CORRELATION AND GENDER DIFFERENCE AMONG LONELINESS, SUBSTANCE USE AND PURPOSE IN LIFE OF SENIOR HIGH SCHOOL STUDENTS IN GHANA.

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ABSTRACT

The study examined the relationships and gender difference among loneliness, substance use, and purpose in life of senior high school students in Ghana. Non-experimental correlation design was used to assess the level of the items of variable and their relationships among them. The target population was students from southern and northern schools designated "A" and "B," in the Cape Coast and Kumasi metropolis respectively. The simple random sampling procedure was used to select 150 males and 150 females from the southern and northern senior high schools for the study. A one-way ANOVA was conducted on each subscale to determine if there were any gender differences in overall scores. Only the loneliness subscale showed males to have a statistically different score than that of females. A Pearson bivariate correlation was conducted to determine any potential linear relationships between the three subscales. None of the relationships showed any significant correlations (p > .05). A regression analysis found no gender or drug use to predict loneliness or purpose in life. The study offers new knowledge in regard to working with adolescents in Ghana.

Keywords: Loneliness, substance use, Purpose in life.

INTRODUCTION

Adolescence in particular, seems to be a very important period, because it is the time when people are looking for, experimenting with, and establishing their lifestyle, attitudes, concepts, beliefs, and habits that may have long-term influences on their health (Peltzer, 2009). Adolescents today are exposed to a range of challenging experiences that can threaten their chances for life success as well as negatively influence their perspectives on life, the world, and themselves (Van Dyke & Elias, 2007). Low experiences of meaning are connected with depression, spiritual impairment, stress loads with psychosomatic results as well as low quality of life, lethargy, low self-efficacy, and a low level of feeling (Auhagen, 2000). Loneliness, however, as a variable appear to be correlationally linked to the behavior of substance abuse (Cox, 1985) and a lack of purpose in life (Padelford, 1974). This has resulted in the development of the Purpose in Life (PIL) test (Crumbaugh & Maholick, 1964), a scale designed to operationalize Frankl's ideas and to measure an individual's experience of meaning and purpose in life. Similarly, the Revised University of California Los Angeles (UCLA) Loneliness Scale (Russell, Peplau, & Cutrona, 1980) has been developed to measure the subjective experience of loneliness items. Similar studies on Alcohol and drug use have been linked to loneliness and purpose in life that have led to the use of instruments such as the Adolescent Alcohol and Drug Involvement Scale (AADIS). Consequently, these studies have increased an understanding of adolescents' problems and have led to the development of the strategies to maximize the adolescent's potential.

The associations among purpose in life and substance use have been examined and supported in a number of studies. Frankl (1959) suggested that failure to satisfy the basic need for meaning resulted in negative consequences, including substance abuse. A decreased sense of purpose in life has been seen as both the cause and the effect of alcoholic drinking (Kurtz, 1979). Several studies have shown that purpose in life was related negatively to alcohol use, marijuana use, and general drug involvement (Padelford, 1974). A study on the relationship between purpose in life and adolescent drug use examined self-report cross-sectional data sampled from 114 Southern California junior high and high school students (Minehan, Newcomb,

& Galaif, 2000). The results found purpose in life to mediate the relationship between crystallized intelligence and alcohol use, while lack of purpose predicted illicit drug use.

It has been found that adolescent scores on PIL (ages 13–19, M = 104.1) are lower than those of older groups (25 and older, M = 111.5; Meier & Edwards, 1974) although associations with age are not always found (Crumbaugh & Henrion, 1988). Additionally, gender differences have been statistically insignificant (Crumbaugh & Henrion, 1988; Meier & Edwards, 1974).

A study conducted by Nkyi (2015a) explored purpose in life among students in two metropolitan senior high schools in Ghana. A sample of 244 students (40.5% males, 59.5% females; mean age =18.4 years) completed the Crumbaugh and Maholick Purpose in Life test. A series of one-way analysis of variance tests (ANOVA) was used to determine the existence of any significant differences among variables. The results indicate that the mean PIL test scores were significantly lower compared to results in the United States. The results of the study clearly indicate that senior high school students in Ghana appear to have PIL lower than their counterparts in the United States of America.

