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EXPLORING SOCIAL SUPPORT IN MIGRANT AND SEASONAL

FARMWORKERS IN SOUTH GEORGIA

by

REBECCA RODRIGUEZ

Under the Direction of Dr. Julia Perilla

ABSTRACT

Migrant and Seasonal Farm Workers (MSFWs) in the United States live and work within
ever changing contexts, which require researchers to take into account multiple environmental
and psychosocial stressors influencing mental health. The current study examined factors of
social support and social isolation for MSFWs in South Georgia. Social isolation and support
characteristics were identified and examined in association with depression among 120 Latino,
male, MSFWs in South Georgia. Several protective and risk factors for depression were
identified. Depression symptoms varied based on MSFWs household composition, perceived
social isolation stressors, the frequency in which they called home and having socially supportive
relationships in the local area. Results highlight the importance of examining social support in
the context of cultural and community fit.

INDEX WORDS: Migrant farm worker, Latino/Hispanic, Depression, Social support

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by

REBECCA RODRIGUEZ

A Thesis Submitted in Partial Fulfillment of the Requirements for the Degree of

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REBECCA RODRIGUEZ

Committee Chair: Julia Perilla

Committee: Gabriel Kuperminc

Chris Henrich

Electronic Version Approved:

Office of Graduate Studies

College of Arts and Sciences

Georgia State University

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1. INTRODUCTION

Immigrant Latinos in the United States live and work within ever changing contexts. The transitory nature of their life requires researchers to take into account multiple factors influencing immigrant health. The population under examination in this study is one that is often invisible to the communities in which they live and nearly absent in psychological literature. Migrant and Seasonal Farm Workers (MSFWs) in the United States give an enormous service in providing food to the American population. It is a population that is often ignored and marginalized in society despite the service they provide. MSFWs work in one of the most dangerous industries in the United States (U.S. Department of Labor, Bureau of Labor Statistics, Census of Fatal Occupational Injuries, 2011) and experience disparities in both physical and mental health. This population, vital to the U.S. economy, continues to increase in the Southeast region of the United States and research is needed to address the health disparities of this growing population. This study contributes to current psychological literature by examining social support characteristics in a sample of MSFWs in Georgia. To date, very few research studies have been conducted and provide a limited picture of the mental and physical health of Georgia's MSFWs.

For the general population, extensive psychological research has documented a relationship between a lack of social support and increased mental health problems. However, this relationship has not been as clearly established for Latinos living in the United States and to date, no research has been conducted examining social support in MSFWs. Current conceptualizations of social support as measured for non-migrant populations may not adequately capture the nature of social support in a transitory population such as MSFWs. For immigrant Latinos in the United States, social support and mental health may be influenced by a

multitude of factors such as ethnicity, language, documentation status, socioeconomic status, and transnational migration. Taking these unique factors into consideration, I have taken an exploratory approach to understanding the concept of social support for MSFWs. Thus the current study explores the characteristics of social relationships that may enhance or hinder social support in MSFWs and the relationship between these social support characteristics and depressive symptoms.

2. LITERATURE REVIEW

The following section provides an overview of MSFW population characteristics in the United States and in Georgia. I then discuss findings regarding social support in Latino populations, and finally examine social indicators of isolation and support that may add to our conceptualization of social support for MSFWs.

MSFW Definition

The Federal Migrant Health Program defines a MSFW as an individual whose "employment (51% or more of time) is in agriculture" and "who has been so employed within the last 24 months" (United States Code, Public Health Services Act, "Migrant Health, 2000). These federal guidelines distinguish between "seasonal" (those who work in agricultural on a seasonal basis but do not require relocation) and "migrant" farmworkers (those who relocate for temporary employment in agriculture).

National Demographics

Accurate population estimates for MSFWs in the United States are difficult to obtain due to the transitory nature of this population. Depending on the source, there are between 3 and 5 million MSFWs and their families living and working in the United States (Kandel, 2008; NCFH, 2003a). The National Agricultural Workers Survey (NAWS, 2001-2002) estimates that

42% of farmworkers are migrant, 75% are foreign-born Mexican citizens, and 2% are from Central American countries (Carroll, Samardick, Bernard, Gabbard, & Hernandez, 2005). MSFWs in the United States are mostly male (80%) and relatively young, with a mean age around 33 years old.

The average MSFW earns a yearly wage of $12,500, although roughly half earn less than $10,000 per year (Carroll et al., 2005). The majority of MSFWs (58%) are married and 51% have children, yet 57% arrive to the United States unaccompanied (i.e. living apart from all nuclear family members). The median education level is around 6th grade and most MSFWs are predominantly monolingual Spanish speakers. Further, the NAWS estimates that roughly half (52%) of all hired MSFWs lack legal authorization to work in the United States. These national statistics portray a population with limited formal education, limited knowledge of the English language and a lack of legal authorization to work in the United States. Combined, these factors may indicate that communities of MSFWs are largely hidden from society and as such, are less likely to be counted in population demographics.

Georgia Demographics

Population estimates for MSFWs in Georgia are sparse. Georgia's Migrant and Seasonal Farmworker Enumeration Profiles Study provided limited estimates of Georgia's total MSFW population, household composition, crop type, and seasonal or migrant status. The Enumeration Profile estimates that there are a total of 117,119 MSFWs and their families in Georgia at any given time (Larson, 2008). Similar to National MSFW demographics, 50.9% of all farmworkers in Georgia are classified as migrant and 49.1% seasonal. Additionally, 52.9% of MSFWs in Georgia are unaccompanied without family. Yearly income estimates were not available for MSFWs in Georgia. However, a 1995 study of 225 MSFWs in South Georgia, reported MSFWs

earning a mean yearly income of $7,000, which is substantially less than the national average of $12,500 (Bechtel, Shepherd, & Rogers, 1995). Of note, these population estimates are a bit dated (more than 5 years old) and may not reflect the current growth of the Latino immigrant population in Georgia.

However, what we do know more currently is that, from 2000-2010, the US Census Bureau reported that Georgia experienced a 63.3% increase in the general immigrant population (Patten, 2010). Further, Pew Hispanic Center estimates that 58% of the immigrant population growth in Georgia has been new Latino immigrants (Patten, 2010). Distinguishing Georgia as a non-traditional receiving community is important because the social and structural resources available to MSFWs in traditional receiving states such as in Texas, California, and New York may not be yet established in Georgia. As mentioned by Kiang, Grzywacz, Marin, Arcury, & Quandt; (2010), the lack of social and cultural resources in nontraditional receiving states has been found to increase the prevalence of mental and physical health problems as is described below.

MSFW Health

For MSFWs in the United States, constant migration, occupational hazards, and minimal access to care may contribute to a plethora of poor health outcomes. In fact, research indicates that the life expectancy of a MSFW is 49 years, compared to the national average of 75 years (Sandhaus, 1998). Understanding the context in which MSFW work may provide insight to this large gap in life expectancy. Farm labor requires working long hours in extreme heat, stooping, bending, and repeated heavy lifting (Hanson & Donohoe, 2003). These conditions may contribute to the occurrence of backaches, heat exhaustion, and physical injury (Anthony, William, & Avery, 2008). Research has found that direct contact with vegetation increases

MSFWs' risk for elevated pesticide contamination, which can lead to rashes, chemical burns, and respiratory problems (Anthony et al., 2008). These findings are a snapshot of some of the common occupational hazards experienced by MSFWs, which may put tremendous stress on their health.

