Social Networks and Treatment Adherence among Latino Offenders with Mental Illness

Jennifer Eno Louden
The University of Texas at El Paso

Sarah M. Manchak
University of Cincinnati

©American Psychological Association, 2017. This paper is not the copy of record and may not exactly replicate the authoritative document published in the APA journal. Please do not copy or cite without author's permission. The final article is available, upon publication, at: http://dx.doi.org/10.1037/ser0000167

Author Note

Jennifer Eno Louden, Department of Psychology, The University of Texas at El Paso; Sarah M. Manchak, School of Criminal Justice, University of Cincinnati.

This research was supported by grants from the Hogg Foundation for Mental Health and The University of Texas at El Paso University Research Institute. The authors would like to thank Megan O’Connor, Yvette Valenzuela, and Samantha Aguirre for their assistance with participant recruitment and data collection, and the staff at the West Texas Community Supervision and Corrections Department for their support of this research.

Research materials may be obtained by contacting the first author. Correspondence regarding this article should be addressed to Jennifer Eno Louden, email: jlenolouden@utep.edu
Abstract

Mental health treatment adherence is often required for offenders with mental illness supervised on probation and parole. However, research on offenders with mental illness has largely overlooked cultural and ethnic responsivity factors that may affect adherence to treatment. Latinos are a quickly growing subgroup of offenders whose social networks differ in meaningful ways from European Americans’ (e.g., size, composition, centrality of family). Social networks are known to relate to both clinical and criminal justice outcomes for offenders with mental illness, and there are features of non-offender Latinos’ social networks that suggest that findings distilled from work with non-Latino offenders may not apply to them. The present study examined the social networks of 82 Latino probationers with serious mental illness to (a) describe the size and composition of these networks, and (b) to determine which factors of social networks are related to treatment adherence. We found that Latino offenders’ social networks are small (~6 individuals), consisting primarily of family and professionals such as treatment providers and probation officers. Supportive relationships with non-professionals and treatment providers was related to lower likelihood of missing treatment appointments, whereas social control and pressure from family and friends to attend treatment was not related to treatment adherence. Findings are discussed within the context of improved practices for community corrections and mental health agencies in working with Latino offenders with mental illness.

*Keywords:* mandated mental health treatment, Latinos, community corrections, social networks, offenders with mental illness
In recent years, there has been an increase in research concerning the treatment and management of offenders with mental illness on community supervision (e.g., probation and parole; Skeem, Manchak, & Peterson, 2011). For these offenders, mental health treatment is often a fundamental component of their supervision plan, or even mandated by the court (Skeem, Emke-Francis, & Eno Louden, 2006). Although many studies conducted on this population and this issue to date focus on the possible role mental health treatment plays in affecting clinical and criminal outcomes (see Skeem et al., 2011, for a review), very few studies have examined social factors that can influence treatment adherence in this context. Even less research is available on the impact one’s ethnicity and associated culture relates to these issues, despite the pervasive influence of culture on human behavior (see Segall, Lonner, & Berry, 1998).

In the present study, we focused on the importance of social networks and their role in promoting or hindering mental health treatment adherence for Latino offenders with mental illness on probation. Latinos are a quickly growing ethnic group in the criminal justice system that has largely been overlooked in correctional research (Miller & Gibson, 2011; Minton & Sabol, 2009; Schuck, Lersch, & Verrill, 2008; Stowell, Martinez, & Cancino, 2012). Social relationships are important in predicting clinical and criminal justice outcomes for offenders with (Anumba, DeMatteo, & Heilbrun, 2012; Skeem, Eno Louden, Manchak, Vidal, & Haddad, 2009) and without mental illness (Andrews & Bonta, 2010; Cochran, 2014; Cullen, Wright, & Chamlin, 1999). Notably, however, the social networks of Latinos differ from European Americans’ in meaningful ways (see Almeida, Molnar, Kawachi, & Subramanian, 2009).

**Examining Social Networks**

There are two broad features of social networks that are directly relevant to treatment adherence, which may be conceptualized as *form* and *function*. Form refers to the composition of one’s social network—the people who comprise it and their relationship to the individual
(e.g., friends, family, or professionals), whereas function refers to the effect relationships have on the individual’s life. Two examples of social network functions that have been linked to treatment attendance in the community are social support and social control (Cohen & Wills, 1985; Lewis & Rook, 1999).

Social support is often conceptualized as some index of relationship quality or satisfaction or as emotional (e.g., nurturance) or instrumental support (assistance with problems; Cohen & Wills, 1985; Gottlieb, 1985; Kim & McHenry, 1998). The effect of social support on voluntary mental health treatment seeking is complex; supportive social network members may encourage an individual to seek treatment, or an individual may rely on support from his or her social network in lieu of formal treatment (see Sripada, Pfeiffer, Rauch, & Bohnert, 2015, for a review). Social control operates on treatment seeking and treatment adherence more directly. For example, family or friends may exert pressure on the individual to engage in positive health behaviors (e.g., getting physical exercise) or abstain from negative ones (e.g., smoking; Lewis & Rook, 1999; Rook, August, & Sorkin, 2011).

