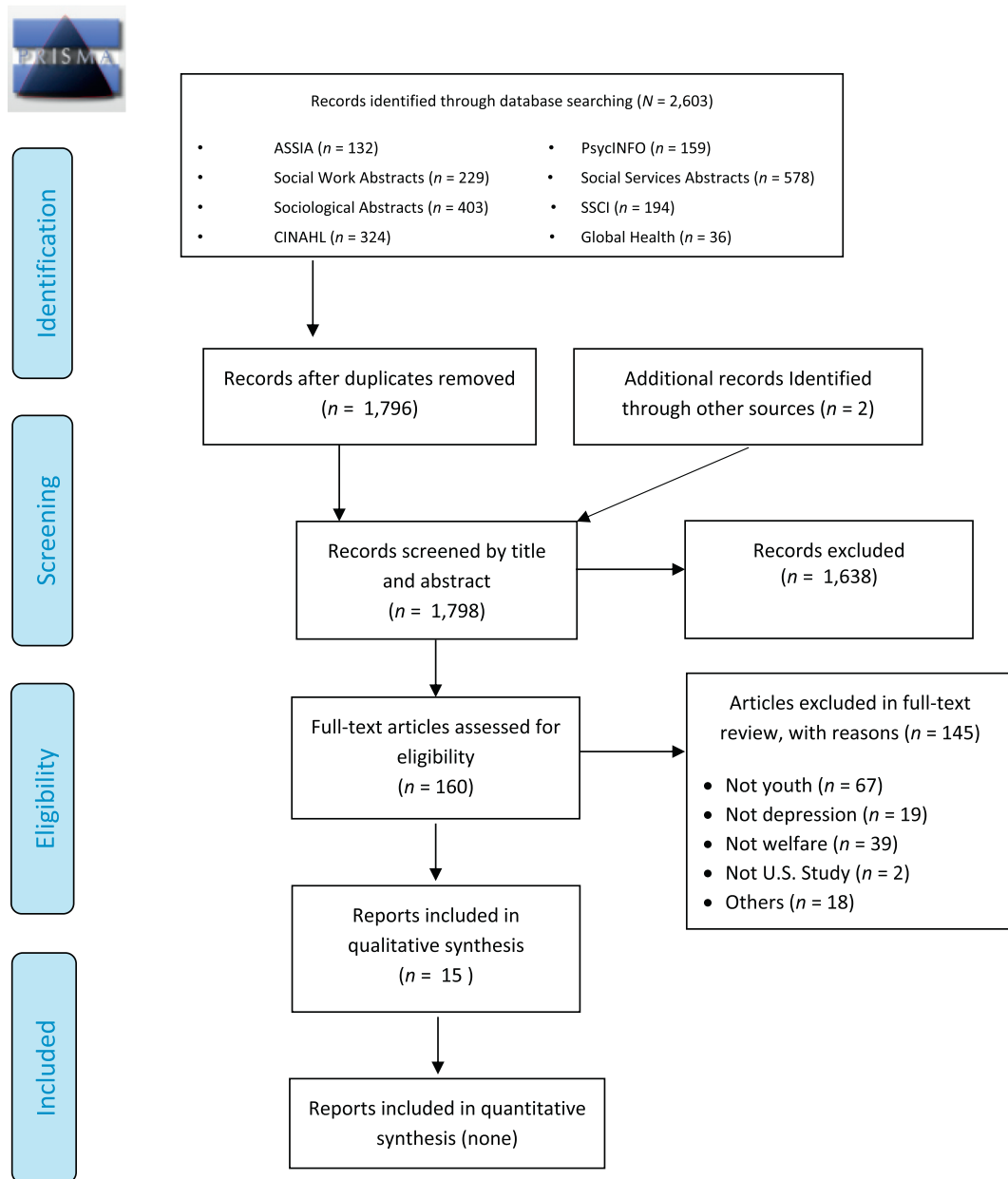


Fig. 1. PRISMA flow diagram of screening and selection.

(e.g., pre- and post-test design) to examine the relationship between welfare participation and depression over time (e.g., Knab et al., 2006; Pande, 2014; Sullivan & Decoster, 2001).

### 3.1.2. Welfare programs

Of the 15 reviewed reports, five studies reported multiple welfare programs (e.g., Medicaid, SSI, AFDC, TANF, or WIC; Bachman et al., 2015; Buckner et al., 1999; Cook et al., 2004; Dosreis et al., 2001; Knab et al., 2006). Two studies focused on a general concept of welfare (e.g., any types of welfare programs; Go, 1999; Rhee et al., 2005). Two studies focused on a medical coverage welfare program (e.g., Medicaid; Olfson et al., 2011; Richardson et al., 2003). Similarly, Bachman et al. (2015) studied the association between Medicaid participation and youth depression, but for a specific Medicaid program—the Family Opportunity Act Medicaid Buy-In Program (FOA)—tailored for Louisiana. Notably, only one study focused on a public housing program (Nebbitt et al., 2014).

Five studies documented a relationship between either the AFDC

or TANF income assistance welfare programs and youth depression. Of these five studies, three studies focused on the AFDC program, which was in operation from 1935 to 1996 when superseded by TANF (Dooley & Prause, 2002; Kalil et al., 2001; Pande, 2014). One study focused on the relationship between TANF and youth depression (Sullivan & Decoster, 2001), and one study was conducted during the period of welfare reform, and thus, documented the relationship of both the AFDC and TANF programs to youth mental health (Gavin et al., 2011).

### 3.1.3. Depression measures

Shown in Table 2, with the exception of one study, the studies included in this review assessed depression using a standardized scale with demonstrated reliability and validity to detect elevated depressive symptoms. The one exception was the Bachman et al. (2015) study, which assessed depression using a single question directed to parents regarding their child's depression: "Does your child have difficulty with feeling anxious or depressed?"