In addition to occupational stressors, research has documented psychosocial stressors related to the MSFWs lifestyle. In a qualitative study of 78 Mexican MSFWs in the Midwest United States, Hovey and Magana (2002ab) investigated MSFWs perceptions of stressors experienced. The authors found that separation from family and friends was the most commonly reported stressor for over half of all male MSFWs interviewed. Male MSFWs reported unpredictable employment and uprootedness in housing as the second most common stressor. There may be a relationship between uprootedness, unpredictably in employment and family separation stressors, as they seem to indicate uncertainty in family reunification. However, this relationship has not been explored in the available psychological literature. It may be that the stressors of unpredictable employment, unpredictable housing, and constant uprooting may indicate an underlying stressor of instability (Magana and Hovey, 2003). MSFWs also report rigid work demands, poor housing, lack of transportation, geographical isolation, and an undocumented status as stressors commonly experienced in migrant farm work (Hovey and Magana, 2003). Taken together these stressors may suggest that MSFWs experience hardships not only in hard physical labor but perhaps in social isolation as well. For example, MSFWs experiencing rigid work conditions may find that they have less time for socially supportive interactions. Further, their geographical isolation and lack of transportation may further exacerbate MSFW experiences of social isolation.

Both occupational and psychosocial stressors as indicated above may influence MSFWs poorer health outcomes in multiple ways. For example, Perilla and colleagues, in a qualitative study exploring the healthcare needs of 68 migrant farmworker men and women, found that transportation problems, lack of health information, lack of trust, and fear of immigration officers were barriers to MSFWs access to healthcare (Perilla, Wilson, Wold, & Spencer, 1998). Similarly, in a study of 225 MSFWs in South Georgia, Bechtel and colleagues found that MSFWs reported long work hours and a lack of transportation as barriers to access to health care and social service resources (Bechtel, Shepherd, & Rogers; 1995). Less than one percent of MSFWs interviewed reported receiving social services such as Medicaid, Women, Infants, and Children (WIC), and food stamps. Although, these studies did not specifically examine social isolation for MSFWs, they provide some evidence that structures inherent in migrant farm work (i.e. lack of transportation, long work hours, and fear of deportation) may negatively affect physical and mental health by reducing access to social resources.

Research on MSFWs mental health is mixed, notably in studies examining depression. New evidence has suggested that the differences in depression found among MSFWs in the United States may be due to differences in the availability of social resources. For example, higher prevalence rates of depression are found among MSFWs in non-traditional receiving communities (e.g. North Carolina, Georgia) when compared to rates reported in traditional migrant areas of the US such as the West and Midwest. Kiang and colleagues (2010), in a study examining the mental health of 150 MSFW men and women in a nontraditional receiving state (North Carolina), found that 62.9% (N= 150) of MSFWs reached clinically significant depression levels. This is notably higher than reported depression rates in California (20.4%; Alderete et al., 1999; 20%; Vega et al., 1985) and the Midwest (37.8%; Hovey, 2002b). These

differences in depression may indicate that MSFWs in non-traditional receiving states may not be receiving social resources or access to care that MSFWs in more established migrant communities have available. This is further supported by Bailey (2005), who found that there are more Spanish speaking social networks and cultural resources available in communities where MSFWs have been present for many years.

On the other hand, there is also cause to speculate that differences in depression may be associated with MSFW experiencing different types of stressors depending on the location (traditional vs. nontraditional migrant communities). Some evidence suggests that this may be the case. For example, MSFWs in the Eastern region of the United States are more likely to live in employer provided housing, to be unmarried and unaccompanied by friends or family than MSFWs in other regions of the United States (Aguirre International, 2005ab; Trotter, 1985). Thus, MSFWs in Georgia, as part of the Eastern region of the United States and as such a nontraditional receiving community, may be experiencing harsher work and living conditions, more stressors related to social isolation and a lack of social resources. These findings document the need for studies that explore what social resources are available for MSFW in non-traditional migrant communities, such as in Georgia.

The above overview suggests that MSFWs have many experiences that could contribute to social isolation. In sum, the majority of MSFWs leave behind family members and friends in their home communities (Carroll et al., 2005) and report it as a great source of stress (Magana and Hovey, 2003). They work in one of the most hazardous and low paid occupations in the United States (U.S. Department of Labor, Bureau of Labor Statistics, Census of Fatal Occupational Injuries, 2011). Most are foreign born (Carroll et al., 2005) and experience language barriers that may be a further isolating stressor. Many MSFWs are geographically

isolated in rural areas of the United States and lack the time, money, and transportation to create new socially supportive relationships (Hovey, 2002a). Given these stressors, indicating social isolation and the lack of resources, more research is needed to understand what social supports, if any, are available to MSFWs. The following section provides an overview of current models of social support and its relationship to health.

Defining Social Support

Social support has been studied extensively in past psychological, sociological, anthropological, and public health disciplines. The concept of social support and its components has not always been clear. At its beginnings, the construct of social support was criticized for being too broad and undefined (Barrera, 1986, Vaux, 1988). However, researchers have made strides in defining and differentiating among similar social support constructs[1]. In psychological literature, social support has been conceptualized as a component within broader social network theory linking individuals, neighborhoods, and larger communities in various relationships (Barrera, 2000). Further, Cohen's (2004) conceptualizations of social support have helped move social support from a global aspect to three major domains of social support, (1) perceived social support, (2) enacted or received support, and (3) social integration. Of note, Barrera (2000) refers to Cohen's social integration as "social networks" although Cohen and Barrera share similar defining characteristics of this concept. For example, Barrera defines social networks as "individuals connected with each other through varying relationships" (Barrera 2000, pg 216). Cohen similarly describes social integrations as "individuals […] active engagement in a wide

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[1] Barrera (1986) argued that a lack of consensus on defining social support and its components contributed to a lack of consistency in research finding social support protecting or buffering against mental illness.

range of social activities or relationships" (Cohen, 2004, p 677). The term social integration is used in this study to avoid confusion with social network structure analysis. As discussed next, each social support domain shares some conceptual overlap but also have varying relationships with each other and with health.

Perceived social support. Perceived social support measures the subjective appraisal of supportive social ties. Most researchers agree that there are two major functions of perceived social support, a tangible aspect and an emotionally supportive aspect (Barrera, 2000; Cohen, 2004; House, Landis, & Umberson, 1988). Tangible support includes the provision of information, tangible services or goods, resources, and strategies including providing financial assistance, transportation, and childcare. Tangible support has been measured in MSFW studies with questions such as, "If you needed it, would [someone] drive you somewhere? Would they loan you $50?" (Finch, Frank, & Vega, 2004). Emotional support is generally defined as warmth, compassion, and advice provided by one person to another. Questions measuring emotional support in MSFW studies have typically asked, "Do you have someone with whom you can share your innermost thoughts and feelings or problems?" and "Do you have someone to comfort you when you need it?" (Finch, Frank, & Vega, 2004). Researchers have suggested that perceived support may do more to alleviate stress and improve health than enacted support (Dunkel-Schetter, & Bennett, 1990).