Research examining offenders with mental illness suggests that they have limited social relationships upon which to draw for social support and social control/influence. For example, one study used structured interviews to examine the social networks of 82 adults (77% White, although 22% reported their ethnicity as Latino) on probation who had co-occurring mental illness and substance abuse. Interviewers elicited from participants a list of all people who provide instrumental or emotional support, or with whom the participant interacted with on a regular basis (Skeem et al., 2009). On average, participants listed 6 people in their social networks (Skeem et al., 2009). By comparison, a study using the same methodology found that psychiatric patients, the majority of whom were not currently justice-involved, listed 12 individuals in their social networks (Estroff & Zimmer, 1994). This suggests that people who
come in contact with both the mental health and criminal justice systems may be lacking in social capital. There are many potential explanations for this trend, ranging from burn out and frustration due to these individuals’ high level of instrumental support needs and/or chaotic life patterns, to stigma because of their involvement with either the mental health and/or criminal justice systems (see Hartwell, 2004; Skeem et al., 2009). Further, perhaps because offenders with mental illness have few family and friends in their social circles, it is not surprising that social support is sought from other sources, such as probation officers and mental health treatment providers (Skeem et al., 2009).

Importantly, relationships with friends and family members as well as professionals affect treatment attendance for offenders with mental illness. Probationers with co-occurring mental health and substance abuse problems who had smaller social networks and poor quality relationships with their social network members were more likely to violate their treatment mandate, and those who had fewer professionals like probation officers or treatment providers in their social networks were more likely to miss treatment appointments (Skeem et al., 2009). These professionals often provide very tangible needed support in the area of treatment seeking, in particular, by providing advice and facilitating referrals to social service agencies (Manchak, Skeem, Kennealy, & Eno Louden, 2014). Although the evidence base linking social networks and treatment adherence among offenders is emerging, social networks are a robust predictor of success (or failure) on community supervision; for example, relationships with antisocial peers is one of the strongest predictors of criminal behavior (Andrews & Bonta, 2010). Thus, it is important to understand the influence of social networks among Latinos, given the unique qualities of their social networks.

**Social Networks and Treatment-Seeking among Latinos**
Although estimates vary by the methodology employed to elicit the number of social network members, Latinos have comparatively large social networks comprised of many family members (MacPhee, Fritz, & Miller-Heyl, 1996; Perreira et al., 2015; Suarez et al., 2000). Some surveys suggest that a typical Mexican American has an average of 15 individuals in their social network (MacPhee, Fritz, & Miller-Heyl, 1996; Suarez, Ramirez, Villarreal, Marti, McAlister, Talavera, et al., 2000), and typically family members live in the same household or nearby (Keefe, 1984; Landale, Oropesa, & Bradatan, 2006; see also Vega, 1990). This closeness goes beyond physical proximity—the strong commitment to family life found among Latinos ("familismo") has been described as qualitatively different from that of non-Latinos (Landale et al., 2006; Vega, 1990, 1995). Latinos’ familial relationships are largely characterized by both emotional and instrumental support, and compared to European Americans, Latinos are more likely to rely on family for emotional support (Kim & McHenry, 1998; Mindel, 1980; Vega, 1995; Vernon & Roberts, 1985).

This support affects Latino’s experience with mental health problems and treatment. On one hand, support from family, in particular, seems to improve mental health symptoms. For example, based on the Project on Human Development in Chicago Neighborhoods, Almeida and colleagues (Almeida, Molnar, Kawachi, & Subramanian, 2009) found that Latinos, particularly foreign-born Mexicans, perceived slightly more emotional support from families compared to non-Latino Whites (\( M = 2.64 \) vs. \( M = 2.52 \) on a 3-point scale), which in turn was protective against depression (Almeida et al., 2009). On the other hand, Latino families may be less likely to provide information about formal treatment providers or encourage treatment seeking, and instead pressure the individual to rely on the family or church for support (Chang, Natsuaki, & Chen, 2013; Vega & Alegria, 2001; Woodward, Dwinell, & Arons, 1992). For example, the National Latino and Asian American Study revealed that perceived emotional and instrumental
support from family was not associated with treatment-seeking (though support from friends was; Villatoro, Morales, & Mays, 2014). However, Latinos in families with higher cohesion (feelings of closeness in the family) were less likely to seek mental health treatment, and among Latinos with a diagnosed mental health problem, higher levels of social support from the family predicted greater use of informal services, including religious services (Villatoro et al., 2014).

Social Relationships and Mental Health Treatment Adherence among Latino Offenders with Mental Illness

To date, almost nothing is known about Latino offenders with mental illness. This group is worth of study, particularly in the probation context, where treatment is often mandated for people with mental health issues (Skeem et al., 2006). Here, failure to participate in treatment can result in sanctions and even return to prison or jail (Skeem et al., 2006; Skeem, Encandela, & Eno Louden, 2003). As such, probationers with mental illness—who often struggle to meet basic conditions of community supervision as it is (Manchak et al., 2014; Skeem et al., 2003)—likely rely upon people in their social circles to help them adhere to treatment. The extent to which findings about Latinos’ social relationships in general and/or social relationships for offenders with mental illness extend to Latino offenders with mental illness is unknown. Due to the dearth of research on Latino offenders in general, there is little research specifically on Latino offenders in terms of how their social relationships are related to mental health treatment seeking and adherence (see Alvarez-Rivera, Nobles, & Lersch, 2014; Schuck et al., 2004). This is a notable gap in the literature, given the emphasis placed on attention to cultural factors when working with offenders as a part of the “specific responsivity” component of the widely used Risk Need Responsivity model (Andrews & Bonta, 2010).