Three instruments were used in more than one study, of which the

**Table 1**  
Summary of Findings From 15 Studies Included in Systematic Review<sup>a</sup>

| Source                                  | Study purpose   | Settings<br>● Welfare Program  | Sample  | - Sample Size;<br>- Gender (% F)<br>- Race (Total)<br>- Age   | - Data<br>- Waves   | Analytic strategies  | Findings <sup>b</sup>   |
|---|---|--|---|---|---|--|---|
| (a) Descriptive Studies (n = 4)         |   |  |   |   |   |  |   |
| 1. Cook et al., 2004                    | To estimate the prevalence of posttraumatic stress disorder and its treatment in economically disadvantaged pregnant women.   | <ul style="list-style-type: none"> <li>- In 5 counties in rural Missouri and the city of St. Louis</li> <li>- Multiple (Pregnant Medicaid-eligible women at WIC [Women, Infants, and Children], SNAP [Supplemental Nutrition Assistance Program], and Medicaid)</li> </ul> | WIC, SNAP enrollment at any point in their pregnancy, included being pregnant, having (or being eligible for) Medicaid coverage of health services, and being able to speak English. Age ≥13. | - 744;<br>- 100%;<br>- 57.5% B; 42.5% W;<br>- M:22; median: 21 (2/2000-8/2001)  | - Survey interviews<br><br>- Cross-sectional;<br>(2/2000-8/2001)  | Descriptive statistics; T-test; and $\chi^2$ regression models | 11% met major depression criteria;<br><br>- Most prevalent comorbid diagnoses was major depressive episode (24 of 57, 42.2%).<br>- Pregnant women with PTSD had 5 times the odds of having a major depressive episode than women without PTSD.  |
| 2. Dosreis, Zito, Safer, & Soeken, 2001 | To determine extent of mental health service use of Medicaid child sample and if service use or psychotropic medication treatments differ with respect to children's Medicaid category of assistance? | <ul style="list-style-type: none"> <li>- Populous suburban county of a mid-Atlantic state during 1996</li> <li>- Multiple (Medicaid; SSI (Supplemental Security Income); Other aid [e.g., AFDC (Aid for Families and Dependent Children), WIC])</li> </ul>                 | The population of continuous and non-continuous Medicaid enrollees younger than 20 years  | - 15,507 (301 Foster care; 775 SSI; 14,422 Other Aid);<br>- Foster care (50%) SSI (64%) Other Aid (65%);<br>- Foster care (35%W; 46%B; 19%O); SSI (48%W; 18%B; 34% O)<br>- Other Aid (22%W; 43%B; 35%O)<br>- 0-19 (15-19: Foster care 27%; SSI 21%; Other Aid 8%) | - Population-based, 12-month service claims and related medication files<br><br>- 1-year cross-sectional (1996) | Descriptive  | - Prevalence of depression was 15% in foster care group; 7% in SSI group; and 0.7% in Other Aid grp.<br>- Of Medicaid youth, Whites were 1.9 times more likely to be diagnosed with depression than Blacks; but among SSI group, Blacks were 1.7 times more likely to be diagnosed with depression than Whites.   |
| 3. Nebbitt et al., 2014                 | How do African American youths rate their (a) self-efficacy and (b) depressive symptoms?  | New York City; Washington, DC; St. Louis; Philadelphia<br><br>Public housing   | All African American adolescents residing in public housing developments in the target cities.  | 782;<br>48%;<br>100% Black<br>M: 15.5 (11-20)   | Admin. data from local housing authorities in each city<br><br>Cross-sectional with pooled data: (2006-2008)    | Descriptive statistics and mean comparisons                    | Overall, the mean depression score of Black adolescents residing in public housing was 17.4 (cutoff depression scores: > = 16).<br>Male (M=18.5) youth reported significantly higher ( $p < .05$ ) depressive scores than females (M=16.6).<br>- 2% Medicaid youth had a depression claim at some time during the study period.   |
| 4. Richardson et al., 2003              | To determine the prevalence of depression in a statewide Medicaid youth population, and; To explore whether racial or ethnic disparities exist with respect to diagnosis and treatment of depression. | Washington State<br>- Medicaid   | Youth < 19 in families with incomes < 200% FPL and were continuously enrolled in Medicaid from 1997 to Dec 1998.  | - 192,441;<br>- 49%;<br>- 60% W; 7% B; 15% H;<br>33% Others<br>- 5-10: 56%;<br>11-14: 29%;<br>- 15-18: 15%.   | - Medicaid claims data<br><br>- Cross-sectional (7/1997-12/1998)  | Descriptive statistics; $\chi^2$ , regression models           | - Depression prevalence increased with age group, 15-18 years group had the highest depression rates, followed by 10-14 years group, and 5-10 years group.<br>- Among the youngest group (5-10 years), males had 2 times higher depression diagnoses rates than females. This rate was reversed in the oldest group (15-18 year), with females having 2 times higher rate of depression diagnoses than males.<br>- Compared with White youth, youth from ethnic minority groups (except Native Americans) had lower risk of depression. |

