

The Association of Employee's Unmet Social Needs and Self-Reported Injury and Illness Related Absenteeism

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Objective: The aim of the study is to examine the extent to which various unmet social needs (USN) are associated with self-reported injury and illness-related absenteeism (SRIRA). **Methods:** The analysis consisted of a retrospective study design of secondary data. Linear regression was used to measure the 2022 association between six measures of USN (both individual and a summary measure) and SRIRA. **Results:** A greater number of USN is associated with higher SRIRA ($b = 0.71$, $P < 0.001$). Self-reported challenges in caregiving, food, healthcare, housing, transportation, and utilities are also individually significantly associated with higher SRIRA. **Conclusions:** Employers may consider providing comprehensive resource support as part of their strategy to aid in reducing USN and their association with SRIRA.

Keywords: absenteeism, unmet social needs, social determinants of health and employee health

Driven in part by the growing recognition of disparities and inequities in health and well-being arising from the COVID-19 pandemic and social justice movements, many employers have pledged to identify and reduce workplace employee inequities. Specifically, employers have focused on addressing employees' unmet social needs, in part by increasing wages,^{1,2} as a portion of broader workforce well-being and healthy culture initiatives.³ Unmet social needs (USN) are shaped by employees' social determinants of health,⁴ which the Centers of Disease Control and Prevention, defines as, "the conditions in which people are born, grow, work, live and age, and the wider set of forces and systems shaping the conditions of daily life."⁵ Employer-sponsored workforce health and well-being initiatives are particularly suited to addressing USN⁶ and could benefit the employer, too, by potentially reducing health inequities and employee absenteeism, each of which can negatively impact performance. Employers have an opportunity to expand further their health and well-being offerings to address a comprehensive and diverse set of USN, such as caregiving support or access to health care and transportation.

LEARNING OUTCOMES

- Describe the association between unmet social needs and absenteeism.
- List two potential theoretical reasons for the association between unmet social needs and absenteeism.

Illness or injury-related absenteeism occurs for a variety of reasons but can be exacerbated by USN in the external environment. In their social and relational model of absenteeism, Miraglia and Johns⁷ describe social forces stemming from an employee's organization and occupation, as well as those outside of the organization (eg, family, community) that impact absenteeism. In addition, employees who encounter multiple or amplified USN, especially those in lower-wage or frontline occupations, may have an increased risk of illness or injury-related absenteeism.⁸ For example, employees working multiple jobs to provide their families with food and shelter may not have sufficient time or financial resources to manage their health. Some employees use smoking or consuming alcoholic beverages to relieve stress. Adherence with recommended medical care may be challenging because of limited paid sick leave, more pressing personal priorities, and healthcare access concerns. Employer awareness of and support for resolving employees' USN may result in greater opportunities for employees to be more proactive with their health and well-being concerns.

While many studies examine demographic^{9–11} and health factors^{12,13} that contribute to self-reported illness-related absenteeism (SRIRA), few focus on the association between specific USN (eg, lack of healthcare, no transportation, lack of childcare, etc.) and SRIRA. In this study, our goal is to examine the extent to which various USN are associated with SRIRA. More specifically, we hypothesize that employees who report having USN and those who have a greater number of USN will have higher SRIRA.

METHODS

Design

This analysis used a retrospective, cross-sectional study design. This project is considered part of an organizational "Quality Assurance and Quality Improvement Activities." As a result, the evaluation of the quality improvement project does not require university IRB review because in these cases, it is the activities rather than human subjects that are the objects of the study.

Data Collection

Self-reported illness- or injury-related absenteeism, count of chronic conditions, and six USN measures are collected annually using the 2022 vendor sponsored health questionnaire (HQ) tool. Age, current legal sex, wage, and race and ethnicity were collected from employment records, individually linked, and sent via separate files to a third-party vendor for deidentification before analysis, preserving employee confidentiality.