Study Aims and Hypotheses
The present study is a first step towards understanding the needs of Latino offenders with mental illness. Specifically, we sought to examine Latino probationers’ social relationships with two specific aims. First, we examined the size and composition (i.e., “form”) of social relationships among Latino offenders with mental illness. Given prior research on Latinos in general (e.g., MacPhee et al., 1996) and offenders with mental illness (e.g., Skeem et al., 2009), we predicted that Latino offenders with mental illness have larger social networks than what prior research has found among European American offenders, and that these social networks are comprised primarily of family members who offer high levels of social support. We expected that Latinos would be unlikely to list professionals such as treatment providers and probation officers in their social networks, because given the tight-knit nature of Latinos’ social networks, outsiders like professionals may have a harder time earning a place in these networks.

Second, we examined the function of Latino offenders’ social relationships on mental health treatment adherence. Specifically, we examined relationship satisfaction, social support, and social control, operationalized as perceived pressure and encouragement to attend treatment. We hypothesized that higher quality relationships and more perceived pressure and encouragement will be related to better treatment adherence.

In examining our research questions, we also accounted for other factors known to affect treatment attendance in non-mandated community settings. For example, severity of symptoms, perceived stigmatization, and attitudes towards treatment are known to affect treatment attendance (see Mojtabai et al., 2011). Further, among Latinos, acculturation is related to treatment seeking, where individuals who are more acculturated are more likely to seek mental health treatment (Chang et al., 2013; Lara, Gamboa, Kahramanian, Morales, & Bautista, 2005). As such, we accounted for these covariates in our examination of the relationship between social networks and treatment.
Method

Procedure

The research team was given a list of probationers on four specialty mental health caseloads in a Southwestern city; by definition, these probationers had been identified by the agency as having a serious mental disorder (e.g., schizophrenia, bipolar disorder, or major depression) and having a mandate for mental health treatment as a condition of probation. Eligibility criteria for participation in the study included (a) being actively supervised on a specialty mental health caseload, (b) being at least 18 years of age, and (c) self-identifying as Latino. Ethnicity was assessed during recruitment with the open-ended question “What ethnicity do you most identify with?” and the individual was deemed eligible if they responded with Latino, Hispanic, Mexican, or Mexican-American (or some variation thereof). Of the 146 individuals meeting eligibility criteria, 45 individuals were not included primarily because they were in jail (and no longer on probation) where we did not have the ability to interview them. Thus, a final group 101 eligible offenders were available for recruitment through phone call, mail, and home visits.

Eligible offenders who agreed to participate met with a member of the research team in a mutually agreeable location (e.g., a quiet corner of a coffee shop, the offender’s home). After reviewing the elements of informed consent, the researcher administered a 5-item multiple-choice test of comprehension to ensure that the offender understood the most critical elements (e.g., that participation was voluntary); three offenders were dropped from the study for failing to answer at least 4 of the 5 items correctly. Participants were assured of strict confidentiality, which was supported by a Certificate of Confidentiality from the National Institutes of Health. At the conclusion of the interview, participants signed a release allowing the research team to access their criminal justice records in the future and were paid $30 for their time.
Participants

Of the 101 eligible probationers we attempted to recruit, 91 agreed to participate, resulting in a 90% success rate in our recruitment. Of these, two did not complete the interview, and, as mentioned earlier, three did not pass the consent test. This left a final sample of 86 offenders with an average age of 34.2 (SD = 11.3), 64% of whom were male. All of the participants self-reported their ethnicity as Latino; the largest group (38.4%) were first generation U.S. residents (one or both parents were born in Mexico), and 12.8% of participants were born in Mexico. Most (53.5%) reported never being married, 19.8% of participants were married at the time of the interview, and 17.4% were divorced. About two thirds (64%) reported attaining between a 9th grade and 12th grade education, whereas 30.2% had some college education. Most (45.3%) participants reported that they were unemployed due to disability, 26.7 were employed either part-time or full-time, and the 18.6% were unemployed but looking for work.

Measures

The measures below, except for the criminal justice record review, were administered via structured interview. The interviews were administered by graduate students and advanced undergraduates who attended at least two days of didactic training on the interview and demonstrated competence on all elements of the study protocol (verified by the first author). The measures assessed social network characteristics, recent probation behavior, treatment adherence, and hypothesized covariates. The covariates were included to examine potential relationships between variables other than social network characteristics that may be related to the outcome variables—these covariates have been shown to relate to treatment-seeking, criminal behavior, or both. To accommodate participants who felt more comfortable being
interviewed in Spanish, all measures were translated into Spanish using a back-translation procedure (see Yu, Lee, & Woo, 2004). Two participants completed the interview in Spanish.

**Social network size and composition.** We used the measure developed for the MacArthur Violence Risk Assessment study (Estroff & Zimmer, 1994; see also Skeem et al., 2009) to measure size and composition of probationers’ social networks. This measure elicits a list of social network members by asking the participant to bring to mind and list all of the important people in his or her life. Follow-up prompts ask the participant if there is anyone else they can think of who fills a specific supportive (e.g., would help during a hard time) or negative role (e.g., asks too much of the participant). The type of relationship between the participant and each individual is then coded (e.g., mother, roommate). The interviewer organizes all unique individuals into a grid, and then asks which of the individuals have been arrested, “drinks a lot” or “uses street drugs regularly.” Finally, participants are asked to identify which five social network members he or she spends the most time with. These “top five” individuals are the reference group for the measures of social network quality.