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**Table 1 (continued)**

| Source   | Study purpose  | Settings<br>● Welfare Program   | Sample   | Sample Size;<br>- Gender (% F)<br>- Race (Total)<br>- Age  | Data<br>- Waves   | Analytic strategies  | Findings <sup>b</sup>  |
|--|--|---|--|--|---|--|--|
| (b) Comparison Studies (n = 11)  |  |   |  |  |   |  |  |
| 5. <a href="#">Bachman, Comeau, Dworetzky, Hamershoek, &amp; Hirschi, 2015</a> | To provide information about the characteristics of program enrollees, and the impact of the Family Opportunity Act (FOA), a Medicaid Buy-In program on families of the National Survey of Children with Special Health Care Needs (CSHCN).          | <ul style="list-style-type: none"> <li>- Louisiana</li> <li>- Multiple (The FOA Medicaid Buy-In Program; and in SSI on families of the National Survey of Children with Special Health Care Needs (CSHCN).</li> </ul>                         | Parents/legal guardians raising a child with a disability enrolled in the Louisiana FOA Medicaid Buy-In Program; and in SSI group; and CSHCN families with income between 200% and 300% FPL group. | <ul style="list-style-type: none"> <li>- 52;</li> <li>- 43%</li> <li>- DNR</li> <li>- 0-19 years</li> <li>- 0-5: 28%;</li> <li>- 6-11: 38%;</li> <li>- 12-19: 34%</li> </ul>   | <ul style="list-style-type: none"> <li>- A 9 sections 30-45 min survey of Louisiana Medicaid Buy-In Program based on NS-CSHCN survey questions</li> <li>- Cross-sectional one wave (around 2012)</li> </ul> | Bivariate analyses; Pearson $\chi^2$   | <ul style="list-style-type: none"> <li>- The FOA group is less likely than the SSI group to have difficulty with anxiety or depression;</li> <li>- No statistically significant differences of depression between FOA group and the 200-300% FPL group.</li> </ul>   |
| 6. <a href="#">Buckner, Bassuk, Weinreb, &amp; Brooks, 1999</a>                | To examine the association between housing status (homeless vs. shelter housed) and measures of child behavior and self-reported symptoms of depression and anxiety.   | <ul style="list-style-type: none"> <li>- Massachusetts</li> <li>- Multiple (AFDC; emergency shelters and transitional housing facilities)</li> </ul>  | Children age 6 and older who were members of low-income, single-parent, female headed families.  | <ul style="list-style-type: none"> <li>- 228 (80 homeless; 148 newer homeless)</li> <li>- Homeless: 49%;</li> <li>- housed poor: 52%</li> <li>- Homeless: 26% W; 21% B; 45% H; 8% Others. Housed poor: 36% W; 16% B; 41% H; 7% others.</li> <li>- <i>Mean(M)</i>: 10 for homeless child; 11 for housed poor child (6-18 years).</li> </ul> | <ul style="list-style-type: none"> <li>- Data collected from the initial interview</li> <li>- Cross-sectional</li> </ul>  | T-test; $\chi^2$ ; hierarchical regression analyses                          | <ul style="list-style-type: none"> <li>- Homeless children reported higher levels of depressive symptoms than housed children, but these differences were not statistically significant. For example, 14% homeless whereas 9% housed poor children reported raw CDI scores <math>\geq</math> 19; The mean raw CDI score was 11 for homeless whereas was 9 of housed children.</li> <li>- Housing status was not associated with self-reported depression.</li> </ul> |
| 7. <a href="#">Dooley &amp; Prause, 2002</a>                                   | 1. To replicate the sectionally reported cross-sectional association between welfare status and well-being (depression);<br>2. To examine 2 selections and 2 social causation hypotheses of causal direction of welfare association with depression. | <ul style="list-style-type: none"> <li>- U.S. Nationally representative</li> <li>- AFDC</li> </ul>  | Female respondents to the 1992-94 surveys with data describing depression, alcohol use, and receipt of AFDC  | <ul style="list-style-type: none"> <li>- 3,678;</li> <li>- 100%;</li> <li>- 19.1% H; 28.3% B; 52.6% Others;</li> <li>- 14-22</li> </ul>  | <ul style="list-style-type: none"> <li>- National Longitudinal Survey of Youth (NLSY79)</li> <li>- Wave1: 1992; Wave 2:1994</li> </ul>  | Bivariate and multivariate analysis; Regressions                             | <ul style="list-style-type: none"> <li>- AFDC recipients reported significantly higher mean levels of depression when compared to the employed and out of the labor force groups;</li> <li>- Entering welfare was associated with increased depression.</li> </ul>   |
| 8. <a href="#">Gavin, Lindhorst, &amp; Lohr, 2011</a>                          | To examine the prevalence and correlates of elevated depressive symptoms in a 17-year cohort study of 173 women who were unmarried, pregnant adolescents between June 1988 and January 1990.   | <ul style="list-style-type: none"> <li>- Public and private hospital-based prenatal care clinics, public school alternative programs, and social service agencies in three urban counties in Washington State</li> <li>- AFDC/TANF</li> </ul> | Participants 17 years and younger, married, and planned to carry their pregnancies to term.  | <ul style="list-style-type: none"> <li>- 173;</li> <li>- 100%;</li> <li>- 53% W; 28% B; 10% Native; 8% H; 3% Asian; 10% Others;</li> <li>- Period 1: 14.2-19;</li> <li>- Period 2: 17.7-23;</li> <li>- Period 3: 19-24;</li> <li>- Period 4: 24.3-29;</li> <li>- Period 5: 29.6-34.5.</li> </ul>   | <ul style="list-style-type: none"> <li>- 17-year longitudinal study of adolescent mothers</li> <li>- 17 waves (analyses based on each period rather than across the 5 periods)</li> </ul>                   | Descriptive statistics; $\chi^2$ ; (un)adjusted logistic regression analyses | <ul style="list-style-type: none"> <li>- Receiving public assistance was positively and significantly associated with elevated depressive symptoms.</li> </ul>   |

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**Table 1 (continued)**

| Source                                 | Study purpose   | Settings<br>● Welfare Program  | Sample  | - Sample Size;<br>- Gender (% F)<br>- Race (Total)<br>- Age  | - Data<br>- Waves   | Analytic strategies   | Findings <sup>b</sup>  |
|--|---|--|---|--|---|---|--|
| 9. Go, 1999                            | To document depressive symptoms in Southeast Asian adolescents and examine possible relation of factors of immigration, acculturation level, family conflict, and peer relations  | <ul style="list-style-type: none"> <li>- 2 middle schools in Sacramento, California</li> <li>- General welfare programs</li> </ul>           | Southeast Asian immigrant adolescents living in CA.   | <ul style="list-style-type: none"> <li>- 206;</li> <li>- 62%;</li> <li>- Hmong: 39.8%;</li> <li>- Chinese: 34%;</li> <li>- Mien: 16.5%;</li> <li>- Vietnamese: 5.3%;</li> <li>- Lao/Cambodian: 4.4%</li> </ul>   | <ul style="list-style-type: none"> <li>- Structured group interviews survey data</li> <li>- One wave</li> </ul>   | T-test; correlation; regression and path modeling   | - Receiving welfare was significantly correlated with adolescents' higher depression symptom scores  |
| 10. Kalil, Born, Kunz, & Caudill, 2001 | To (a) determine the prevalence of depressive symptoms among a sample of first-time AFDC recipients at the time of their initial entrance onto the welfare rolls and (b) identify risk and protective factors related to depressive symptoms among the women. | <ul style="list-style-type: none"> <li>- Maryland</li> <li>- AFDC</li> </ul>   | A stratified random sample of 580 mothers who entered the Maryland AFDC rolls for the first time as payees during a 5-month period in 1987.                                       | <ul style="list-style-type: none"> <li>- 12-16</li> <li>- 580;</li> <li>- 100%;</li> <li>- 41% W; 54% B; 5% Others;</li> <li>- M: 23.8 (25% &lt; 18 years)</li> </ul>  | <ul style="list-style-type: none"> <li>- Face-to-face interview survey</li> <li>- Cross-sectional (1987)</li> </ul>   | Descriptive and multivariate analyses   | <ul style="list-style-type: none"> <li>- Overall, mean CES-D score of 17.88.</li> <li>- About 52% of the AFDC young mothers are at risk for clinical depression, indicating high prevalence of depressive symptoms in this random sample of first-time welfare recipients relative to the general population.</li> </ul> |
| 11. Knab, Garfinkel, & McLanahan, 2006 | To examine the effect of welfare and child support policies on maternal health outcomes   | <ul style="list-style-type: none"> <li>- 20 large U.S. cities</li> <li>- Multiple (TANF, Food Stamps, and child support policies)</li> </ul> | Married and unmarried mothers were interviewed around the time of a child's birth, with follow-up interviews occurring around the child's first and third birthdays.              | <ul style="list-style-type: none"> <li>- 2,536;</li> <li>- 100%;</li> <li>- DNR;</li> <li>- 18-34</li> </ul>   | <ul style="list-style-type: none"> <li>- Fragile Families and Child Wellbeing Study</li> <li>- Baseline: 1998; Endline: 2000</li> </ul>   | ANOVA; Regressions; Instrumental variable   | <ul style="list-style-type: none"> <li>- Mothers who received welfare in the last year report worse overall health, higher rates of depression and anxiety, and greater levels of food insecurity.</li> </ul>  |
| 12. Olsson et al., 2011                | To examine the prevalence and demographic and clinical characteristics of children diagnosed with tic disorders in large privately and publicly insured populations.  | <ul style="list-style-type: none"> <li>- California, Florida, New York, Texas, Illinois, Georgia, and Ohio</li> <li>- Medicaid</li> </ul>    | Children diagnosed with Tourette disorder, chronic motor or vocal tic disorder, and other tic disorders in public and private insurance plans over the course of a 1-year period. | <ul style="list-style-type: none"> <li>● Total: 26,369,655 (Publicly insured: 10247827 Privately insured: 16121828);</li> <li>● Publicly insured: 49%; privately insured: 49%;</li> <li>● Publicly insured: 35% W; 29% B; 29% H; 8% Others. Privately insured: N/A</li> <li>● 4-18: Publicly insured (57% between 12-18); Privately insured (66% between 12-18)</li> </ul> | <ul style="list-style-type: none"> <li>- Service and pharmacy claims were examined from the Market Scan Research Databases (2000-2007) and a seven-state Medicaid Analytic Extract File (2001-2004)</li> <li>- 2000-2007 combined data</li> </ul> | CROSSTAB procedure in SUDAAN 9.0; regression models; Separate $\chi^2$ ; Tukey multiple comparisons | <ul style="list-style-type: none"> <li>- Compared with privately insured youth, children under Medicaid diagnosed with Tourette disorder had higher rates of depression (14.6% versus 9.8%)</li> </ul>   |