The PIL test assesses something of psychological significance and is supported by its ability to predict membership in clinical versus nonclinical populations. For example, it distinguishes between psychological patients and non-patients (Crumbaugh, 1968; Crumbaugh & Maholick, 1964) and inmates and non-inmates (Reker, 1977). Studies suggest a relation between lower scores on the PIL test and drug involvement (Padelford, 1974; Nkyi, 2015b)

Nkyi (2015b) examined the degree of relationships between alcohol and purpose in life among adolescents in senior high schools in Ghana. A sample of 244 students made up of 40.5% males (N= 98) and 59.5% females (N=144) completed demographic questionnaires, the Adolescent Alcohol and Drug Involvement Scale (AADIS), and the PIL test. The mean age was 18.4 years. Pearson product moment correlation coefficients were performed to determine the relationship between the AADIS and PIL test and tested at 0.05 alpha level. The results indicated that a significant negative correlation found between the AADIS and PIL test. This result depicts a negative linear relationship of scores, where the low scores on the AADIS relate to high scores on the PIL test. As one's alcohol usage decreases, meaningfulness gradually becomes more salient, and purpose in life is at a high level.

Consistent with previous studies in other African countries (Adelekan, 1989; Adelekan et al., 1993; Anumonye, 1980; Eide & Acuda, 1995), lifetime prevalence rates of alcohol, cigarette, and cannabis use in Ghana are significantly greater for boys compared to girls (Adu-Mireku, 2003). In addition, alcohol use is strongly associated with cigarettes and marijuana. Consequently, marijuana has a very strong association with alcohol consumption by school-going adolescents. Invariably, alcohol could be used as an indicator of the use of other substances, especially marijuana (Adu-Mireku, 2003). To date, much of the available information has come from only a few cross-sectional research studies on the prevalence of substance use often conducted in a single location, especially in urban areas (Adu-Mireku, 2003; Amonoo-Lartson & Papoe, 1992; Lamptey, 2005), and from information gleaned from police arrests and seizures.

Other authors have demonstrated a high prevalence of substance abuse and its relationship with purpose in life (Nkyi, 2015b; Padelford, 1974; Shean & Fechtmann, 1971) and loneliness among adolescents (Page & Cole, 1991; Peplau & Perlman, 1982). Several psychological variables appear to be at least correlationally linked to the behavior of substance abuse (Cox, 1985). They include loneliness (Nerving & Gross, 1976; Page, 1990) and a lack of purpose in life (Padelford, 1974).

Perlman and Peplau (1982) described loneliness as unpleasant experiences that occur when a person's social relations is deficient either quantitatively or qualitatively .Loneliness is a multidimensional experience, which is universal among humans, and, as it is a unique subjective experience, one's personality, history, and background variables affect it (Weiss,1987). Weiss (1973) distinguished emotional loneliness from social loneliness. Emotional loneliness is based on the absence of personal, intimate relationship or attachment while social loneliness is the result of lack of social connectedness or sense of community. The experience of loneliness varies across cultures. A recent study explored loneliness among students in two metropolitan senior high schools in Ghana (Nkyi, 2014a). A sample of 244 students (40.5% males, 59.5% females; mean age =18.4 years) completed the Revised University of California Los Angeles (R-UCLA) Loneliness Scale. A series of one-way ANOVA test was used to determine the existence of any significant differences among variables. The results of the findings indicate that the mean R-UCLA Loneliness Scale scores among senior high school students fell in the lower range (N=244; M=45.81; SD=10.001). There was significant difference in gender, with moderately higher levels of loneliness among females than males. There were also significant differences in regard to age and religious affiliation. The results of this study indicate that varying degrees of loneliness are felt in different cultures, because the ways people live and approach problem solving in their social context are different.

Loneliness has been described as a multidimensional construct in which people experience not only different degrees but also different types of loneliness. Collectively, loneliness has been linked to behavioral and mental health problems such as depression, suicide, hostility, alcoholism, poor self-concept, and psychosomatic illnesses (McWhirter, 1990; Perlman & Peplau, 1982). Studies have shown relationships between substance use and loneliness. Other studies have shown relationships between problem drinking and alienation, referring to a sense of isolation and non-involvement in social roles and relationships.