**Social network quality.** The quality of participants’ relationships with their top five social network members was measured with the Social Support Scale (Vinokur & van Ryn, 1993) and the Relationship Assessment Scale (Hendrick, Dicke, & Hendrick, 1998; see also Skeem et al., 2009). The Social Support Scale (Vinokur & van Ryn, 1993) assesses support provided to the participant from the individuals in the social network. The scale consists of eight items to identify emotional and instrumental support (e.g., “How much does X provide you with encouragement?”). Each item is rated on a scale from 1 (not at all) to 5 (a great deal). Scores for each item are summed to yield a total score that can range from 8 to 40. Average internal consistency of this scale in the present study was $\alpha = .92$. 
The Relationship Assessment Scale (RAS; Hendrick et al., 1998) consists of six questions assessing participants’ satisfaction with their relationship with social network members. The scale was modified from Hendrick’s (1988) seven-item scale that assesses quality in romantic relationships. Items address concepts such as how much the participant cares for the individuals, how much the relationships meet expectations, and the extent to which there are problems in the relationships (reverse coded). Each item is rated on a scale from 1 (not at all) to 5 (a great deal). The items are summed to yield a total score that can range from 6 to 30. Participants were asked via the RAS to characterize their relationships with their top five social network members as a group, their probation officer, and their mental health treatment provider. The RAS had good internal consistency in this sample (α = .80 for core network, α = .92 for PO, and α = .88 for treatment provider).

**Social control and treatment pressures.** Social control was assessed via a single item asked in relation to each of the top five social network members individually (“How much does X try to control you?”). In the same portion of the interview, participants were asked the extent to which each of the top five social network members encourage them to attend treatment (“How much does X make you more likely to keep treatment appointments and take medications?”). Both the social control item and the treatment encouragement item were rated on a five-point scale from 1 (not at all) to 5 (a great deal). Ratings for professionals such as treatment providers or probation officers were held out before computing a mean score for the top five social network members for each participant. In a separate section of the interview, participants were asked the extent to which various categories of people (e.g., friends, family, probation officer) pressured them to keep going to treatment or take medications, with responses on a five-point scale ranging from “Not at all” to “Extremely.”

**Covariates**
**Acculturation.** The Acculturation Rating Scale for Mexican Americans (ARSMA-II; Cuellar, Arnold & Maldonado, 1995) was used to assess participants’ cultural orientation. The ARSMA-II is a 30-item self-report scale composed of a 13-item Anglo Orientation Subscale (AOS) and a 17-item Mexican Orientation Subscale (MOS). These subscales assess individuals’ identification to each culture (Mexican and mainstream U.S. ‘Anglo’) separately along continuous scales; as such, an individual may report strong identification with one culture, both, or neither. This two-factor model is consistent with many modern theories of acculturation (see Lopez-Class, Castro, & Ramirez, 2011). The measure includes items to assess factors including language use and preference, ethnic identity and classification, cultural heritage and ethnic behaviors, and ethnic interaction (e.g., “I like to identify myself as a Mexican American”). Each item is rated on a scale from 1 (Not at all) to 5 (Extremely or almost always) and averaged to yield subscale scores. Both the AOS and MOS scales had good internal consistency in the present sample ($\alpha = .84$ and $\alpha = .85$, respectively).

**Psychopathology.** The Colorado Symptom Inventory (CSI; Shern, Lee, & Coen, 1996) is a 15-item measure of general psychopathology. In its development study, the authors noted no significant differences in CSI scores between Latinos and non-Latino Whites. Participants reported the frequency of each of the 15 psychiatric symptoms (e.g. “In the past month, how often have you felt depressed?”) on a scale ranging from 1 (at least every day) to 5 (not at all). The score is the sum of the responses such that higher scores indicate less psychopathology. The CSI had good internal consistency in our sample ($\alpha = .89$).

**Treatment attitudes.** The Attitudes Toward Seeking Professional Psychological Help Scale: Short Form (ATSPPH-S; Fischer & Farina, 1995) consists of 10 items regarding attitudes towards seeking professional help related to mental health (e.g., “If I believed I was having a mental breakdown, my first inclination would be to get professional attention.”). Items are rated
on a scale ranging from 1 (disagree) to 4 (agree), and five of the 10 items are reverse scored so that higher scores reflect more positive attitudes towards seeking professional mental health treatment. Internal consistency of this scale in the current sample was good ($\alpha = .83$).

**Perceived Stigma.** The Internalized Stigma of Mental Illness Scale (ISMI; Boyd Ritsher, Otilingam, & Grajales, 2003) is a 29-item self-report measure assessing perceived stigmatization due to mental illness. Items are rated on a scale ranging from 1 (strongly disagree) to 4 (strongly agree). The ISMI contains five subscales: Alienation, Stereotype Endorsement, Discrimination Experience, Social Withdrawal, and Stigma Resistance (the last of which consists of reverse-coded items). Internal consistency of the first four ISMI scales ranged from $\alpha = .80$ to $\alpha = .87$, whereas the Stigma Resistance scale had internal consistency of $\alpha = .56$. This scale has been found to have low internal consistency by other researchers as well (Boyd Ritsher et al., 2003; West, Yanos, Smith, Roe, & Lysaker, 2011), and we opted to exclude it from our analyses.

**Recent treatment adherence.** Participants were asked in two separate sections of the interview about recent treatment adherence. In one section related to mental health treatment in general, participants were asked “Over the past two months, how often did you keep your appointments to see a psychiatrist, psychologist, case manager, nurse, counselor, or therapist for mental health, alcohol or drug problems?” and were given several response options ranging from “Never missed an appointment” to “Avoided keeping appointments altogether.” Later, in a section referencing probation violations, participants were asked whether, during the past two months they had “failed to participate and complete a psychological and/or psychiatric treatment.” For both of these questions, the interviewer reminded the participant of the date 60 days prior to the interview to orient the participant to the timeframe in question. All participants were required as part of their probation terms to attend treatment, and 93% of them reported
seeing a mental health professional at least once during the two months prior to the interview. In total, 43% of participants reported treatment non-adherence by indicating that they had missed at least one appointment in either section.