(continued on next page)

**Table 1 (continued)**

| Source                                  | Study purpose   | Settings<br>● Welfare Program  | Sample  | Sample Size;<br>- Gender (% F)<br>- Race (Total)<br>- Age  | Data<br>- Waves   | Analytic strategies  | Findings <sup>b</sup>   |
|---|---|--|---|--|---|--|---|
| 13. Pande, 2014                         | To examine the spillover effect of welfare program on the family, particularly children of the participating mothers.                                   | <ul style="list-style-type: none"> <li>- 16 locations in 10 states across U.S.</li> <li>- AFDC</li> </ul>  | 16 to 22 years old mothers' who had first given birth at 19 or younger, were not pregnant when they entered the program, had dropped out of high school and were receiving cash welfare assistance. | <ul style="list-style-type: none"> <li>- 5,309 (1735 for BBGS; 1785 for BP; 1789 for PBI);</li> <li>- 100%;</li> <li>- 25% H and others; 55% B</li> <li>- M: 19 (16-22)</li> </ul> | <ul style="list-style-type: none"> <li>- New Chance project</li> <li>- Baseline:1989; 18-month follow-up;42-month follow-up;</li> </ul> | T-test; $\chi^2$ ; Intent to treat; Treatment on the treated; Regression; pathway analysis | <ul style="list-style-type: none"> <li>- BPI anxiousness/ depression significant negatively affected by mothers' welfare participation;</li> <li>- Mothers in welfare program were more likely to be depressed.</li> <li>- Treatment group mothers had higher (but not statistically significant) depression scores than control group mothers' at both 18- and 42-month follow-up.</li> </ul>        |
| 14. Rhee, Holditch-Davis, & Miles, 2005 | Reveal patterns of physical symptoms using a clustering approach and to examine relationships between the identified patterns and psychosocial factors. | <ul style="list-style-type: none"> <li>- U.S. sample, nationally representative</li> <li>- General welfare programs in both Waves I and II.</li> </ul> | Adolescents from the core sample who participated in both Waves I and II.   | <ul style="list-style-type: none"> <li>- 9,140;</li> <li>- 52%;</li> <li>- 64% W; 19% B; 12% H; 5% Others;</li> <li>- M: 15.6</li> </ul>   | <ul style="list-style-type: none"> <li>- Add Health</li> <li>- Wave 1 (94-95);</li> <li>- Wave 2 (1996)</li> </ul>                      | Cluster analyses; $\chi^2$ , ANOVA, regression models                                      | <ul style="list-style-type: none"> <li>- Youth whose parents received welfare had 3 times greater rate of being in extreme symptom group; Over 30% of welfare adolescents were either HS or ES.</li> <li>- Adolescents from families receiving welfare were unstable subgroup. The odds of being in the unstable subgroup increased substantially with an increase in depressive symptoms.</li> </ul> |
| 15. Sullivan & Decoster, 2001           | To analyze the effects of employment and TANF aid on well-being over time.  | <ul style="list-style-type: none"> <li>- Georgia</li> <li>- TANF</li> </ul>  | A stratified random sampling Georgia TANF recipients, single, Black female reporting as head-of-household, with a high-school education (GED/diploma), and two children.                            | <ul style="list-style-type: none"> <li>- 127;</li> <li>- 100%;</li> <li>- 100% Black</li> <li>- M: 27</li> </ul>   | <ul style="list-style-type: none"> <li>- 185-item survey</li> <li>- Wave1: 1999; Wave 2:2000-2001</li> </ul>                            | Bivariate and multivariate analysis  | <ul style="list-style-type: none"> <li>- People off TANF at Time 2 experienced a decline in depression;</li> <li>- Those with well-paying jobs had significantly lower depression scores over time.</li> </ul>  |

Abbreviations: AFDC = Aid to Families with Dependent Children. TANF = Temporary Assistance for Needy Families. FPL = federal poverty level. PTSD = posttraumatic stress disorder.

<sup>a</sup> Sources: Study purpose, sample descriptions, and findings are extracted directly and with minor editorial modifications from original reports.

<sup>b</sup> Findings column summarizes study findings on the relationship of welfare participation to either youth depression or prevalence of depression among welfare recipients.