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Sample

This convenience sample for this study was derived from active, full-time university employees with complete data for all variables ($N = 6322$). The employees who voluntarily took the 2022 HQ did so as part of a comprehensive employee worksite health and wellness initiative, where participation was not incentivized. The response rate was 7%.

This sample is somewhat representative of the university population with only a 0% to 4% difference across racial and ethnic subgroups (not statistically significant), and 15% more female subjects (statistically significant) participating in the survey than the university workforce.

MEASURES

Unmet Social Needs

Six USN measures, developed by the university's health and wellness initiative, were assessed with "Yes" or "No" response choices: 1) "In the past 12 months, has the utility company shut off your service for not paying your bills?"; 2) "In the past 12 months, has lack of transportation kept you from medical or dental appointments, work, or getting things needed for daily living?"; 3) "In the next 2 months, are you worried that you may not have stable housing?"; 4) "In the last 12 months, did you worry you would run out of food before you got money to buy more?"; 5) "In the past 12 months, did caregiving make it difficult for you to work? This includes child and/or elder caregiving."; 6) "During the past 12 months, was there any time when you or someone in your household needed care (for example, medical, dental, and/or mental health services), but did not get it because you could not afford it?" A variable summing these six measures was also created and included in a separate model.

Self-reported Illness- or Injury-Related Absenteeism

Self-reported illness- or injury-related absenteeism was assessed with this question: "How many days did you miss from your job because of illness or injury in the last 12 months?" Response choices were 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11 to 15, 16 to 20, 21 to 30, and 31 or more days. Given this measure, we cannot assess frequency or duration. For example, if an employee responds 11 to 15 days, they may have been absent for 12 consecutive days or 4 days 3 different times throughout the year. Self-reported illness- or injury-related absenteeism has been shown to be a reasonable proxy for measured timekeeping data.¹⁴

Covariates

Because SRIRA may differ by socioeconomic, demographic and health factors, these variables were included as covariates.¹⁵ Age was measured, continuously, in years. Current legal sex was coded as female or male. Race and ethnicity were combined into the following categories: White, Black, Asian, or Hispanic (reference = White). To assess health status, a list of 21 chronic conditions was included based on the question: "Has a doctor told you that you have any of these conditions?" Response options were: arthritis, asthma, atrial fibrillation, back condition or injury, cancer (other than skin), COPD/emphysema, depression or anxiety, diabetes, Gastroesophageal Reflux Disease/reflux, gestational diabetes, glaucoma, heart disease, high blood pressure, high cholesterol, migraine headaches, neck condition or injury, obesity, osteoporosis, periodontal disease, stroke/TIA, and other. Respondents were asked to check all that apply. The natural logarithm of each individual's count of chronic conditions and annualized wage (in US dollars) was used in the analyses to linearize the effect of the skewed distributions.

Analysis

The sample included all respondents with complete data for all variables. For the multivariate analyses, separate linear regression models assessed each of the six USN measures in association with

SRIRA while controlling for age, current legal sex, wage, race and ethnicity, and count of chronic conditions. An additional separate linear regression model assessed the association between the sum of all six USN measures and SRIRA, including the same controls. The statistical package used for these analyses was SAS (release 9.4, <https://support.sas.com/software/94/>).

RESULTS

Table 1 shows the means for continuous and frequencies for categorical variables. The average SRIRA is 3.2 days and the age for employees in this sample is 44.6 years. The current legal sex is classified as male for 19.4% of employees and participants classified their race or ethnicity as African American (6.9%), Asian (8.2%), Latino (4.1%), White (78.3%), and other (2.4%), with an average of 1.9 chronic conditions. Participants indicated varying degrees of challenges with USN, with 26.1% responding "Yes" to challenges with caregiving, 4.8% with food, 6.7% with healthcare, 1.7% with housing, 2.4% with transportation, and 0.8% with utilities. The average number of USN per participant was 0.4, with 6% indicating more than one USN.