**Results**

We conducted the analyses described below to address the aims of the current study. For bivariate comparisons, we primarily focus on interpretations of effects sizes and confidence intervals rather than \( p \) values, due to recent recommendations to alleviate problems associated with reliance on \( p \) (i.e. \( p \) is a function of sample size, is highly variable, and provides little information about the replicability of results; Cumming, 2014; Ellis, 2010). We highlight comparisons with effect sizes in the “medium” range of \( d = 0.50 \), which indicate a difference between groups of one half of one standard deviation (see Cohen, 1992); we selected this effect size because smaller effects are unlikely to have practical significance given our research questions (see Ellis, 2010).

**Aim 1: The Form of Latino Offenders’ Social Networks**

Descriptive statistics for the size and composition of the social networks of Latino offenders with mental illness are reported in Table 1. As shown, offenders listed on average six individuals, although this ranged from 2 to 17. All but five offenders listed family members in their social networks, and on average, about half of Latinos’ social networks were comprised of family members. Most often, family members were close relatives: 53.5% of offenders listed their mother, 52.3% listed one or more siblings, and 25.6% listed a child in their social network. The rest of these social networks were comprised primarily of friends and professionals. Specifically, 46.5% of probationers listed their probation officer as a social network member, 44.2% listed their case manager, and 34.9% listed one or more mental health treatment providers, such as a therapist or psychiatrist. As noted earlier, we asked probationers to narrow down their
social network into a “top five” in terms of people they spend the most time with (although 40% of probationers had four or fewer people in their social network). The top five typically included at least one family member (73.2% of probationers listed two or more family members in their top five and 94.1% listed at least one family member), and for 58.1% of probationers it included at least one friend. Forty-one percent of probationers included a professional in their top five.

[INSERT TABLE 1]

In addition to the types of people in probationers’ social networks, we examined the extent to which networks were composed of potentially problematic individuals. As shown in Table 1, although relatively few social network members were reported to drink a lot or use drugs, about 70% of probationers listed at least one other offender in his or her network. Many (43%) had multiple other offenders in their networks, and one probationer counted six other offenders as social network members. Typically, probationers reported close relationships with these other offenders: 63.9% listed someone who had been arrested within their top five social network members. For many, these other offenders were family members; 47.6% of participants reported at least one family member who had been arrested as part of their social network.

**Aim 2: Function of Probationers’ Social Networks on Recent Treatment Attendance**

To determine the factors related to probationers’ treatment attendance, we first categorized probationers into two groups based on whether they indicated any missed treatment or violation of their treatment mandate in the two months before the interview. Overall, 33 probationers reported missing at least one treatment appointment and 6 reported violating their treatment mandate. The majority of probationers who self-reported missing an appointment (72.7%) reported missing “1 or 2 times.” There was overlap between these two outcomes, such that 35 probationers in total reported some type of treatment non-compliance. As shown in
Table 2, we compared these two groups of probationers in terms of the composition and quality of their social networks, as well as on the hypothesized covariates.

[INSERT TABLE 2]

As indicated in Table 2, results show that “form” bore little impact on treatment adherence. It should be noted that the variables capturing social network size were not normally distributed, but given our sample size we should have had adequate power to detect differences between the groups. On the other hand, the function of probationers’ social networks was important for treatment adherence. Specifically, probationers who adhered to their treatment requirements had higher quality relationships with their top 5 social network members as assessed by the RAS ($t(84) = 3.29, p < .001$) and reported higher levels of social support from their top 5 ($t(83) = 3.14, p = .002$). Both groups of probationers reported moderate levels of encouragement to attend treatment from their top 5 social network members, with mean responses between 3.25 and 3.57 (on a five-point scale where 3 = “somewhat” and 4 = “often”). Further, both groups reported similar levels of pressure to attend treatment from various sources, with the highest amount of pressure coming from the probation officer (means of 3.46 and 3.60 on a scale where 3 = “quite a bit” and 4 = “extremely) and the least amount of pressure coming from friends (means of 1.70 and 1.29 where 1 = “a little bit” and 2 = “moderately”).

Probationers with and without treatment non-attendance were similar across the hypothesized covariates with the exception of Mexican Orientation as measured by the ARSMA—probationers who did not miss any appointments were more Mexican-oriented than probationers who missed appointments ($t(84) = 2.14, p = .036$). In addition, probationers who did not miss appointments reported higher quality relationships with their treatment providers compared to probationers who missed appointments or violated their treatment mandates ($t(84) = 2.42, p = .018$).
Discussion

This study is the first we are aware of to examine social networks among Latino offenders with mental illness, and the relationship these social networks have to offenders’ mental health treatment adherence in the community. Adherence to mental health treatment in the context of justice system involvement is important for a number of reasons. Because treatment is often mandated for individuals with mental illnesses on probation or parole (Skeem et al., 2003), failure to attend treatment or take psychotropic medications can result in a violation of the terms of supervision. This, in turn, can place offenders with mental illness at increased risk for having their supervision revoked and returning to jail or prison (see Munetz & Griffin, 2006). In addition, treatment non-adherence may signal problems in other life domains that may more directly increase the risk for community recidivism. For instance, joblessness, homelessness, familial conflict, and substance abuse (i.e., criminogenic risk factors; Andrews & Bonta, 2010) could influence—or be a byproduct of—treatment noncompliance. Finally, it is necessary to adequately treat symptoms of mental illness that may prevent an offender from reaping the benefits of interventions designed to target criminal behavior, such as programs targeting pro-criminal attitudes and thinking patterns (Skeem et al., 2011). Thus, there are sound grounds upon which practitioners should work to improve and maintain treatment adherence for offenders with mental illness.