**Table 2**  
Summary of depression measures and prevalence from 15 studies.

| - Source & Publ. Date<br>- Publication         | Depression Measure (Original Citation)  | No. of Items  | Response Scales |   | Score Range   | Reliability (a) | Severe Depressive Cut-off Values             | Depression Prevalence %/ M (SD)   |
|--|---|---------------|-----------------|---|---------------|-----------------|--|---|
| <b>(a) Descriptive Studies Dostreis(n = 4)</b> |   |               |                 |   |               |                 |  |   |
| - Cook et al., 2004                            | Diagnostic Interview Schedule for the DSM-IV (Robins et al., 2000)  | DNR           | DNR             | DNR   | DNR           | DNR             | DNR  | 11%   |
| - Obstetrics & Gynecology                      |   |               |                 |   |               |                 |  |   |
| - Dostreis et al., 2001                        | International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM; World Health Organization, 1979)                               | DNR           | DNR             | DNR   | DNR           | DNR             | DNR  | 1.3%  |
| - American Journal of Public Health            |   |               |                 |   |               |                 |  |   |
| - Nebbitt et al., 2014                         | CES-D-20 (Radloff, 1977)  | 20            | 4-point         | 0: rarely or none of the time to 3: most of the time.   | 0-60          | 0.88            | Higher scores indicating greater depression. | - Foster care: 15%<br>- SSI: 7%<br>- Other Aid: 0.7%<br>17.4 (9.8)  |
| - Social Work                                  |   |               |                 |   |               |                 |  |   |
| - Richardson et al., 2003                      | ICD-9 (WHO;1977)  | 9-code fields | Yes/No          | DNR   | 0-9           | DNR             | > = 1  | 2%  |
| - Archives of Pediatrics & Adolescent Medicine |   |               |                 |   |               |                 |  |   |
| <b>(b) Comparison Studies (n = 11)</b>         |   |               |                 |   |               |                 |  |   |
| - Bachman et al., 2015                         | Single question: Does your child have difficulty with feeling anxious or depressed?   | 1             | 3-point         | A lot of difficulty;<br>A little difficulty;<br>No difficulty.  | DNR           | DNR             | DNR  | <u>A lot of difficult:</u><br>- FOA:20%<br>- SSI:34.2%<br>- 200-300% FPL: 15.2%;<br><u>A little of difficult:</u><br>- FOA:24%<br>- SSI:38.2%<br>- 200-300% FPL: 28.3%<br>10.6% (CDI score > = 19);<br>- Homeless: 13.8%<br>- Housed poor: 8.8%<br>25% (CES-D > = 16) |
| - Maternal and Child Health Journal            |   |               |                 |   |               |                 |  |   |
| - Buckner et al., 1999                         | Children's Depression Inventory (CDI; Beck & Beamesderfer, 1974; Kovacs, 1985)  | 27            | 3-point         | 0: an absence of symptoms;<br>1: mild symptoms;<br>2: definite symptoms.  | 0-54          | 0.81            | > = 19                                       |   |
| - Developmental Psychology                     |   |               |                 |   |               |                 |  |   |
| - Dooley & Prause, 2002                        | CES-D-20 (Radloff, 1977); CES-D-7   | 20; 7         | 0-3             | 0: rarely or none of the time to 3 = most of the time.  | 0-60; 0-21    | 88; .81         | > = 16; DNR                                  |   |
| - American Journal of Community Psychology     |   |               |                 |   |               |                 |  |   |
| - Gavin et al., 2011                           | Brief Symptom Inventory (BSI) depression subscale (Derogatis & Spencer, 1993); a brief version of the Symptom Checklist 90-R (SCL-90-R) (Derogatis, 1975) | 6             | 5-point         | 0: not at all to 4: extremely.  | 0-24          | DNR             | > = 12; or PROMIS T-score > = 63             | - On AFDC: 43.8%<br>- Off AFDC: 23.8%<br>P1: 19.8%<br>P2: 35.2%<br>P3: 33.5%<br>P4: 34.6%<br>P5: 35.2%<br>M = 20.02 (3.31)  |
| - Women & Health                               |   |               |                 |   |               |                 |  |   |
| - Go, 1999                                     | CES-D-11 (Radloff, 1977; Kohout et al., 1993)   | 11            | 3-point         | 1 = never; 2 = sometimes; 3 = often.  | 11-33         | 0.72            | DNR  | - Male: 19.17(3.43)<br>- Female: 20.55(3.13)<br>17.88 (11.41)   |
| - Doctoral dissertation- UC Davis              |   |               |                 |   |               |                 |  |   |
| - Kalil et al., 2001                           | CES-D-20 (Radloff, 1977)  | 20            | 4-point         | 1: rarely or none of the time to 4: most of the time.   | 0-60(recoded) | 0.88            | Higher scores indicating greater depression. |   |
| - American Journal of Community Psychology     |   |               |                 |   |               |                 |  |   |
| - Knab et al., 2006                            | Composite International Diagnostic Interview Short Form or CIDI-SF (Walters et al. 2002)  | 7             | Yes/No          | Whether or not having feelings of dysphoria or anhedonia in the past year lasting for two weeks or more and if the symptoms lasted most of the day and if they occurred every day during the two-week period. | DNR           | DNR             | DNR  | 24.5% (depression/ anxious)   |
| - Working Paper- Princeton University          |   |               |                 |   |               |                 |  |   |

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**Table 2 (continued)**

| - Source & Publ. Date<br>- Publication   | Depression Measure (Original Citation)  | No. of Items  | Response Scales | Score Range | Reliability (α) | Severe Depressive Cut-off Values             | Depression Prevalence %/ M (SD)   |
|--|---|---------------|-----------------|-------------|-----------------|--|---|
| - Olsson et al., 2011<br>- <i>Journal of the American Academy of Child &amp; Adolescent Psychiatry</i> | ICD-9-CM (World Health Organization, 1979)                                      | 8-code fields | DNR             | DNR         | DNR             | DNR  | All youth without Tic Disorders: 3.1%;<br>With Tourette disorder: 14.6%;<br>With chronic motor or vocal tics: 8.5%;<br>With other tics: 8.3%<br>M = 17.99 (10.21) |
| - Pande, 2014<br>- <i>Working paper-Social Science Research Network</i>                                | CES-D-20  | 20            | 4-point         | 0-60        | DNR             | DNR  | - Treatment: 17.78<br>- Control: 18.4<br>Month 18:  |
| - Rhee et al., 2005<br>- <i>Psychosomatic Medicine</i>   | CES-D-19 (Radloff, 1977)  | 19            | 4-point         | 0-57        | 0.87            | Higher scores indicating greater depression. | - Treatment: 15.79<br>- Control: 15.56<br>Month 42:   |
| - Sullivan & DeCoster, 2001<br>- <i>Journal of Family Social Work</i>                                  | The Hopkins Symptom Checklist Depression Subscale (HSCL; Dosreis et al., 2001). | DNR           | DNR             | DNR         | DNR             | DNR  | - Treatment: 15.62<br>- Control: 14.92<br>DNR   |
|  |   |               |                 |             |                 |  | Time 1:<br>- On Welfare: 37.81(10.8)<br>- Off Welfare: 39.13(9.53)<br>Time 2:<br>- On Welfare: 36.08(13.76)<br>- Off Welfare: 43.43(14.03)                        |

Note: DNR = Did not report.