Social integration. Social integration refers to the quantity of supports available to call on if needed (Cohen, 2004). For example, romantic partners, kin-based relations, non-kin relations, friends, church groups, co-workers, are all sources of social integration. Measures of social integration usually attempt to quantify an individual's social ties in a particular setting but have been criticized for not offering depth into the meaning of social relationships. Single items

are often used to measure social integration, items such as marital status or participation in organizations, and contact with friends and family. However, using marital status as a proxy measure for social integration is seen as problematic and it has been suggested that researchers using this variable justify its relation to other support variables (Barrera, 1986).

Social Support

For MSFWs research examining social support and health are almost nonexistent. Research that is available provides mixed findings in relation to mental health. The following section reviews literature on social support conducted with MSFWs.

MSFWs, by definition, are geographically separated from their home communities, which often encompass their natural social relationships. This separation can often interrupt MSFW's social network size and the types of social supports available. Despite this geographical separation, MSFWs have been found to engage in socially supportive relationships with individuals in their home community after migrating. Viruell-Fuentes and colleagues have found that Mexican migrants retain contact with family and friends in Mexico through financial remittances, visits, and phone conversations (Viruell-Fuentes & Schultz, 2009). The authors note that phone conversations are the most common method of retaining socially supportive interactions with those in MSFWs home countries. This relationship can provide advice and encouragement from family and friends when newly immigrating and are often seen as important primary relationships.

In addition, researchers have found differences in perceived support based on locale. For example, Viruell-Fuentes and Schultz (2009) found that local relationships (those that are formed in new locations post-migration) for MSFWs are likely to provide material, informational, and emotional support. In this study, local social networks were small (from 1-4 persons) and

consisted mainly of other migrants or family members also migrating. Harley and Eskenazi (2006) also provided some evidence that these small kin based social networks provide social support in the local community. Specifically, having more relatives and friends nearby was associated with higher levels of perceived emotional and instrumental support (Harley & Eskenazi, 2006).

Variables such as time spent in the United States and English language proficiency have also been found to correlate with Latinos' perceptions of social support. For MSFWSs, there is not much more research examining social support available. However, examining literature for immigrant Latinas' access to social support may provide some evidence that social support changes as one adapts to life in the United States. For immigrant Latinas, the length of time spent in the United States and primary language are two factors found relating to social support. For example, a study examining pregnancy support for Latinas found that recent Latina immigrants (less than 5 years in the United States) reported less perceived emotional and instrumental social supports than Latinas who spent six or more years in the US (Harley, K., & Eskenazi, B., 2006). However, while newly immigrated Latinas had lower social support than Latinas residing in the US longer, perceived emotional and instrumental support increased with more time spent in the US, for all women.

Similarly, recent migration (living in the U.S. less than one year) has been found to be related to the lack of social support in Latino immigrants. (Harley & Eskenazi, 2006). Those more socially integrated (participating in religious services, community events) within their new communities experienced more socially supportive interactions (Dunn & O'Brien, 2009). Almeida and colleagues (2011) found that primary Spanish speakers reported a higher number of family supports than English speakers. Bilingual Latinas, on the other hand, have reported higher

levels of instrumental support when compared to monolingual Latinas (Harley & Eskenazi, 2006). These findings suggest that language and time spent in the US may serve as proxy measures for acculturation, such that, Latinos' social support networks expand as they learn and adapt into US society.

Social support and mental health. Examining research on perceived social support and mental health in a United States Latino sample provides some evidence that higher levels of perceived support may enhance mental health (Mulvaney-Day, Alegría, & Sribney, 2007). For example, Mulvaney-Day and colleagues (2007), in a cross sectional study with 2554 Latinos in the United States, found that family support predicted better self-rated mental health. The same relationship was not found for friend support.

Further, social integration, emotional support and instrumental support may serve as enhancing the mental health of immigrant Latinos. Almeida and colleagues (2011) found that having a higher number of kin-based supportive relationships lowers the risk of depression for foreign born Mexican Latinos. A study on disability, social support, and mental health in Central American Latinos found that anxiety was negatively related to social support (Jarama et al, 1998). MSFWs in North Carolina reporting greater perceived social support had significantly less depressive symptoms (Kiang et al.; 2010). However, the authors did not differentiate between emotional and instrumental social support, and it is not clear what dimension of support was measured.

Social isolation. In contrast to social support, social isolation relates to the lack of available socially supportive resources. As indicated by Hovey (2002b) the availability of MSFW to form non-kin based social relationships in a new locale is often limited by stressors associated with migrant farm work, that is, a lack of transportation and long work hours. The

lack of transportation and long work hours may contribute to social isolation in MSFWs, as they are limited in the amount of time spent building local social relationships and hindered in maintaining contact with home.

For MSFWs, research has found that the absence of social support may increase depression and anxiety. In multiple studies, separation from family members was linked with depression for Mexican immigrant men and women (Lackey, 2008; Mines, Mullenax, & Saca, 2001). Hiott and colleagues (2008) found the stress of social isolation to be associated with increases in both anxiety and depression symptoms in MSFWs in North Carolina. Similarly, when examining the perceived effectiveness of social support, MSFWs in the Midwest who rated social support effectiveness lower had more depression and anxiety symptoms than those MSFWs reporting higher social support effectiveness (Hovey and Magana 2000ab; Magana & Hovey, 2003). The same relationship has been found for MSFWs in California (Alderete et al., 1999, 2000; Vega, Kolody, & Valle 1987). Furthermore, a qualitative study in North Carolina found separation from loved ones, long hours and multiple jobs, and social isolation as risk factors for depression (Lackey, 2008). For MSFWs in North Carolina, increased instrumental social support was associated with lower risk of depressive symptoms (Alderete et al. 1999).

In sum, both psychosocial and occupational stressors may hinder MSFWs' access to social support and may relate to differences in mental health among MSFWs in various regions of the United States. Research has documented that MSFWs experience disparities in health and access to social resources. There is a need to explore the social characteristics and relationships that may exist for MSFWs to begin to understand what aspects of social support are utilized by MSFWs who live under highly stressful conditions and lack access to social resources.

3. CURRENT STUDY

Given the exploratory nature of this study no a priori hypotheses were stated. Instead, guided by prior literature on MSFWs, this study examined characteristics of support and social isolation. This study sought to answer the following questions: What social characteristics of MSFWs relate to social support? For example, how does the length of time as a MSFW, place of origin, type of employment, relate to social support? What social relationships exist for MSFWs in Georgia? How does family separation and stress from social isolation relate to perceived instrumental and emotional support? Participants' ratings of emotional and instrumental social support and social integration were explored with social isolation and support variables as suggested by the literature review. To achieve these goals, I conducted a secondary analysis of an existing data set from a larger study, The Psychological and Biomedical Health of Latino Migrant and Seasonal Farmworkers in South Georgia (Weinberg, 2010). As such, variables indicative of social support and social isolation were limited to variables measured in the original data source.

The previous literature review has suggested that the length of time separated from family, separation from family and friends, and the lack of transportation may indicate social isolation. To understand how experiencing social isolation may relate to social support the current study examined MSFWs perceptions of stress from being separated from family and friends, and from the lack of transportation in relation to instrumental and social support.