In the present study, we examined the influence of one traditionally robust risk factor for crime—social relationships (e.g., lack of social support, conflict-ridden familial relationships, and/or antisocial influences; see Andrews & Bonta, 2010)—on this outcome of treatment adherence among Latino offenders with mental illness. This population represents individuals who may have very different experiences with social relationships than their European-American counterparts. This is a population that traditionally also has different approaches to coping with
and managing mental illness (Almeida et al., 2009). Because of these important personal factors, it is necessary to explore what social relationships “look like” for this population and how they may relate to treatment adherence.

**Key Findings**

The present study has several important findings concerning the “form” and the “function” of social relationships of Latino offenders with mental illness. With respect to form, there were three somewhat surprising findings, because each contradicted other literatures in some manner. First, in contrast to what is known about Latino social networks in general—i.e. that they are generally quite large and include extended family members (Vega, 1990)—Latino offenders with mental illness have quite small social networks. Similar to the findings of their European-American counterparts (Skeem et al., 2009), Latino probationers with mental illness had, on average, 6 members. Second, despite the emphasis on the negative effects of antisocial peers in the broader offender criminogenic risk literature (Andrews & Bonta, 2010), Latino probationers with mental illness did not endorse having many (if any) peers in their core social networks, and antisocial associates were more likely to be family or significant others. Moreover, the mere presence of antisocial family members in one’s social network did not seem to increase offenders’ risk for treatment non-adherence. Finally, discordant with research suggesting that Latinos largely emphasize informal support from family and the community to cope with mental health issues rather than turn to formal help from trained professionals (Chang et al., 2013; Vega & Alegria, 2001; Woodward et al., 1992), Latino offenders with mental illness actually view treatment professionals as part of their core social network. In sum, the “form” of social networks for Latino probationers with mental illness looks strikingly similar to those of other (non-Latino) offenders with mental illness and dissimilar to non-offending, non-mentally ill Latinos.
In terms of “function” with respect to treatment adherence, our results signal two key trends. First, social control—perceived as either encouragement to attend treatment, and/or pressure to attend treatment—appears to be largely a function of the professionals in the social networks of Latino offenders with mental illness, and, to a lesser extent, family. The highest ratings of perceived encouragement were those related to the professionals in the probationers’ social networks (e.g., probation officers, case managers, treatment providers, and judges). In contrast, participants only rated pressure to attend treatment from family as “moderate”, which is somewhat consistent with the literature on the influence of family members on Latinos’ treatment-seeking in non-mandated contexts (Chang et al., 2013; Vega & Alegria, 2001). Even so, there is still a possibility that the social control effects of family on treatment attendance may come from both explicit pressure from family members—which is moderate—and an implicit responsibility and commitment of the participants to their family members to conform their behavior to the law, which includes adherence to treatment while on probation. Although this was not directly measured in the present study, this possibility seems to be supported by the ancillary finding that those who are more oriented to Mexican culture (and therefore, ostensibly, more family-oriented; Almeida et al., 2009) were also more adherent to treatment.

The second key finding concerning the function of social relationships on treatment adherence for Latino offenders with mental illness is that experience with explicit social control, operationalized as pressure or encouragement to attend treatment, did not differentiate participants who were and were not compliant with treatment. Rather, the quality of participants’ relationships influenced treatment adherence. Relationships that were more supportive and satisfying were protective against treatment noncompliance—regardless of who the relationship is with. Specifically, participants with higher-quality relationships with their core network, and, separately, their treatment provider, and those reporting more social support
from their core network were significantly less likely to have non-compliance with treatment. In this case of mandated treatment, rather than serving as a support system to be relied on instead of formal treatment (see Sripada et al., 2015), social network members’ supportive function was related to treatment adherence much in the same way that positive relationships promote adherence to the law (Andrews & Bonta, 2010).

**Limitations**

Before we discuss the study implications, it is necessary to first present our limitations in order to place the findings in context. Because this study was exploratory in nature, in which our focus was to gain a breadth of understanding regarding the social networks of Latino offenders, we are limited in our ability to disentangle the relationships in the variables we studied. In large part, this is due to the small sample size and cross-sectional design. Future research should seek to more fully explain the relationships among the variables we assessed. Second, the setting where this research was conducted may affect the generalizability of our findings. Specifically, this research was conducted with Mexican American probationers in the Southwestern U.S. in a single probation agency. Future research will need to examine the extent to which our findings apply to offenders from other Latino groups (e.g., Puerto Ricans), offenders not on probation, and offenders in other regions. Finally, it should be noted that our operationalization of a few variables was imperfect. For example, we coded treatment non-adherence such that probationers who missed even one appointment were categorized separately from those who missed no appointments, may not be an optimal way to describe treatment adherence in all settings. Other researchers should consider the base rates and patterns in their own data to determine how to best conceptualize this behavior. In addition, our measurement of antisocial associates was limited in that it accounted only for any history of arrest and not present antisocial behavior. In any case, this research still addresses an important, practical question among a policy-relevant sample.
Implications

Despite the study limitations, our findings have direct implications for the ongoing research, management, and treatment of offenders with mental illness and the importance of attending to culture when doing so. Our findings contribute to a growing body of research on the importance of specific principles outlined in the Risk-Need-Responsivity (RNR) model, one of the leading paradigms for correctional treatment and recidivism reduction (Andrews & Bonta, 2010). In particular, this research contributes to an important, but understudied component of the RNR model—specific responsivity. As a core tenet of the RNR model, specific responsivity is an emphasis on attending to an individual’s own personal characteristics and experiences when delivering correctional interventions (Andrews & Bonta, 2010). Proponents of this model have argued that one’s personal experiences not only influence how they perceive and interpret interventions but also how well these interventions can “take hold”.