Center for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977) was the most frequently used measure, appearing in six studies. The original CES-D has 20 items, and the full scale was used in four studies (Dooley & Prause, 2002; Kalil et al., 2001; Nebbitt et al., 2014; Pande, 2014). Other studies used one of the several revised shorter versions, and this review yielded three: the CES-D 19-item scale (Rhee et al., 2005), the CES-D 11-item scale (Go, 1999), and the CES-D 7-item scale (Dooley & Prause, 2002). The International Classification of Diseases, Ninth Revision (ICD-9; World Health Organization, 1977) was used in three studies, but only one study used the original ICD-9 diagnostic codes for depressive symptoms (Richardson et al., 2003), and two studies adopted the Clinical Modification (ICD-9-CM; World Health Organization, 1979) codes (Dosreis et al., 2001; Olfson et al., 2011). Four instruments were used in one study each. The 27-item Children's Depression Inventory (CDI) was used by Buckner et al. (1999); the Brief Symptom Inventory (BSI) depression subscale, which is a brief version of the Symptom Checklist 90-R (SCL-90-R) was used by Gavin et al. (2011); the Hopkins Symptom Checklist Depression Subscale (HSCD) was used by Sullivan and Decoster (2001); and the Diagnostic Interview Schedule (DIS-IV) from the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV)* was used in Cook et al. (2004).

As shown in Table 2, four studies did not report specific measures of depression; the type of missing information included the number of scale items, response scales, score range, reliability (alpha), and cut-off values for the severe depression scale (Cook et al., 2004; Dosreis et al., 2001; Olfson et al., 2011; Sullivan & Decoster, 2001). Although the authors did not report the psychometric details, the authors of each of these studies referred readers to original work that includes measurement analytics.

### 3.2. Characteristics of participants

Shown in Table 1, the majority of reviewed studies included a large sample size, with only three studies using a sample of < 200 participants (Bachman et al., 2015; [ $n = 52$ ]; Gavin et al., 2011; [ $n = 173$ ]; Sullivan & Decoster, 2001; [ $n = 127$ ]). As mentioned, this review focused on the mental health outcomes of youth 16 to 24 years old. However, the reviewed studies were inconsistent in the age range used to define youth. As shown in Table 1, of these 15 studies, youth was broadly defined as spanning ages 12 to 19 years.

#### 3.2.1. Gender distributions

Most samples examined in the reviewed studies were composed primarily of female participants. Seven of the 15 studies were gender specific and used female-only samples (e.g., Cook et al., 2004; Dooley & Prause, 2002; Gavin et al., 2011; Kalil et al., 2001; Knab et al., 2006; Pande, 2014; Sullivan & Decoster, 2001). In the remaining 8 studies, females composed at least half of the study sample.

#### 3.2.2. Race/ethnicity distributions

Across the 15 studies, study participants tended to be part of the general population, and a majority of the studies included samples composed of racially and ethnically diverse groups, including White, Black, Hispanic, and other racial/or ethnic groups. One study focused on immigrant adolescents from Southeast Asia living in California, and identified the Asian subgroups in the sample, including Hmong, Chinese, (Laotian-) Mien, Vietnamese, and Lao/Cambodian (Go, 1999). Only two studies specifically focused on African Americans (Nebbitt et al., 2014; Sullivan & Decoster, 2001). However, two studies did not report the race/ethnicity of participants (Bachman et al., 2015; Knab et al., 2006).

### 3.3. Depression prevalence of youth on welfare programs: mixed findings from descriptive studies

Of the 15 reviewed studies, four studies described the prevalence of

depression among youth on welfare programs. One study (Nebbitt et al., 2014) reported the mean CES-D 20-item scale score ( $M = 17.4$ ;  $SD = 9.8$ ; range: 0–51) of African American adolescents (11 to 20 years;  $n = 778$ ; 48% female) residing in public housing at four cities (i.e., New York City; Washington, D.C.; St. Louis; and Philadelphia). The average depression scores of this group was higher than the conventional 16-point cut-point value of the CES-D, indicating a diagnosis of major depressive disorder (Dooley & Prause, 2002).

The remaining three descriptive studies reported rates of depression among the sampled youth (Cook et al., 2004; Dosreis et al., 2001; Richardson et al., 2003). For example, Cook et al. (2004) collected data from 744 young women (age:  $M = 21$  years; median = 21 years) who were pregnant and eligible for one or more welfare programs offered in Missouri (Medicaid; Women, Infants, and Children [WIC]; and SNAP). These researchers found that 11% of the young women met the diagnostic criteria for major depression. However, Richardson et al. (2003) reported a much lower rate of depression among a sample of youth enrolled in Medicaid. Richardson and colleagues used Washington State Medicaid claims data for a large sample of youth ( $N = 192,441$ ; 49% female) between 5 and 18 years old, living in families with incomes < 200% of the federal poverty level. These youth had been continuously enrolled in Medicaid since birth. Richardson et al. found that 2% ( $n = 4084$ ) of Medicaid youth had received a clinical diagnosis of depression. This rate was similar to the rate reported by Dosreis et al. (2001) based on their examination of Medicaid youth from a suburban county of a Mid-Atlantic state. This research team found an overall depression rate of 1.3%, which was based on cross-sectional descriptive research, using administrative mental health services claims data ( $N = 15,507$ ) among youth (< 20 years) of continuous and non-continuous Medicaid enrollees. Nevertheless, when Medicaid youth were divided into three subgroups based on the type of public aid program—foster care ( $n = 301$ ; 50% female), SSI ( $n = 775$ ; 64% female), and other aid (e.g., AFDC, WIC;  $n = 14,422$ ; 65% female)—dosreis et al. found a 15% prevalence of depression among foster care group, 7% for the SSI group, and 0.7% for the other type of aid group. Thus, descriptive research on recipients participating in different types of welfare programs and in different locations yielded a wide range of depression rates.