Findings from many studies provide evidence that loneliness is a major social problem among the youth (Peplau & Perlman, 1982). Other studies report that loneliness has been linked to depression and anxiety and interpersonal hostility to drug and alcohol abuse (Nerving & Gross, 1976; Page & Cole, 1991; Peplau & Perlman, 1982). Data on the potential relationship of loneliness to other substance use disorders are more limited (Britton & Conner, 2007). Page (1990) reported loneliness to be positively associated with marijuana use among high school students. However, in that study, loneliness was not found to be related to the number of days per month that high school students consumed alcohol or drank to the point of getting drunk. Furthermore, Nkyi (2016) reported there is no positive relationship between alcohol use and loneliness among senior high school students in Ghana. Studies in Ghana have focused on the individual variables such as loneliness, purpose in life and alcohol among senior high school students. Although many studies on the relationship between substance abuse, purpose in life, and loneliness have been done in the West, it appears little or few studies have been done in Africa. An examination of the correlation between substance abuse, purpose in life, and loneliness in Ghana will fill this gap in the existing data. Therefore the aim of this study was to examine the relationships and differences among loneliness, substance use and purpose life of senior high school students in Ghana.

Three general questions were formulated for the study:

(a) What are the overall correlations among loneliness, alcohol/drug use and purpose in life of senior high school students in Ghana? ;

(b) What are the gender differences with regard to loneliness, purpose in life, and alcohol/drug use among senior high schools students in Ghana?; and

(c) Is gender or drug use able to predict loneliness or purpose in life?

METHOD

The Study Setting

In its broadest conceptualization, this study is intended to address populations of adolescents in senior high schools in Ghana. The setting for the study consisted of all individuals within the two schools in two metropolitan areas namely Cape Coast and Kumasi that represent the south and north zones of Ghana, respectively.

Participants

The sample in this study was drawn from two schools, designated "A" and "B," with higher percentages of boarding (residential) students than most other schools. The researcher purposively selected these two senior high schools located in metropolitan areas at the extremes of distribution, because they were more likely to contain rich information, and they represent the ethnic diversity and capture the disparity between the north and south of the ten regions of Ghana. A sample of 300 students, 150 males and 150 females with a mean age of 18.4 years, were randomly selected from the two senior high schools for the study.

Research Design

The study adopted a non-experimental correlation design approach. Correlation design was used to assess the level of the items of variable and their relationships between them.

Population

The target population was students from schools designated "A" and "B," with higher percentages of boarding (residential) students than most other schools. Two schools in two metropolitan areas—Cape Coast and Kumasi-representing the south and north zones of Ghana were selected for the study.

Sampling

The simple random sampling procedure was used to select 150 males and 150 females from the two senior high schools for the study. A total sample of 300 students were selected for the study.

Instruments

The questionnaire used in this study has been used with success by previous studies for Ghanaian students (Nkyi, 2016; 2015a; 2015b; 2014). The study employed three main standard instruments. The Adolescent Alcohol and Drug Involvement Scale (AADIS), the Revised University of California Los Angeles (R-UCLA) Loneliness Scale and The Purpose in Life (PIL) test.

The Adolescent Alcohol and Drug Involvement Scale AADIS, developed by Moberg (2005), was used to measure the degree of substance abuse. Higher scores represent higher levels of alcohol and/or drug involvement. The AADIS can be administered in an interview as well as a self-report form. The AADIS consists of two sections. The scored Part B of the survey, the self-completed version, comprises 14 items that pertain to both legal (e.g., cigarettes, alcohol) and illegal (e.g., crack, heroin) substances. The items are rated on 5- to 8-point scales with responses for each question. The AADIS is scored by adding the weights on items B.1–14 to the highest positive answer to each item in the section (Moberg, 2005). Winters et al. (2001) reported

favorable alpha coefficients of .92 and .95 across all demographic subgroups. The logistic regression analysis identified an optimal cut-off point of 37 on the AADIS. The AADIS has been used for adolescents in Ghana (Nkyi, 2016, 2015b, 2014b).