Table 2 displays the means and *t* tests for SRIRA by each of the six USN measures. Employees who expressed having challenges with utilities had the highest average SRIRA (9.7 days), followed by, in descending order, transportation (6.4 days), housing and food (both 5.6 days), health care (4.8 days), and caregiving (3.7 days). All six USN measures are statistically significantly associated with SRIRA.

The association between demographic and health characteristics, specific USN measures, and SRIRA is shown in Table 3. Age, race or ethnicity, wage, and chronic conditions have statistically significant associations across all USN measures. Employees who are younger ($b = -0.03$, $P < 0.001$ across all USN), who have lower wages ($b = -0.48$, $P < 0.001$; $b = -0.38$, $P < 0.01$; $b = -0.41$, $P < 0.01$; $b = -0.41$, $P < 0.01$; $b = -0.40$, $P < 0.01$; $b = -0.40$, $P < 0.01$), who identify themselves as a member of an "other" race or ethnic group ($b = 1.24$, $P < 0.001$; $b = 1.19$, $P < 0.001$; $b = 1.22$, $P < 0.001$; $b = 1.24$, $P < 0.001$; $b = 1.22$, $P < 0.001$; $b = 1.18$, $P < 0.001$), or who have a higher number of chronic conditions ($b = 0.75$, $P < 0.001$; $b = 0.74$, $P < 0.001$; $b = 0.74$, $P < 0.001$; $b = 0.75$, $P < 0.001$; $b = 0.74$, $P < 0.001$; $b = 0.75$, $P < 0.001$) have higher SRIRA than the comparison groups. Reporting "yes" to challenges in each of the USN measures is also associated with higher SRIRA. More specifically, reporting challenges in caregiving, food, healthcare, housing, transportation, and utilities respectively ($b = 0.51$, $P < 0.01$;

TABLE 1. Descriptive Characteristics of the Sample ($N = 6322$)

SRIRA (Mean)	3.2
<i>Demographic and health characteristics</i>	
Age (mean)	44.6
Male (%)	19.4
Race/ethnicity (%)	
African American	6.9
Asian	8.2
Latino	4.1
White	78.3
Other	2.4
Wage	0.1
Chronic conditions count (mean)	1.9
<i>Unmet social needs (% responding "yes")</i>	
Caregiving	26.1
Food	4.8
Healthcare	6.7
Housing	1.7
Transportation	2.4
Utilities	0.8
<i>Unmet social needs summary</i>	0.4

TABLE 2. Mean Self-reported Illness-Related Absenteeism by Specific Unmet Social Need Measures

	Y	N	P Value
Caregiving	3.7	3.1	**
Food	5.6	3.1	***
Healthcare	4.8	3.1	***
Housing	5.6	3.2	**
Transportation	6.4	3.1	***
Utilities	9.7	3.1	***

*P < 0.05; **P < 0.01; ***P < 0.0001.

b = 1.58, $P < 0.001$; b = 0.96, $P < 0.001$; b = 1.68, $P < 0.01$; b = 2.54, $P < 0.001$; b = 5.63, $P < 0.001$) show higher associations with SRIRA. Employees who identify as Asian (compared to White) have lower SRIRA across the following five USN measures: food, healthcare, housing, transportation, and utilities respectively (b = −0.52, $P < 0.05$; b = −0.54, $P < 0.05$ b = −0.54, $P < 0.05$; b = −0.59, $P < 0.05$; b = 0.51, $P < 0.05$).

Table 4 provides the results for the sum of USN on SRIRA, while controlling for socioeconomic and demographic characteristics and health. The results suggest that a greater number of USN is associated with higher SRIRA (b = 0.71, $P < 0.001$). Younger employees (b = −0.03, $P < 0.001$), employees with lower wages (b = −0.41, $P < 0.01$), employees who identify as an “Other” race/ethnicity (compared to White) (b = 1.15, $P < 0.001$), and those who have a higher number of chronic conditions (b = 0.72, $P < 0.001$) have higher SRIRA.