Adhering to specific responsivity requires correctional practitioners to consider how risk and protective factors may be differentially experienced by people of different backgrounds (e.g., based on gender, race, culture, religion, etc.; Andrews & Bonta, 2010; see also Hubbard, 2007; Van Voorhis, Spiropoulos, Ritchie, Seabrook, & Spruance, 2013). For example, our research showed that the presence of antisocial associates—historically a “red flag” in terms of criminogenic risk—may not always contribute to negative outcomes. In our sample, for instance, antisocial associates were frequently family or significant others with whom the offender had a positive relationship that was actually protective against treatment non-adherence. Mental health treatment providers and community corrections officers alike can attend to specific responsivity by avoiding making assumptions about an individual, simply because of their status as a member of some group—mentally ill, Latino, or otherwise. For example, our findings suggest that family remains highly important to Latino offenders with mental illness, but they
have fewer familial resources than other non-offending Latinos. Nevertheless, these familial relationships can and do have an impact on offenders’ formal treatment adherence, even though Latinos traditionally tend to emphasize more informal approaches to managing mental health symptoms. If practitioners make assumptions based on their accurate or inaccurate expectations about a particular group of people, it can bias their decision-making and preclude delivery of effective interventions. On the other hand, attending to the quality of an offender’s familial relationships and working with family members if the offender is amenable to this to increase support and promote treatment adherence may improve both criminal justice and mental health outcomes for these offenders. Including the family in the work done in the probation setting can serve to enrich the rehabilitative process such that reinforcement of prosocial behaviors occurs across multiple contexts. From a correctional standpoint, the present findings underscore the importance of emphasizing the human service component when managing and treating Latino offenders with mental illness.

Finally, our results highlight the importance of high-quality relationships between mental health treatment providers and clients who are offenders and potentially under a treatment mandate, such as those on specialty mental health caseloads or those involved in mental health courts. The therapist-client relationship has long been known to be of paramount importance in fostering positive outcomes in mental health treatment (Horvath, Del Re, Flueckiger, & Symonds, 2011; Krupnick et al., 1996; Martin, Garske, & Davis, 2000). When treatment is mandated, the treatment provider must work towards therapeutic goals while also encouraging client treatment adherence and potentially reporting non-adherence to the probation officer (see Manchak, Skeem, & Rook, 2014). Our results indicate that when offenders perceive a higher quality relationship with their treatment provider, the less likely they are to miss appointments. As such, treatment providers may be able to encourage adherence simply by maintaining a strong
therapeutic alliance. Further, treatment providers could attend to the quality of familial relationships as a treatment goal for Latino offenders with mental illness to promote the potentially positive effects of these relationships on offender outcomes.

The evidence base on the importance of social relationships on the outcomes for offenders with mental illness is nascent but growing. Until now, little was known about this topic among Latino offenders with mental illness. More research is certainly needed to replicate the current findings and better tease apart the relationships between the different variables of interest. The present study offers an important first look at the form of social relationships and their functional influence on a relevant public health and criminal justice outcome among a unique sub-population of offenders. In doing so, it offers practitioners some useful information that can aid in the supervision and treatment of Latino offenders with mental illness on community supervision.
References


Table 1

*Social Network Size and Composition for Latino Offenders with Mental Illness*

<table>
<thead>
<tr>
<th>Relationship to people in social network…</th>
<th>Number within social networks $M$ (SD)</th>
<th>% of participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total social network size</td>
<td>6.02 (2.5)</td>
<td></td>
</tr>
<tr>
<td>Family members</td>
<td>2.84 (1.8)</td>
<td>94.2</td>
</tr>
<tr>
<td>Romantic partners</td>
<td>0.44 (0.5)</td>
<td>44.2</td>
</tr>
<tr>
<td>Friends</td>
<td>0.91 (1.4)</td>
<td>52.3</td>
</tr>
<tr>
<td>Professionals</td>
<td>1.39 (1.0)</td>
<td>84.9</td>
</tr>
<tr>
<td>Unrelated others</td>
<td>0.24 (0.5)</td>
<td>29.1</td>
</tr>
<tr>
<td>Social network members who…</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Have been arrested</td>
<td>1.51 (1.4)</td>
<td>69.8</td>
</tr>
<tr>
<td>Drink a lot</td>
<td>0.76 (1.1)</td>
<td>45.3</td>
</tr>
<tr>
<td>Regularly use drugs</td>
<td>0.44 (0.8)</td>
<td>27.9</td>
</tr>
</tbody>
</table>
Table 2

Social Network and Potential Covariates for Latino Probationers Who Did and Did Not Report Treatment Non-adherence