Purpose in Life Test. The PIL test was developed by Crumbaugh and Maholick (1964) to assess the degree to which the individual possesses meaning, understood as the opposite of *existential frustration* or a lack of fulfillment of the *will to find meaning* (Frankl, 1955/1960). The PIL test has three parts. The objectively scored Part A (which is the part most frequently used for research and is the focus of this review) is composed of 20 items rated on a 7-point scale with a high score (6 to 7) indicative of clear meaning and purpose, an intermediate score (3 to 5) indicative of indecision, and a low score (1 to 2) representative of a lack of clear meaning and purpose in life. The original split-half reliability reported using the odd-even method was .81, Spearman-Brown corrected to .90 (Crumbaugh & Maholick, 1964). In a sample of inmates, Reker (1977) reported a solid split-half reliability of .85, corrected to .92. The PIL test has been used for students in Ghana (Nkyi, 2015a, 2015b)

Revised University of California Los Angeles Loneliness Scale. The R-UCLA Loneliness Scale was developed by Russell (1982). The R-UCLA Loneliness Scale is one of the most widely used instruments to measure the subjective experience of loneliness. It has been used with varied populations, including the elderly, adolescents, college students, nurses, and teachers. The scale is a self-report measure consisting of 20 items with 10 negatively worded (lonely) and 10 positively worded (non-lonely) items (Russell et al., 1980). Participants are asked to respond to each item statement with responses of never, rarely, sometimes, and always. Higher scores on the loneliness scale indicate a higher level of loneliness. Responses on a 4-point Likert-type scale are summed for a total score, in which high scores indicate greater loneliness. A moderately high level of loneliness is a score that is one standard deviation above the mean, or 50; thus, a moderately high level of loneliness would be a score from 50 to 59. The R-UCLA Loneliness Scale has been validated for use with adolescents. The scale has high internal consistency, with an alpha coefficient of 0.94, and has been used for adolescents in Ghana (Nkyi, 2016, 2014b).

Procedure

The researcher sought permission from the Regional Directors of Education as well as the heads of the schools. All participants were assured that their participation in the study was voluntary, anonymous, confidential, non-invasive, and not likely to cause any physical harm. After obtaining the required permission and consent granted, the survey instruments (questionnaire) that included demographic information, the AADIS, the PIL test, and the R-UCLA Loneliness Scale were completed by the students in 30 minutes with a response rate of 66%. The mean age was 18.4.

Data Analysis

Descriptive statistics were used to describe the variables of the study**.** A Pearson bivariate correlation was used to examine the potential linear relationships between the three subscales. A one-way ANOVA was utilized on each subscale to determine gender differences among the three main variables of the study. A regression analysis was conducted to determine whether gender or drug use would be able to predict loneliness or purpose in life.

RESULTS

Descriptive findings. The mean and standard deviations for loneliness, alcohol/drug, and purpose in life are presented in Table 1. The mean score for loneliness for both females and

males was within the 50 to 59 range, indicative of moderately high levels of loneliness. Females had a higher score than the males on the AADIS, while both males and females' scores on the PIL test are low, indicative of indecision. The demographic variables of participants (age, year in school, residential status, relationship status, location, parent marital status, students living with parents, and religious affiliations) are presented in Table 1.

Table 1: Descriptive statistics—means and standard deviations for variables

	Loneliness			Drug			Purpose in Life		
	n	***M***	***SD***	***n***	***M***	***SD***	***n***	***M***	***SD***
Gender									
Male	73	52.97	5.34	56	36.21	8.77	79	101.47	26.39
Female	124	54.69	4.46	22	39.32	9.96	124	106.27	19.22
Age									
18	155	54.33	4.93	51	34.61	8.75	163	106.69	21.89
19	35	53.06	4.39	27	41.78	8.17	35	95.29	22.49
First	8	51.75	4.23	4	48.50	5.20	8	96.00	22.90
Second	118	54.63	4.85	39	39.33	9.47	128	104.88	19.80
Third	71	53.17	4.69	34	33.21	7.28	67	104.66	26.56
Are you a residential student or day student?									
Residential	183	54.22	4.84	65	36.52	9.40	188	105.17	21.58
Day	13	50.92	3.66	12	39.75	7.91	15	93.53	29.06
Are you currently involved in an intimate relationship?									
Yes	73	54.44	5.40	40	38.63	8.47	69	98.35	26.09
No	122	53.79	4.45	35	35.51	9.99	132	107.55	19.29
Location									
Rural	8	55.88	3.60	5	43.20	4.60	7	92.43	15.04
Town	55	54.18	3.98	30	39.57	9.28	54	103.83	20.44
City	134	53.93	5.20	42	34.62	8.91	141	104.70	23.01
Are your parents living together or divorced?									
Living Together	152	53.92	4.92	56	36.77	8.94	153	107.16	20.14
Divorced	44	54.43	4.77	20	39.55	8.51	48	96.52	25.57
Do you live with your parents?									
Yes	168	53.92	4.71	62	36.39	8.80	170	105.69	20.95
No	29	54.52	5.65	15	39.67	10.67	33	98.82	27.23
What is your religious affiliation?									
Christian	174	54.05	4.94	62	35.60	8.79	179	105.39	22.13
Other	23	53.70	4.18	15	43.87	7.76	24	97.71	22.92
Total	**198**	**54.04**	**4.86**	**78**	**37.09**	**9.17**	**204**	**104.37**	**22.30**