Some of the research also examined other factors among welfare recipient youth such as race/ethnicity. Overall, White youth receiving welfare benefits had higher rates of depression than their other racial/ethnic counterparts. For example, Dosreis et al. (2001) found that in a sample of youth enrolled in Medicaid, White youth were 1.9 times more likely to be diagnosed with depression than African American youth; however, among youth receiving SSI benefits, African American youth were 1.7 times more likely to be diagnosed with depression than White youth. Similarly, Richardson et al. (2003) found that as compared with White youth, the youth from racial/ethnic minority groups (except for Native Americans) had lower rates of depression. Further, they found that female Native American youth (ages 15 to 18 years) had the highest prevalence of depression (9.4%), whereas male Asian/Pacific Islander youth (ages 5 to 10 years) had the lowest prevalence of depression (0.03%). However, Nebbitt et al. (2014) found an opposite direction of gender differences on depression. They found male African American adolescents reported significantly higher ( $p < .05$ ) depression score ( $M = 18.5$ ) than females ( $M = 16.6$ ).

When Richardson et al. (2003) divided their large sample of youth ( $N = 192,441$ ) into subgroups by age, they found the prevalence of depression increased with age, with the 15 to 18 years old group having the highest rates of depression, followed by the 10 to 14 years old group, and then the 5 to 10 years old group. However, Richardson and colleagues also found that males in the youngest group (5 to 10 years) had diagnosed depression at 2 times the rate of the females in the same age group. Notably, this rate was reversed in the oldest age group, with females between 15 and 18 years having twice the rate of depression of same age males.

Generally, these four descriptive studies provided mixed findings. Prevalence of depression among youth on social welfare programs varied across studies based a range of individual and program characteristics, including sample size, specific welfare programs in which youth participated, geographic location, gender, and racial/ethnic minority status.

### 3.4. Relationship between welfare participation and depression

Eleven studies conducted comparison research (e.g., welfare participation vs. non-welfare participation, or among different welfare programs) to examine the relationship between welfare participation and depression among youth. Overall, the reviewed comparison studies reported consistent findings that participating welfare programs was associated with higher risk for depression.

Six of the 11 studies focused on young mothers. For example, [Dooley and Prause \(2002\)](#) focused on the female respondents (14 to 22 years;  $n = 3,678$ ) of the National Longitudinal Survey of Youth (NLSY79) survey, and found that women receiving AFDC benefits had significantly higher levels of depression as compared with women who were employed or out of the labor force. [Gavin et al. \(2011\)](#) used data from a 17-year longitudinal study of young mothers ( $M$  age = 17.5 at Period 1;  $n = 173$ ), and found that receiving welfare benefits was positively and significantly associated with higher levels of depressive symptoms. Similarly, [Kalil et al.'s \(2001\)](#) research used a random sample of young mothers ( $M$  age = 23.8,  $n = 580$ ) who were first-time users of the Maryland AFDC program, and found that more than half (52%) of the AFDC young mothers had higher risk of depression. This finding indicated these young first-time welfare recipients associated with a higher prevalence of depression than the general population. In addition, [Knab et al.'s \(2006\)](#) findings were consistent with those showing an association between young mothers' (18 to 34 years;  $n = 2,536$ ) welfare participation and higher levels of depression. [Pande \(2014\)](#) also found similar results that young mothers ( $M$  age = 18.8 at baseline;  $n = 5,309$ ) who participated in AFDC program were more likely to be depressed. Moreover, [Dosreis et al. \(2001\)](#) tracked 127 young African American single-mothers who were currently or past welfare recipients ( $M$  age = 27 years) from 1990 to 2000/2001, and found that the mothers not currently enrolled in a welfare program had 2 times lower levels of depression than the mothers receiving welfare benefits. Overall, these six studies reported consistent findings of evidence that young mothers participating in welfare programs associated with higher levels of depression.

For other studies focused on the general youth population, results showed that youth enrolled in Medicaid and diagnosed with Tourette's disorder had higher rates of depression as compared with youth with the same medical condition and enrolled in private insurance ([Olson et al., 2011](#)). In addition, [Rhee et al. \(2005\)](#) found that youth ( $M$  age = 15.6 years;  $n = 9,140$ ) whose parents received welfare benefits had higher risks of having depressive symptoms as compare with their counterparts from non-welfare households. Similar findings were reported in studies that examined a group of U.S. immigrants. For example, [Go \(1999\)](#) conducted a research on a group of Southeast Asian immigrant adolescents ( $M$  age = 13;  $n = 206$ ) living in California, and found participation in welfare programs was significantly associated with higher depression scores.

However, these consistent findings were not found in one study which comparing welfare recipients with non-welfare recipients among highly vulnerable populations such as homeless youth, welfare participation was associated with lower risk for depression. For example, findings from [Buckner et al.'s \(1999\)](#) study showed that youth from low-income, single-parent, female headed families ( $M$  age = 10;  $n = 228$ ) participating in housing related welfare programs had lower rates of depression. Specifically, Buckner et al. found youth who participated in housing programs, such as government-run emergency shelters and transitional housing facilities, and had high rates of participating in

cash transfer programs (e.g., AFDC), had lower rates of depression as compared with homeless youth. However, the differences were not statistically significant, indicating housing status was not associated with self-reported depression.

## 4. Discussion

One of the primary roles of government is to promote the well-being of citizens by providing social welfare programs to address social problems such as poverty, inequity, and disparity. However, participation in social welfare programs could be a double-edged-sword. While welfare programs may increase income, secure basic human needs for survival (e.g., health care and housing), it appears that receiving welfare benefits from the government is associated with higher risk for depression or other disorders.

Results from the four descriptive studies are mixed. The reported depression rates varied by sample size, so that the studies with larger sample sizes reported lower depression rates ( $< 2\%$ ; e.g., [Dosreis et al., 2001](#); [Richardson et al., 2003](#)), whereas the studies with smaller sample sizes reported either higher rates ( $> 11\%$ ; e.g., [Cook et al., 2004](#)) or greater proportions of youth above normative levels of depression scores ([Dooley & Prause, 2002](#)). Such mixed findings indicate that depression prevalence varies according to study sample characteristics (e.g., different sample size, age groups, gender, and racial/ethnicity), and welfare program recipient group. In future depression research on welfare recipients, conducting subgroup analyses, or using representative data might yield results that are more precise.