In order to understand what social relationships exist for MSFWs, this study explored factors that may be related to social support for MSFWs. Calling home and household composition were two characteristics that were explored as relating to perceived social support. Calling home may facilitate social support regardless of geographical distance. As noted in the

literature review, calling home is the most cited method used by MSFWs to maintain long

distance relationships with their home communities and as such, calling home may indicate the

continuation of social support after migration (Viruell-Fuentes & Schultz, 2009). Therefore, I

examined differences in emotional and instrumental support based on how often MSFWs call

people in their communities of origin. Lastly, in order to explore relationships that may exist in

MSFWs current living situations, I examined differences in social support by MSFWs household

composition, those living with no one familiar and those living with family or friends.

Finally, I examined the above exploratory indicators of social isolation and social support

with depression. As discussed in the literature review, experiencing social isolation has been

found to relate to higher depression symptoms in MSFWs (Hiott et al. 2008; Lackey, 2008). I

also explored emotional and instrumental social support as separate scales with depression as

suggested by Barrera (1986) as they may have distinct relationships with mental health.

In sum, the goals of the proposed research were to (a) explore social characteristics

related to support and (b) to examine how these characteristics are associated with depression.

As a preliminary step, this study examined demographic characteristics related to social support.

Age, educational level, language, migrant or seasonal employment status, residence type, and

number of years employed as a farm worker were examined with emotional and instrumental

social support, and social integration. The length of time away from family, stress from

separation from family and friends, and stress from lack of transportation were explored as

indicators of social isolation. In contrast, calling home and household composition were explored

as social support characteristics. Lastly, both social isolation and support characteristics are

examined in relation to depression. Thus, the exploratory nature of the current study fills a gap in

the literature by exploring characteristics of MSFWs that may relate to social support and depression.

4. METHODS

Setting and Procedure

Colquitt County in South Georgia, where data for this study were collected, has one of the highest concentrations of MSFWs in Georgia with over 10,000 MSFWs working in the area at any given time (Larson, 2008). Data collection was conducted in Moultrie, Georgia, in collaboration with the Ellenton Migrant Health Clinic and the Farm Worker Family Health Program (FWFHP). The FWFHP is a consortium of universities, whose faculty and students provide free health screenings to farm workers in Colquitt County every summer. Only men were sampled as they are overrepresented in this occupation (80% male; Carroll et al. 2000). During MSFW camps visits, we observed that women's and men's work were structurally different. Most men harvested crops in the fields while women packaged produce in distant warehouses and often worked later hours than men.

In the original study, data were collected over the course of two consecutive weeks in June of 2010. Participants were recruited through the FWFHP farmworker camps each night, on seven different days. While participants waited for health services all men were approached by bilingual researchers and invited to participate in a study about health. If interested and over 18 years of age, they were invited to further discuss the aims of the study with researchers at a table set up for this purpose. Informed consent was read aloud to each participant by the interviewer. The informed consent stressed the voluntary nature of the study and made clear that the decision to participate or not to participate in the research study would not affect the participants' eligibility to obtain FWFHP services. Interviews were administered verbally in Spanish by

trained bilingual interviewers, as literacy levels were not assumed. Interviews ranged from 13 to 60 minutes and were on average 30 minutes long. Debriefing procedures included clarifying additional questions about the study and/or referring the participant to an onsite mental health provider if needed. Compensation of $5 was given for participation at the end of the interview.

Participants

The sample consisted of 120 Latino male seasonal (*n=18)* and migrant (*n = 99*) farm workers. Summaries of demographic data are reported in table 1. Participants were relatively young with a mean age of 31 years (*SD = 9.62*). Most participants were born in Mexico (92.5%), followed by participants from Guatemala (3.3%), El Salvador (3.3%), and a single participant from the United States. Spanish was the predominant language preferred by participants (85%). The remaining participants' preferred indigenous languages such as Nahuatl, Zapoteco, Tojolab'al, Otomí, and other Mayan dialects. The median educational attainment for this sample was 6th grade. Most men reported being married or living as married (65%) yet only 6.7% had partners in the United States. The number of years worked in agriculture ranged from one month to 20 years (M = 4.3, SD = 3.91). The majority of MSFWs resided in barracks or dormitory type housing (75.8%), followed by trailer (15%), house (6.7%), and other (e.g. apartment).

Table 1.

Summary of Demographic Characteristics for South Georgia MSFWs (N = 120)

Sample Characteristic	*M* (*SD*)	*n*	%
Farm Worker Type			
Migrant		98	84.5
Seasonal		18	15.5
Age Group	31 years (9.65)		
(Range = 18 to 60 years)			
Less than 25 years		35	29.2
25-34 years		49	40.8
35 years and older		36	30
Country of origin			
Mexico		111	92.5
Guatemala		4	3.3
El Salvador		4	3.3
United States		1	0.8
Language			
Spanish		102	85
English		1	0.8
Indigenous dialect		17	14.2
Education	7.43 years (3.67)		
(Median = 6 years)			
(Range = 0 to 15 years)			
Primary: 0 to 8 years		72	60
Secondary: 9-12 years		42	35
Above Secondary		6	5
Marital status			
Married or living as married		78	65
Not currently married		42	35
Housing			
Dormitory/Barracks		91	75.8
Trailer		18	15
House		8	6.7
Other		2	1.7
Years worked in agriculture	4.3 years (3.91)		
(Range = 1 month to 20 years)			
Less than 1		18	15
1-3		48	40
4-6		27	22.5
7 or more		27	22.5

Measures

   Family separation. Length of time away from family was measured by a single item: "How long have you been away from your family?". Responses were measured across a five point scale: "currently living with family", "0-1 months", "2-4 months", "5-8 months", and "more than one year". About half of the sample indicated having been away from family for more than a year. To better understand how MSFWs differed in family separation, results were coded into two groups, those separated from family (1) for one year or less, or (2) more than one year.

   Stress from social isolation. Three items measuring stress from social isolation were taken from a larger 16 item migrant farmworker stress scale. Two questions measured the perceived stressfulness of being removed from family and friends, ("In the past month you have been away from your friends?" and "In the past month members of your family have lived far away?"). A single item measured stress perceived from the lack of transportation, ("In the past month you have not had reliable transportation"). Participants were asked how stressful this experience was on a scale of 1 (not at all stressful) to 4 (extremely stressful). The larger stress scale was an adaptation of the Migrant Farm Worker Stress Inventory (MFWSI; Magaña & Hovey, 2003) and the Mexican Farmworker Stress Scale (MFSS; Snipes et al., 2007) The MFSS has demonstrated adequate internal consistency (α=0.91) and test-retest reliability (r=.84). The MFWSI has also demonstrated high internal consistency (α=0.91 - 0.93) (Hovey, 2003). Cronbach's alpha for the overall stress measure in the current study was .80.

   Contact with home. Retaining contact with community of origin was measured by the frequency of contacting home via phone calls. Participants were asked the following question, "How often do you call your family in *Mexico* (or other country of origin)?" Responses ranged

from 1 ("about once a year or less") to 7 ("about everyday"). This question has been used in previous research with Eastern U.S. MSFWs (Grzywacz et al., 2006a). Data were coded into three levels: (1) those calling home less than once per week, (2) those calling home once per week, and (3) those calling home more than once per week.