Correlations. A Pearson bivariate correlation was conducted to determine any potential linear relationships between the three subscales (Table 2). Moreover, the analysis was further broken down by gender. None of the relationships showed any significant correlations ($p > .05$).

Table 2: Overall correlations between UCLA, AADIS, and PIL

	Loneliness	Drug
Drug	.160	
Purpose in Life	.038	-.133

Male Correlations

	Loneliness	Drug
Drug	.062	
Purpose in Life	.217	-.090

Female Correlations

	Loneliness	Drug
Drug	.326	
Purpose in Life	-.135	-.339

ANOVA. A one-way ANOVA was conducted on each subscale to determine whether there were any gender difference in the overall scores (Table 3). For loneliness, the males ($M = 52.97$, $SD = 5.34$) did have a statistically different score than the females ($M = 54.69$, $SD = 4.46$), $F(1, 195) = 5.838$, $p = .017$. On the drug scale, the males ($M = 36.21$, $SD = 8.77$) and females ($M = 39.32$, $SD = 9.96$) showed no significant difference, $F(1, 76) = 1.831$, $p = .180$. Lastly, the males scored a 101.47($SD = 26.39$) on the PIL scale, while the females scored a 106.27 ($SD = 19.22$), which also was not statistically significant, $F(1, 130) = 1.958$, $p = .164$.

Table 3: Gender differences in UCLA, AADIS, and PIL

	Loneliness				
	n	***M***	***SD***	***F***	***p***
Gender				5.838	0.017
Male	73	52.97	5.34		
Female	124	54.69	4.46		

	Drug				
	n	***M***	***SD***	***F***	***p***
Gender				1.831	0.180
Male	56	36.21	8.77		
Female	22	39.32	9.96		

	Purpose in Life				
	n	***M***	***SD***	***F****	***p***
Gender				1.958	0.164
Male	79	101.47	26.39		

Female	124	106.27	19.22

*Due to inequality in variances, Welch's Test was used

Regression. A regression analysis was conducted to determine if gender or drug use would be able to predict loneliness or purpose in life (Table 4). When loneliness was analyzed, there was no significant factors found that was able to predict, and gender and AADIS only accounted for a small amount of variability in the scale (R2 = .044). Similarly, for purpose in life, only a small portion of the variability was explained (R2 = .035) by the independent variables, none of which were statistically significant.

Table 4: Regression analysis—loneliness

	B	t
(Constant)	51.914	15.102
AADIS	.079	.999
Gender	-1.632	-1.042

R2 = .044

Regression analysis—purpose in life

	B	t
(Constant)	115.809	7.337
AADIS	-.445	-1.217
Gender	-7.757	-1.030

R2 = .035

DISCUSSION

The study examined the degree of relationships and gender difference among loneliness, substance abuse, and purpose in life of students in Ghana. Descriptive statistics were used to describe the variables of the study. A Pearson bivariate correlation was used to examine the potential linear relationships between the three subscales. A one-way ANOVA was utilized on each subscale to determine the gender differences between the three main variables of the study. A regression analysis was conducted to determine whether gender or drug use would be able to predict loneliness or purpose in life.

The current study finds no significant relationships ($p > .05$) between loneliness, substance abuse, and purpose in life. It appears that such non-western adolescent population may not be open to disclose their use of alcohol or drugs, which invariably will affect their feelings of loneliness. This study supports a previous study in Ghana by Nkyi (2016) that found no relationship between alcohol use and loneliness among senior high school students in Ghana even though a similar study among senior high school students in Ghana did find a significant negative correlation between alcohol/drug use and purpose in life (Nkyi, 2015b).