In addition, this review observed that White youth welfare recipients had higher levels of depression than youth in other racial/ethnic subgroups (i.e., African American and others; [Dosreis et al., 2001](#)). However, [Richardson et al. \(2003\)](#) found Native American youth had higher prevalence of depression diagnoses than other racial/ethnic subgroups (i.e., White, Black, Hispanic, Asian/Pacific Islander, and others). These findings are consistent with epidemiological depression prevalence among U.S. adolescents, where other racial groups (including Native Americans adolescents) had the highest depression rates (15.6%), followed by White (13.4%), Hispanic (12.6%), Asian (9.7%) and Black (9.0%) adolescent groups ([Center for Behavioral Health Statistics and Quality, 2016](#)). Similarly, these findings are consistent with findings from epidemiological surveys, which suggest that adolescent females have a higher risk of depression compared to males ([Center for Behavioral Health Statistics and Quality, 2016](#)). This review also observed similar depression prevalence results according to gender for youth from welfare recipient families ([Richardson et al., 2003](#)). Given that female youth groups have a higher risk of depression, developing gender-specific screening and treatment programs for young women who participate in welfare programs is strongly recommended.

Although the descriptive studies yielded mixed findings, such findings are consistent with the characteristics of the youth developmental stage. Studies included in this review typically defined *youth* very broadly and vaguely, with labels ranging from *childhood* to *young adulthood*. At this unique developmental stage, youth experiencing rapid growth and significant development changes at physical, intellectual, psychological, social-emotional, and mental aspects. In addition, during this period, youth are developing life-long attitudes, beliefs, and values ([Kellough & Kellough, 2008](#)). These aspects of youth development are influenced by various factors such as their peers, parents, families, school, community, and the macro society in which they live. Thus, the combined influences of these disparate factors could lead to different outcomes. Therefore, given the changing and unstable nature of this developmental period, it is not surprising that studies examining samples of youth from different populations, ethnicities, genders, exposure to welfare benefits, family backgrounds, and geographic locations would produce mixed results.

Overall, this review found that youth participation in welfare programs was associated with a higher vulnerability for depression. One

possible explanation for this finding might be the shaming or stigma effects of welfare participation on behavioral health. Several studies mentioned that youth participating in welfare programs reported feelings of shame and experiences of being labeled, discriminated against, and ostracized by their peers (e.g., Buckner et al., 1999; Cook et al., 2004; Dooley & Prause, 2002; Richardson et al., 2003). These effects can lower self-esteem, affecting both emotional and psychological well-being. However, other sources of depressive symptoms are likely to be un-controlled (i.e., unobserved heterogeneity), and without having comprehensive controls, the current review cannot draw a causal inference about the effects of welfare participation on depressive symptoms among young recipients.

Given that many social welfare programs are means-tested and needs-based programs (versus programs based on developmental needs of the recipients of aid), these programs typically provide a minimal level of benefits, which are intended to meet only the basic living needs of recipients, and therefore, rarely help recipients out of poverty. Moreover, the delivery systems of some welfare programs do not provide the same quality of health care or services available to those with private coverage (Barr, 2000). Therefore, despite participating in welfare programs, recipients might still struggle with poverty and financial burdens and/or continue to suffer physical or mental illnesses in addition to the ongoing shaming effects of receiving welfare, leaving welfare recipients at higher risk of depression.

This review also found that more than half of studies (59%) used a cross-sectional research design, which inherently limits the researchers' ability to draw causal inferences about the relationship between welfare participation and depression among youth because cross-sectional data present only a "snapshot" of program effects. Cross-sectional designs cannot control factors such as time order, and thus, findings are at best correlational in nature. In other words, findings from this review showed that youth participation in welfare program was associated with higher risk of depression, but the findings cannot be used to support claims that welfare participation leads to higher levels of depression. Thus, for future research, a better approach would be to use a longitudinal design that includes collecting multiple waves of data, to investigate mediating mechanisms, including the effects of stigma, on the relationship between welfare participation and depression.

Furthermore, comparison of results across studies would be more meaningful if there was greater use of a standardized instrument to measure depression. Although the CES-D (Radloff, 1977) was the most frequently used measure, this depression scale was used in fewer than half of the 17 reviewed studies. Moreover, making comparisons of depression rates that have been inconsistently measured or obtained using different dimensions and instruments (e.g., the CDI, ICD, and HSCD scales) raises serious concerns about the validity of such comparisons. The lack of consistent measures and consensus on what measures should be used limits the ability to draw conclusions about the relationship between welfare participation and depression across studies. In addition, many studies did not report specific measurement information about the instrument regarding the number of items, response scales, score range, reliability (alpha) and the cut-off values for each scale. Although such information is available through the original studies that introduced the measure, by including these details in the study reports, authors would ensure their findings are understood in their appropriate context. Even though using the standardized and validated instruments, without reporting whether the measure was performed fitly and properly for a new dataset and population, results of these studies should be questioned. Therefore, it is strongly recommended that authors report detailed information regarding the measure used to assess depression.

Last, this review found that most comparison studies only examine the correlation between welfare participation and depression. Although some of the studies had collected multi-waves of data, the analyses were based on combined data rather than cross the multiple waves of data (e.g., Gavin et al., 2011; Olfson et al., 2011). For future research,

utilization of longitudinal data and advanced statistical methods (e.g., growth curve modeling, or regression discontinuity), in order to estimate the approximate causality between welfare participation and depression is warranted.

## 5. Limitations

This review has several limitations that must be acknowledged. First, this review has potential risk of publication bias. This study focused on published empirical studies, and only included studies published in English. Although a gray literature search via Google search was conducted to harvest unpublished online resources (e.g., working papers), it is likely that other studies published in languages other than English or unpublished because of non-significant findings were not detected. Second, although the authors followed best practices in developing a search strategy, which included consulting a research librarian and topic experts, it is possible that the search terms used were not capable of exhausting the available literatures. Last, this review did not use a fixed range of youth ages. Therefore, some of the findings based on varied age definitions of "youth" make direct comparison challenging or impossible.

## 6. Conclusion

This systematic review summarizes the available evidence and helps clarify the evidence on the relationship between welfare participation and depression among youth. Although mixed findings on the prevalence of youth depression were observed from the descriptive studies, it is important to note that the comparison studies consistently showed that participation in welfare programs was associated with a higher vulnerability for depression. In addition, because this review used welfare participation as a marker for low SES, the summary of findings presented here has implications for early screening and treatment of welfare program participants with mental health problems which may interfere with their path to self-sufficiency. In addition, this review has implications for policy makers, practitioners, and researchers when developing and designing programs (or interventions) to improve youth mental health outcomes, especially for the most vulnerable populations.

## Conflict of interest

We have no conflict of interest to declare.

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