Household composition. Participants were asked with whom they were living at the time of the interview. There were able to select among a range of options including, "living with wife, living with children, living with other family, living with persons from home community, or living with no one familiar". For the purposes of exploring living with family as an indicator of social support, this measure was coded into two variables: (1) MSFWs living with familiar people, (e.g. living with spouse, children, friends, people from community of origin, etc.) and (2) MSFWs living with no one familiar (i.e. strangers).

Instrumental support. The perceived availability of instrumental support was measured by two questions, (1) "Do you have someone in your life right now who will give you a ride?" and (2) "Do you have someone in your life right now who would loan you money if you needed it?". If they answered no, participants were scored 0 (no one available). If yes, participants rated the frequency of social support available from 1(a little) to 4 (always). Questions were aggregated to form a measure of total instrumental support with higher scores indicating higher perceptions of support. Chronbach's reliability alpha for instrumental support in this study was.51.

Emotional support. The perceived availability of emotional support was measured with two items, (1) "Do you have someone in your life right now who will comfort you when you need it?" and (2) "Currently do you have someone in your life with whom to share your thoughts, feelings and problems?". Participants rated the availability of emotional social support

from 0 (no one available) to 4 (always available). As with instrumental support, emotional support items were aggregated into a measure of total emotional support, with higher scores indicating higher perceptions of emotional support. Chronbach's reliability alpha for emotional support in this study was .61.

Social integration. Social integration measured the number of social relationships in the migrant location, "How many family members do you have in this area?" and "How many friends do you have in this area?". Both questions were measured with predefined categories, (1) no one, (2) 1-2, (3) 3-5, (4) 6-10, and (5) 10+. For this study, social integration was examined separately for friends and family, as they may have different relationships with social support.

Depression. Depressive symptoms were included as an outcome variable against which to measure social support. As mentioned in the literature review, social support has a negative relationship with depressive symptomology. In this study depressive symptoms were measured with the Boston x 4 (Kohout, Berkman, Evans, & Cornoni-Huntley, 1993), a 10-item short form of the Center for Epidemiological Studies-Depression scale (CES-D; Radloff, 1977). The Boston x 4 includes 10 items assessing the frequency of depressive symptoms during the past week. Response options include: 0 ("less than 1 day"), 1 ("1–2 days"), 2 ("3–4 days"), and 3 ("5–7 days"). Total depression scores were calculated by summing all item scores. Scores range from 0 to 30, with higher scores indicating more depressive symptoms. The CES-D has been validated for use with ethnic and low-literacy populations and has been widely used in Latino migrant farmworker populations (Alderete et. al., 1999; Hovey & Magaña, 2000, 2002b; Magaña & Hovey, 2003; Grzywacz et, al., 2006b; Hiott et. al., 2008; Grzywacz et. al., 2006a; Grzywacz et. al., 2009). Cronbach's alpha for the measure in the current study was .73.

5. RESULTS

Preliminary Analysis

A preliminary examination of the data revealed a minimal amount of missing data across the continuous variables examined, *(0%-8.3%)*. Given the low percentage of missing data, it is likely that data are missing at random. Little's MCAR test was non-significant suggesting that data are missing completely at random, X^2 *(206) = 206.71, p. = .47*. Missing data were then imputed using missing value analysis in SPSS and expected maximum algorithm imputation. This procedure has been validated as a preferred means of handling missing data (Howell, 2007; Raghunathan, 2004; Widaman, 2006).

Visually inspecting histograms and q-q plots of depression, instrumental and emotional social support showed mostly normally distributed data. Normality was further examined by transforming skewness and kurtosis values into Z scores. Instrumental social support scores were positively skewed (*skewness Z = 2.53; kurtosis Z = 2.08*), with most participants indicating no or little instrumental support. For emotional social support, many participants rated emotional support as not available (*n = 31*) or always available (*n = 20*) thus creating what appears to be a bimodal distribution with most scores on both ends of the distributions. (*skewness Z = .06; kurtosis Z = 3.11*) However, the calculated Z scores indicate that skewness and kutosis fell near the acceptable range for normally distributed data (Field, 2005; Tabachnick & Fidell, 2007). On the other hand, social integration scores were highly skewed in opposite directions. Data for the number of family members to provide support locally were positively skewed, *(skewness Z = 3.62; kurtosis Z = -.76*). Data for the number of friends available to provide support locally were negatively skewed, such that,the majority of the responses fell on the right side of the distribution of scores, *(skewness Z = -3.79; kurtosis Z = -1.28).*

Data transformation procedures were attempted including log10, square root, reciprocal, and inverse transformations but did not significantly improve the normality of the distribution. All planned analysis to examine between group difference with instrumental and emotional support were examined with parametric statistics, ANOVA and Pearson product moment correlations. Tabachnick and Fidell (2007) suggest that ANOVA is typically robust with relatively equal sample sizes. However, social integration variables were examined with nonparametric statistical tests due to the highly skewed nature of the data.

Characterizing Social Support

Descriptive statistics of all social support and isolation variables were run in order to gain a better understanding of social support characteristics of the sample (see Table 2). Furthermore, exploratory analyses, including correlations and *t*-tests, were also conducted to examine potential relationships and group differences among demographic and support variables.

Correlation analyses examined age, years of education, and years employed as a farm worker with instrumental and emotional social support, and social integration (see Table 3). Age was negatively related to the number of local family (*r = -24, p<.05*) and friend (*r= -18, p<.05*) support persons available. The number of years working as a farmworker was positively related to instrumental support (*r= .20; p<.05*). No other significant relationships were found between MSFW characteristics and social support.

T-test statistics were computed to examine differences in MSFW group characteristics (language, migrant vs. seasonal employment type, and housing type) and instrumental and emotional social support (see Table 4). MSFWs speaking Spanish and those speaking English or an indigenous language did not score differently in instrumental or emotional social support. Migrant farmworkers did not significantly differ from seasonal farmworkers in instrumental or

emotional social support. Lastly, MSFWs living in barracks did not score differently from those living in other types of homes (e.g. apartments, trailers) in instrumental or emotional social support. Levene's test for equality of variances indicated that all tests met the homogeneity of variance assumption.

Mann-Whitney test statistics were calculated to determine differences in social integration based on language, migrant or seasonal employment, and housing type. The number of family social supports available did not significantly differ by preferred language, $U = 758.50$, $z = -1.23$, $p = .22$, or housing type, $U = 980$, $z = -1.93$, $p = .054$. However, there was a significant difference in the number of family supports available for migrant versus seasonal farmworkers, $U = 633$, $z = -1.99$, $p < .05$. Migrant farmworkers reported less family supports than did seasonal farmworkers. The number of friend social support persons available did not differ by language, $U = 735$, $z = -1.46$, $p = .14$, housing, $U = 1207$, $z = -.46$, $p = .65$, or employment, $U = 728$, $z = -1.27$, $p = .20$.

Table 2.