DISCUSSION

This study provides evidence that specific USN measures, and the sum of those measures are associated with SRIRA among university employees. Self-reported challenges in caregiving, food, healthcare, housing, transportation, and utilities are individually, and in aggregate, significantly associated with higher SRIRA. This is consistent with other work in this area.¹⁶

Compared to a representative sample of over 5000 people living in the US, these university employees have a lower prevalence of USN. For example, the prevalence of caregiving, food insecurity and transportation in this sample of university employees is 26.1% compared to 32%, 4.8% compared to 21% and 2.4% compared to 20%, respectively. In addition, nearly 6% of university employees compared to 35% of US residents have two or more USN. These results are not surprising given that the university sample consists of benefits-eligible

TABLE 4. The Association Between Demographic and Health Characteristics, Sum of Unmet Social Needs, and Self-reported Illness-Related Absenteeism (N = 6322)

Demographic characteristics	
Age (mean)	−0.03***
Male (%)	−0.30
Wage (mean)	−0.41**
Race/Ethnicity (%)	
African American	0.05
Asian	−0.50
Latino	−0.62
White	Ref.
Other	1.15***
Chronic condition count	0.72***
Unmet social needs summary	0.71***

Standardized regression coefficients are presented.
*P < 0.05; **P < 0.01; ***P < 0.001.

employed persons whereas a portion of the US sample is unemployed and has fewer resources. It is concerning that these USN exist at the magnitude that they do given that this is an employed population with rich employer resources.¹⁷

The university is progressive and generous in its benefits design. In this work setting, the university provides 15 days of paid sick time that is available to eligible full-time employees. Proportional paid sick time is available if an employee works 8 or more hours per week, but not full time. Employees with paid time off, which is predominately health system employees, must use paid sick time from their paid time off bank. The university contribution to health insurance is based on the salary band where employees in lower salary bands contribute less for their health benefits. Even with the university’s well-designed benefits, the context by which USN are associated with SRIRA is not immediately clear, and several possibilities merit consideration.

One possibility contributing to the association of USN on SRIRA as evaluated in this study, may be financial disparities outside of just wage. For example, individuals experiencing these issues may have some combination of low wages, limited financial management skills, existing debt, or other, more pressing financial commitments. Workers with lower wages tend to be more reactive users of healthcare, receiving fewer preventive care services, and are more likely to use the emergency department for care.¹⁸ They may also tend to work in jobs where it is harder to schedule preventive care appointments, due to the

TABLE 3. The Association Between Demographic and Health Characteristics, Specific Unmet Social Need Measures and Self-reported Illness-Related Absenteeism (N = 6322)

	Caregiving	Food	Healthcare	Housing	Transportation	Utilities
Demographic characteristics						
Age (mean)	−0.03***	−0.03***	−0.03***	−0.03***	−0.03***	−0.03***
Male (%)	−0.30	−0.32	−0.31	−0.32	−0.33	−0.30
Wage (mean)	−0.48***	−0.38**	−0.41**	−0.41**	−0.40**	−0.40**
Race/ethnicity (%)						
African American	0.15	0.106	0.08	0.11	0.11	0.06
Asian	−0.49	−0.52*	−0.54*	−0.54*	−0.59*	−0.51*
Latino	−0.53	−0.57	−0.55	−0.57	−0.56	−0.57
White	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
Other	1.24***	1.19***	1.22***	1.24***	1.22***	1.18***
Chronic condition count	0.75***	0.74***	0.74***	0.75***	0.74***	0.75***
Unmet social needs	0.51**	1.58***	0.96***	1.68**	2.54***	5.63***

Standardized regression coefficients are presented.
*P < 0.05; **P < 0.01; ***P < 0.001.

demands of the work and/or penalties for leaving or missing work. These individuals may also have suboptimal chronic condition control relative to their higher-earning counterparts.¹⁹ Accordingly, they may have greater SRIRA as a result. Wage-related benefits subsidies have the potential to mitigate some affordability concerns, particularly for chronic condition management. Based on these university results though, such benefit subsidies may assist but not fully address issues with USN.