<table>
<thead>
<tr>
<th>Social network composition</th>
<th>No missed appointments ((N = 51))</th>
<th>Missed appointments ((N = 35))</th>
<th>95% CI</th>
<th>Cohen’s (d)</th>
<th>(p)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total social network members</td>
<td>Mean (SD)</td>
<td>Mean (SD)</td>
<td>LL</td>
<td>UL</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6.18 (2.87)</td>
<td>5.80 (1.89)</td>
<td>-0.72</td>
<td>1.48</td>
<td>0.16</td>
</tr>
<tr>
<td># of family in SN</td>
<td>2.84 (1.69)</td>
<td>2.83 (2.01)</td>
<td>-0.78</td>
<td>0.81</td>
<td>0.01</td>
</tr>
<tr>
<td># of romantic partners in SN</td>
<td>0.39 (0.49)</td>
<td>0.51 (0.51)</td>
<td>-0.34</td>
<td>0.10</td>
<td>0.24</td>
</tr>
<tr>
<td># of friends in SN</td>
<td>1.08 (1.62)</td>
<td>0.66 (0.80)</td>
<td>-0.17</td>
<td>1.01</td>
<td>0.33</td>
</tr>
<tr>
<td># of unrelated others in SN</td>
<td>0.39 (0.63)</td>
<td>0.46 (0.95)</td>
<td>-0.40</td>
<td>0.27</td>
<td>0.09</td>
</tr>
<tr>
<td>Total social network members</td>
<td>25.78 (3.66)</td>
<td>22.83 (4.67)</td>
<td>1.17</td>
<td>4.74</td>
<td>0.70</td>
</tr>
<tr>
<td>Social Support from top 5 SN</td>
<td>32.72 (4.78)</td>
<td>29.01 (6.11)</td>
<td>1.36</td>
<td>6.06</td>
<td>0.68</td>
</tr>
<tr>
<td>Negative Interactions</td>
<td>2.16 (0.74)</td>
<td>2.24 (0.80)</td>
<td>-0.42</td>
<td>0.25</td>
<td>0.10</td>
</tr>
<tr>
<td>Social Control</td>
<td>1.96 (0.83)</td>
<td>2.13 (0.84)</td>
<td>-0.53</td>
<td>0.20</td>
<td>0.20</td>
</tr>
<tr>
<td>Treatment Pressure</td>
<td>Encouragement to attend treatment from top 5 SN</td>
<td>3.57 (1.22)</td>
<td>3.25 (1.19)</td>
<td>-0.21</td>
<td>0.85</td>
</tr>
<tr>
<td>Pressure to attend treatment from</td>
<td>2.15 (1.67)</td>
<td>2.21 (1.52)</td>
<td>-0.84</td>
<td>0.73</td>
<td>0.27</td>
</tr>
<tr>
<td>Romantic partner*</td>
<td>2.57 (1.56)</td>
<td>2.49 (1.54)</td>
<td>-0.60</td>
<td>0.77</td>
<td>0.05</td>
</tr>
<tr>
<td>Family members</td>
<td>1.70 (1.53)</td>
<td>1.29 (1.51)</td>
<td>-0.27</td>
<td>1.09</td>
<td>0.27</td>
</tr>
<tr>
<td>Friends</td>
<td>2.90 (1.43)</td>
<td>2.94 (1.37)</td>
<td>-0.66</td>
<td>0.58</td>
<td>0.03</td>
</tr>
<tr>
<td>Mental health treatment provider</td>
<td>3.22 (1.22)</td>
<td>3.14 (1.26)</td>
<td>-0.47</td>
<td>0.62</td>
<td>0.06</td>
</tr>
<tr>
<td>Case manager</td>
<td>3.46 (1.16)</td>
<td>3.60 (0.91)</td>
<td>-0.61</td>
<td>0.33</td>
<td>0.13</td>
</tr>
<tr>
<td>Probation officer</td>
<td>3.14 (1.46)</td>
<td>3.09 (1.46)</td>
<td>-0.59</td>
<td>0.70</td>
<td>0.03</td>
</tr>
<tr>
<td>Judge</td>
<td>49.45 (11.64)</td>
<td>46.63 (11.18)</td>
<td>-2.18</td>
<td>7.82</td>
<td>0.25</td>
</tr>
<tr>
<td>Hypothesized covariates</td>
<td>RAS for top 5 SN</td>
<td>26.39 (4.56)</td>
<td>23.92</td>
<td>4.78</td>
<td>0.53</td>
</tr>
<tr>
<td>CSI symptoms</td>
<td>3.39 (0.70)</td>
<td>3.08 (0.64)</td>
<td>0.02</td>
<td>0.61</td>
<td>0.46</td>
</tr>
<tr>
<td>Attitudes towards treatment</td>
<td>13.24 (5.07)</td>
<td>13.71 (4.15)</td>
<td>-2.54</td>
<td>1.58</td>
<td>0.09</td>
</tr>
<tr>
<td>ARSMA American orientation</td>
<td>13.25 (4.01)</td>
<td>14.06 (4.19)</td>
<td>-2.59</td>
<td>0.98</td>
<td>0.20</td>
</tr>
<tr>
<td>ARSMA Mexican orientation</td>
<td>10.47 (3.88)</td>
<td>11.70 (3.94)</td>
<td>-2.94</td>
<td>0.47</td>
<td>0.31</td>
</tr>
<tr>
<td>ISMI Alienation</td>
<td>12.59 (4.46)</td>
<td>13.94 (4.75)</td>
<td>-3.35</td>
<td>0.64</td>
<td>0.29</td>
</tr>
</tbody>
</table>
Note. *N for this item was 69 due to some participants indicating it was not applicable. Figures in bold indicate effect sizes of $d = 0.50$ or above.