Descriptive Statistics for all Variables in Exploratory Analyses

Variable	*n* or *M*	% or *SD*	Min.	Max.
Separation from family, *n* (%)				
One year or less	73	60.8%		
More than one year	45	37.5%		
Social isolation stressors, *M* (*SD*)				
Lack of transportation	.50	.94	0	3
Separation from family	1.67	1.14	0	3
Separation from friends	1.28	1.15	0	3
Frequency of calling home, *n* (%)				
less than once a week	17	14.2%		
once a week	58	48.3%		
more than once a week	44	36.7%		
Household composition, *n* (%)				
Living with family				
Living with no one familiar				
Instrumental social support, *M* (*SD*)	4.84	2.61	0	8
Emotional social support, *M* (*SD*)	3.78	2.92	0	8
Social integration, *n* (%)				
# of friends in area	2.88	1.36	0	4
nobody	11	9.2%		
1-2 persons	8	6.7%		
3-5 persons	28	23.3%		
6-10 persons	11	9.2%		
More than 10	62	51.7%		
# of family in area	1.16	1.20	0	4
nobody	46	38.3%		
1-2 persons	34	28.3%		
3-5 persons	21	17.5%		
6-10 persons	13	10.8%		
More than 10	6	5%		
Depressive symptoms	9.51	5.72	0	26

Table 3.

Correlation Matrix of All Study Variables

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
1. Age	--										
2. Education	**-.21***	--									
3. Years worked as farmworker	.22*	**-.19***	--								
4. Stress: away from family	.04	-.03	.06	--							
5. Stress: away from friends	.03	.02	-.01	**.33****	--						
6. Stress: unreliable transportation	**-.21***	-.00	-.11	.06	**.25****	--					
7. Instrumental support	-.12	.07	**.21***	.09	**-.22***	-.13	--				
8. Emotional support	.04	.02	.14	.00	**-.20***	-.00	**.44****	--			
9. Depression	.03	-.01	-.11	**.28****	**.18***	.13	**.01**	-.18	--		
10. Social integration: Family in area	**-.24****	.06	.14	-.11	-.05	.04	**.24****	**.26****	-.14	--	
11. Social integration: Friends in area	**-.18***	-.06	.12	-.07	-.10	.07	**.20***	**.25****	**-.23***	**.27****	--

Note.* p < .05 and ** p < .01.

Table 4.

Differences in Perceived Social Support by MSFWs Characteristics

	Type of Farm Worker			Preferred Language			Housing		
	Migrant (n=98)	Seasonal (n=18)		Spanish (n=102)	Other (n=18)		Barracks (n=91)	Other (n=28)	
Variable	M (SD)	M (SD)	t (114)	M (SD)	M (SD)	t (118)	M (SD)	M (SD)	t (117)
Instrumental support	4.84 (2.55)	5.17 (3.03)	-.50	4.95 (2.63)	4.22 (2.44)	1.10	4.71 (2.62)	5.21 (2.6)	-.89
Emotional support	3.88 (2.84)	3.89 (3.34)	-.02	3.89 (2.94)	3.17 (2.81)	.97	3.48 (2.88)	4.71 (2.96)	-1.97

* p < .05

Exploring Social Isolation

Exploratory social isolation variables (time spent away from family; social isolation stressors) were examined with instrumental or emotional social support.

Family separation. MSFWs having been apart from family members for one year or less were compared to those apart from family longer than one year. An independent samples t-test was conducted to compare instrumental social support scores for MSFWs living apart from family for one year or less (*n = 73*) to MSFWs living away from family longer than one year (*n = 45*). T-test analysis indicated no significant differences in instrumental support for those living apart from family for one year or less *(M = 5.07, SD = 2.58)* and those living apart from family for longer than one year *(M = 4.47, SD = 2.68), t(116) = 1.21, p = .23*. Likewise, t-test analysis indicated no significant differences in emotional support for those living apart from family for one year or less *(M = 3.71, SD = 2.81)* and those living apart from family for longer than one year *(M = 3.93, SD = 3.11),* t *(116) = -.40, p = .69.*

Mann-Whitney statistics were calculated to examine differences in social integration scores for the length of time apart from family members. The number of family support available locally did not significantly differ from the length of time apart from family, *U = 1454, z = -1.09, p = .24.* Similarly, the number of friends support persons available did not differ from time away from family, *U = 1489, z = -.92, p = .36.*

Social isolation stressors. Pearson product-moment correlation coefficients were computed to assess the relationship between social isolation stress (stress from being apart from family, stress from being apart from friends, and stress from unreliable transportation) and social support (see Table 3). Results indicated that stress from being away from family members and stress from being apart from friends were positively related to each other *(r=.33, p<.05).* Stress

from unreliable transportation was related to stress from being away from friends ($r = .25, p < .05$) but not stress from being apart from family. Stress from being away from family was not significantly related to either instrumental social support or emotional social support. Stress from being apart from friends was negatively related to instrumental support ($r = -.21, p < .05$) and emotional support ($r = -.20, p < .05$).

Exploring Social Support

Calling home. One-way ANOVA statistics were conducted to explore the frequency of calling home as enhancing instrumental and emotional social support. ANOVA analyses conducted on the frequency of calling home found no significant group differences on instrumental and emotional social support (see Table 5). Further, Kruskal-Wallis results suggest that the number of family, $H(2) = 5.67, p = .06$, and friend, $H(2) = 1.62, p = .46$, support persons available did not significantly differ by the frequency in calling home.

Table 5.

Differences in Perceived Social Support by Calling home

	Frequency of calling home			
	less than once a week (*n*=17)	once a week (*n*=58)	more than once a week (*n*=44)	
Variable	*M (SD)*	*M (SD)*	*M (SD)*	ANOVA *F* (2, 116)
Instrumental support	5.29 (2.76)	4.40 (2.67)	5.23 (2.45)	1.59
Emotional support	3.94 (2.82)	3.88 (2.88)	3.57 (3.10)	.171

* p <.05; Note: no significant differences

Household composition. Independent samples t-test analysis was conducted to explore household composition in MSFWs living with no one familiar (n = 27) and those living with familiar people (n = 93) as a factor in instrumental and emotional social support. For instrumental support, there was a significant difference in the perceived availability of instrumental support for those living with no one familiar (M = 3.52, SD = 2.72), and those living with familiar people (M = 5.23, SD = 2.45), t(118)= -3.10, p<.05. For emotional support there was a significant difference in perceived emotional support scores for those living with no one familiar (M = 2.70, SD = 2.72), and those living with familiar people (M = 4.10, SD = 2.75) and t(118)= -2.22, p<.05. Mann-Whitney statistics suggested that MSFWs living with no one familiar reported having less family social support persons available than MSFWs living with familiar people, U = 539, z = -4.71, p < .05. No differences were found in the number of friend supports available, U = 1128, z = -.87, p = .38. Together, these results suggest that household composition is related to instrumental and emotional support, and to the number of family support persons available.