Similarly, the absence of wage-based childcare or other caregiving subsidies may limit workers with lower wages access, resulting in a need to stay home from work for caregiving. Depending on organizational policies and practices, employees may report this as SRIRA. Childcare has been shown to be a significant stressor for employees, which may contribute to SRIRA.²⁰ The university provides grants to university affiliated families to subsidize childcare for on campus childcare centers. These grants are limited and based on income level and family size. It is intriguing that our results indicate that caregiving was the most prevalent USN issue, but caregiving related SRIRA is comparatively low. Organizational policies like these, which are procaregiver, have been suggested to contribute to cost savings.²¹

Second, employees with unmet social needs may also have concerns regarding trust in healthcare clinicians. Implicit bias in the delivery of healthcare is significant and pervasive.²² For these employees, the threshold for using healthcare, independent of financial or access concerns, may be higher, resulting in care avoidance and resulting in more SRIRA. This finding is consistent with the results of this manuscript that suggest that employees identifying as an “other” race/ethnicity have higher SRIRA.

Third, these results suggest that other, yet to be determined factors may also contribute to SRIRA. For example, utility shut-off due to nonpayment was the least commonly reported USN issue, but SRIRA was greatest for this category. One interpretation for this could be that utility shut off may be an indicator for excessive hardship that may make other USN, including childcare, more salient. In relation to healthcare needs, hourly workers with pressing medical concerns may have to formally take time off to receive healthcare services during work hours. In contrast, salaried workers may not consider a mid-day clinician appointment as SRIRA. Additionally, levels of employee engagement with work or supervisor relationships may also impact the personal threshold that determines each employee’s decision to be absent from work. Low work engagement or difficult supervisor relationships may lower the threshold for absence.

These results should be interpreted in the context of the potential limitations of this study. First, only results from HQ respondents were included, limiting the generalizability to the broader population. At the same time, it is interesting that within a subpopulation of employees, there are still associations between specific USN measures and SRIRA. Second, the magnitude of the severity of the listed USN varies, which may account for variability in the frequency of the “yes” responses. This may be particularly important in relation to caregiving versus utility shut off. Third, the results from a single employer may not be generalizable to employers in other locations or industries. Fourth, these data are cross-sectional and therefore do not establish causality. However, our findings hold even after controlling for chronic condition prevalence and demographic factors, including age, current legal sex, wage, and race and ethnicity, which might otherwise explain the results. Fifth, employee hesitancy regarding full disclosure of USN and/or SRIRA may contribute to more conservative estimates among these associations. Lastly, this is an initial analysis of complex associations. These results likely provide justification for additional, more detailed analysis to further explore the interrelationships between variables.

At least three future areas of research could yield important insight into this field of study. First, further research is needed to better understand the potential mechanisms and the primary drivers or root causes in the association of USN issues with SRIRA among university

employees, as well as the nature of interrelationships between USN concerns and employee demographics. Second, specific research might consider the potential value of employee navigation support in addressing the range of specific USN concerns. A program, such as the University’s Resource Coach Program, that offers nonjudgmental help to identify appropriate resources for employees experiencing a financial or personal challenge may be particularly helpful.

In summary, these results suggest a unique opportunity for employers as part of their health and well-being initiatives, to elicit employee perspectives regarding USN, and provide resource support. Employers that take a thoughtful approach to engaging employees can leverage human-centered design principles²³ to develop meaningful, effective, and sustainable solutions. Such employer support may help in reducing the impact of USN on SRIRA and may also engender greater employee trust, engagement and retention.

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