Depression

Exploring social isolation and depression. Finally, exploratory indicators of social isolation and social support were examined for differences in depression symptoms. For social isolation, an independent samples t-test was conducted to compare depression scores for MSFWs living apart from family for one year or less (*n = 73*) to MSFWs living away from family longer than one year (*n = 45*). T-test analysis indicated no significant differences in depressive symptoms for those living apart from family for one year or less *(M = 10.12, SD = 5.84)* and those living apart from family for longer than one year *(M = 8.60, SD = 5.44), t(116) = 1.41, p = .16.*

Pearson product-moment correlation coefficients were computed to assess the relationship between the degree of stress MSFWs reported from social isolation (being apart from family members and friends, unreliable transportation) with depression scores. Stress from being apart from family was positively related to depression, $r = .28, p < .05$. Thus, increases in reported stress from family separation were correlated with increases in depression symptoms. To a lesser extent, stress from being apart from friends was positively correlated with depression symptoms, $r = .18, p < .05$. Increases in stress from friend separation were correlated with increases in depression symptoms. Stress from a lack of transportation was not significantly correlated with depression, $r = .13, p = .17$. These results suggest that MSFWs reporting higher stress from family and friend separation are experiencing higher symptoms of depression.

Exploring social support and depression. A one-way between subjects ANOVA was conducted to compare the effect of contacting home on depression symptoms in MSFWs calling home less than once per week ($n = 17$), those calling home once per week ($n = 58$), and those calling home more than once per week ($n = 44$). There was a significant effect of contacting home on reported depression symptoms, $F(2,116) = 3.36, p<.05$. Levene's statistic for homogeneity of variance suggested that variances between groups were equal, $F(2,116) = .39, p = .68$. Post hoc comparisons using the LSD test indicated that the mean score of depression for those calling home *less* than once per week ($M = 7.36, SD = 4.75$) was significantly different than those calling home *more* than once a week ($M = 11.13, SD = 6.01$). However, depression scores for those calling home once per week *($M = 8.94, SD = 5.56$)* were not significantly different from those calling home less than once per week and more than once per week. Taken together, these results suggest that MSFWs calling home less than once per week have lower

depression symptoms than those calling home more often. Calling home once per week did not significantly relate to depression symptoms.

Conceptualized as another indication of social support, household composition was examined for differences in depression. An independent samples t-test was conducted to compare depression scores for MSFWs living with unfamiliar *(n = 27)* or familiar people *(n = 93)*. There was not a significant difference in the depression scores for those living with unfamiliar people *(M = 8.76, SD = 5.91)* and those living with familiar people *(M = 9.73, SD = 5.68), t(118) = -.769, p = .44.* These results suggest that MSFWs household composition may not relate to depression symptoms. Levene's test for homogeneity of variance was not significant, *F(1, 118) = .009, p = .92.*

Instrumental, emotional, and social integration. Pearson product-moment correlation coefficients were computed to assess the relationship between social support scales and depression. Results indicated that instrumental *(r = -.18, p = .06)* and emotional support *(r = .01, p = .90)* scores were not significantly related to depression. Depression was negatively related to the number of friends supports available *(r = -.23, p<. 05)* but not family *(r = -14, p = .14).* For MSFWs the greater number of friends in their social network, the less depression symptoms experienced.

Supplementary Analysis

Given the above exploratory findings a post hoc test was conducted to understand how significant social isolation and support characteristics added to depression scores. Thus, a multivariate regression analysis examined stress from family separation and the number of local friend social support persons available with depression. All variables were entered into the regression model simultaneously. The overall regression was significant indicating that together,

predictors explained 12.5% of the variance in depression scores, $R^2=.125$, $F(5,117) = 8.32$, $p <$

$.01$, (see Table 6). Stress from separation from family was found to be a significant social

isolation predictor, positively related to depression. Conversely, having friends in the area was

found to be a significantly social support, negatively related to depression.

Table 6.

Regression of Depression on Social Isolation and Social Support

Variable	B	Std. Error	Beta	95% CI Lower Bound	Upper Bound	t	Sig.
Social isolation							
Stress: apart from family	1.36	.44	.27	.50	2.22	3.12	.002
Social support							
Social integration: friends	-.89	.37	-.21	-1.61	-.16	-2.43	.02

6. DISCUSSION

Migrant and seasonal farmworkers (MSFWs) live under adverse circumstances and are

exposed to numerous occupational and psychosocial stressors such as poverty, substandard living

conditions, malnutrition, hazardous chemicals, separation from family, long work days, and

discrimination (Grzywacz, 2009). As discussed in the literature review, few studies have

examined social support in light of these experiences. Because of the limited studies on MSFWs

and social support, I began my exploratory analysis by identifying personal characteristics of

MSFWs that related to traditionally-used emotional and instrumental support scales. First, I

examined social isolation variables to better understand the severance of social ties that occur

when Latinos migrate to the US for employment in agriculture. Secondly, I explored the

frequency with which MSFWs call home and household composition in order to understand how

calling home and living with friends and family may facilitate social support. Lastly, I examined

how social isolation and support exploratory variables positively or negatively related to

depression. Finding significant relationships with depression, an unplanned analysis was conducted to better understand how social support and isolation variables related to depression. The findings presented here are a first step in understanding social support characteristics for MSFWs. The following section will begin the discussion of personal characteristics of this sample of MSFWs in South Georgia, followed by a discussion on social support and social isolation variables identified in this study, and lastly will discuss their relationships with depression.

MSFW's in the current sample were similar to MSFW national demographics (NCFH; 2003b). Study participants had similar education levels, around the 6th grade. MSFWs in this study spoke Spanish (85%) which is similar to national statistics (81%). MSFWs in this study were on average slightly younger (31 years old) than the national average (33 years old). The current sample was predominately from Mexico (93%), notably higher than the national average (75%). Over half (65%) of the current sample reported being married, higher than MSFWs surveyed nationally (58%). MSFWs worked in agricultural on average of four years, and resided in barracks style housing. The majority (65%) of MSFWs in this study were married but almost all (93%) of those married were in Georgia without their wives or children. The majority of participants indicated that they had spent more than a year apart from their families. This is in accordance with previous research that suggests separation from family occurs within migrant farm work (Hovey, Magana, & Booker 2003). In examining local social networks, we found most MSFW's reported little to no local family supports. The pattern is reversed when examining the number of reported local friend supports. The majority of MSFWs reported having ten or more local friend supports. Higher number of friends in the migrating locale may indicate that MSFW's are supplementing their familial social support networks with new sources

of support. The finding that MSFWs working in farmwork for longer periods of time reported more instrumental support might indicate that as MSFWs gain experience in the occupation and lifestyle, they gain more access to persons that can provide monetary and tangible support when needed. This would be in line with past research that suggests that more time in the United States is related to increases in perceived instrumental and emotional support (Harley & Eskenazi, 2006). If this was the case, we could hypothesize that the number of years working as a migrant farmworker would relate to the number of socially supportive relationships. However, this was not the case; the number of years working as a farmworker was not related to the number of socially supportive family members or friends in the area.

There may be other variables that help explain the positive relationship between instrumental support and the number of years working as a farmworker. For instance, measuring the length of time by location may better reflect the creation and maintenance of social ties to provide instrumental support. As it is now, we do not know the length of time MSFWs spent in this particular migrant area or in other places. It could be that creating and maintaining social ties in an area are somewhat related to the length of time in each migrant work location.

Interestingly, increases in age were related to decreases in the number of social support persons available, for both the number of friends and family. One would expect that the number of family and friend supports would increase as one builds relationships over time, thus age would influence the number of social support persons available to a certain extent. However, the length of time as a farmworker was not related to the size of their social networks, which would seem to be similarly related if experience (as in age and length of time) are to explain increases in their social network size. Future research should examine the variables that may relate to social network size for MSFWs. Examining the length of time in an area and the age of the

MSFW would provide more information about how MSFWs build social networks under constant movement and relocation.

Social Isolation

There was some indication that MSFW's in this sample were experiencing separation from their family and friends. MSFWs away from family for one year did not differ on reports of instrumental or emotional support when compared to MSFWs away from their family for less than one year. There was however, a significant relationship between participants rating of stress from social isolation variables and support. MSFWs who reported experiencing greater stress from being separated from friends reported less instrumental and emotional support. In contrast to Harley and Eskenazi's (2006) study, no significant relationships were found for participants' ratings of stress from separation of family and instrumental support. Taken together, these results suggest differing relationships with support based on the source of the stressor.

Finding positive relationships between stress from friends and stress from having unreliable transportation may indicate an intermediate variable between friend stress and instrumental support. This relationship was not there for family stress thus indicating that MSFWs receive instrumental supports, such as transportation, more from friends than family. However, one caveat in this hypothesis is that unreliable transportation stress was not significantly related to instrumental support but it did appear to be in the expected direction (negative). Still, the lack of finding a significant relationship between transportation stress and instrumental support may be due to suppression effects or low power. Additionally, if instrumental support is derived from friends in the form of transportation access, this could provide support for indirect models of support as suggested by Barrera (2000) and Cohen (2004). To understand the mechanisms in which MSFWs receive instrumental support from friends,

future studies should examine transportation as a mediator in the friend stress and instrumental support link.

Social Support

Past literature on Latinos and social support had suggested that calling home is a common method of retaining socially supportive interactions across geographical distance (Viruell-Fuentes & Schultz, 2009). This study, a first in examining calling home as a socially supportive factor, was unable to provide support that calling home directly related to perceived instrumental or emotional support. Future research in this area should move beyond count data for calling home and incorporate methods to determine the content of the call. For instance, MSFW's calling home more frequently may have been more worried about their family, which would not necessarily reflect receiving support.

The second variable conceptualized as relating to social support examined household composition. I explored differences in perceived social support for those living with people they knew compared to those as prior literature has suggested that MSFWs often live amongst strangers (Magana & Hovey, 2003). As expected, MSFWs living with people they knew reported higher scores of emotional and instrumental support. They also reported having more family support persons in the area than those living with strangers. This relationship did not hold when examining the number of friend supports. Taken together, it is likely that MSFWs living with familiar people and reporting more family supports in the area may, in fact, live with family. These findings are similar to past research that has found MSFWs' social support relationships in a new community to consist of family members (Harley & Eskenazi, 2006). These findings suggest that MSFWs in Georgia, who live with people they know such as with family members, have more access to instrumental and emotional social support.

Depression

The above social support and isolation variables were explored further to determine their relationship with depression. MSFWs reporting greater levels of stress from family and friend separation reported higher depression symptoms. These findings are in accordance with previous research indicating that social isolation relates to higher depression symptoms (Hiott et al., 2008, Lackey, 2008; Mines, Mullenax, & Saca, 2001).

For social support, calling home was significantly related to depression scores. MSFWs who called home less than once per week reported lower depression symptoms than those calling home more often. This is an unexpected finding, given that calling home has been thought to be a method of maintaining socially supportive relationship long distance (Viruell-Fuentes & Schultz, 2009). The results suggest that the more often MSFWs call home the more depression symptoms they report. Further, it could be that calling home more frequently than not, can increase stress, worry, or could be emotionally draining for MSFWs in this study. There is some evidence that MSFWs calling home can be as stressful as it is helpful. Viruell-Fuentes and Schultz (2009) have suggested that calling home may in fact increase stress for MSFWs living far away. For MSFWs separated from family, phone calls home often provided support for those left behind. Future research should examine not only the content of the phone calls but also explore the reciprocal nature of long distance social support.

The number of local friend support persons available was significantly related to depression. Of note, past research for MSFWs has not commonly examined the relationship between separation of friendships and its relationship to mental health. The focus has been more on the effects of family separation. However, we did not find that stress from the separation from family related to depression. Perhaps separation from family members is expected as a structural

component of MSFWs' lifestyle and therefore is perceived as less stressful. These findings complement past research by adding socially supportive friendships in the social support and depression literature.

Finally, regression results suggest that stress from family separation and the number of local friend social support people available account for a small percentage of the variance in depression scores. Further, higher rating of stress from family was related to higher depression symptoms. Whereas having friends in the area was related to lower symptoms of depression. In sum, this model was able to provide evidence that stress from family and friend separation may indicate social isolation and relate to increased feelings of depression. Having friends in the area seem to indicate a socially protective relationship with decreased feelings of depression.

The study presented here, although correlational and exploratory in nature, provides a snapshot of social support and its related components for MSFWs in South Georgia. This is a first step in understanding what social support characteristics exist for MSFWs and how they interact with depression. However, the current study is preliminary and was a convenience sample and, as such, it is not possible to generalize findings to the larger MSFW population. Secondly, there may be other variables that may indicate social support for this population that were not examined in the current study. Further, this study was conducted with secondary data, which restricted the type of social support variables examined.

7. CONCLUSIONS AND FUTURE DIRECTIONS

These findings offer important areas that require additional exploration. For instance, future research on social support for MSFWs is direly needed. MSFWs living under extremely hazardous and stressful conditions continue to provide labor for United States agriculture. While

government regulations are in place to provide safe and sanitary work and living conditions, they are not always enforced. Meanwhile, there are no models available to protect MSFWs from the psychosocial stressors they experience on a daily basis. Increasing research in areas of resilience and coping is greatly needed. Not only is there are dearth of culturally appropriate models of support for this population but current models do not consider people who are highly mobile. As people continue to move across borders more research is needed to determine how social support networks change over time. Examining these changes can help examine what factors of support are most efficacious in increasing psychological health. Migration across borders will continue as long as countries, such as the United States, rely on the labor of others. Research efforts in agricultural health should examine how social support, specifically how family and friend supports can facilitate better adjustment to migrant farmwork. This may be better accomplished by moving beyond individualistic models of social support to more ecological and community based models.

For example, Bronfenbrenner's ecological systems theory provides a useful model to understand how MSFWs access social supports within micro, meso, and macro systems (Bronfenbrenner, 1988). It can be argued that MSFWs' social support resources are embedded within a micro system consisting of local family members or other farm workers and a meso system in which social resources are transferred between migrant camps. Migrant camps may provide a community of their own where resources can be exchanged and relationships built among these farm worker camps. MSFWs may have social resources that are not necessarily location specific; instead, social supports often transcend physical boundaries. Contact with home communities is a prime example of social relationships offering support through a micro system of family. However, as this study suggests, it may be that, depending on the content of

the phone calls, social support received long distance can either enhance or hinder health for MSFWs.

This study highlighted several areas that need further exploration. Maintaining social relationships between geographically separated networks is one such area. In this study, calling home was one attempt at maintaining socially supportive relationships with sending communities. With the growing use of technology worldwide, research should examine other avenues of maintaining social relationships across geographic distances. Further, these technologies should be explored to understand how they impact mental health. As found in this study, the frequency of calling home was related to increases in depression. This future research will have important implications on not only MSFWs but also other populations that are increasingly transcending geographical and political boundaries.

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