The mean score for loneliness for both females and males was within the 50 to 59 range, indicative of moderately high levels of loneliness. This finding is contrary to the previous study by Nkyi (2014a) indicating that the mean R-UCLA Loneliness Scale scores among the senior high school students fell in the lower range (N=244; M=45.81; SD=10.001). While the current study supports the previous study, there is a significant difference between males and females in regard to loneliness with males being lonelier than females. This current study supports a similar study by Nkyi (2015a) that found PIL scores (N=244; M=97.34; SD=32.417) to be significantly lower, indicative of indecision. It could be deduced that purpose in life appears to be lower among senior high school students in Ghana. There may be many reasons. Adolescents in Ghana, as in any other African or developing country, have many challenges. Poverty, economic instability and unemployment insecurity can affect students' future and hope. Students may appear to have a negative perception about the world they are about to go into. In the current study, the scores of both males and females on the purpose of life scale were not statistically significant, $F(1, 130) = 1.958$, $p = .164$. This current finding supports previous studies that gender differences have been statistically insignificant (Crumbaugh & Henrion, 1988; Meier & Edwards, 1974), unlike the studies that correlate the behavior of substance abuse (Cox, 1985), loneliness (Page, 1990), and a lack of purpose in life (Nkyi, 2015b; Padelford, 1974).

A regression analysis was conducted to determine whether gender or drug use would be able to predict loneliness or purpose in life. When loneliness was analyzed, there was no significant factors found that were able to predict these, and gender and alcohol and drug use (AADIS) only accounted for a small amount of variability in the scale ($R2 = .044$). Gender and alcohol/substance use appear to have no significant incremental effect on loneliness, and they had a small effect in influencing loneliness. Thus, it is difficult to establish that alcohol/drug use and gender are variables that may be used to identify adolescents at risk of loneliness. Although previous studies report that loneliness has been linked to depression and anxiety and interpersonal hostility to drug and alcohol abuse (Page & Cole, 1991; Peplau & Perlman, 1982), The findings do not provide support that variables such as alcohol/drug use and gender could be strongly linked to loneliness.

I conclude that loneliness is a cultural issue based on subjective experience and; it is not synonymous with objective social isolation. People can be alone without being lonely or lonely in a crowd (Peplau & Perlman, 1982). Based on this definition, it is difficult to use loneliness as a unique factor in relating it to substance use, since loneliness may be subjective, and one's experience may be different from the other. Gender was found to have a small effect on loneliness. According to Nkyi (2014a), it is also possible that students' sense of belongingness in a community may have a great impact on their level of loneliness. Thus, attachment and social belongingness to their communities and nuclear and extended families lessen feelings of loneliness among the students. Thus, it could be concluded that loneliness is affected not only by social relationships and the frequency of social interactions but also the quality of relationships as cited by Nkyi (2014a)

Similarly, for purpose in life, only a small portion of the variability was explained ($R2 = .035$) by the independent variables, none of which was shown to be statistically significant. Alcohol/drug

use and gender could not be explained as variables that affect purpose in life. The current study does not support previous studies that alcohol/drug use can affect one's feeling with regard to purpose in life. For example, Frankl (1959) suggested that failure to satisfy the basic need for meaning resulted in negative consequences, including substance abuse. Kurtz (1979) also indicated that a decreased sense of purpose in life has been seen as both the cause and the effect of alcoholic drinking, while Padelford (1974) and other studies have shown that purpose in life was related negatively to alcohol use, marijuana use, and general drug involvement. Alcohol/drug use could be perceived as a risk factor that could affect one's sense of purpose in life even though the current findings do not support this.

Implications

The statistical findings and conclusions of this study regarding substance abuse, purpose in life, and loneliness may be beneficial for many different readers interested in substance use among high school students. The findings and conclusions of this study may help us to better identify and understand the significant challenges that adolescents and their parents may face. It is expected that the study will contribute to the areas of adolescent health education

Limitation

It appears that students were not honest and willing to answer the questionnaires and that could have had a great impact on the response. Alcohol and drug use appears to be a sensitive issue, and students who feel like victims may decline to answer the questions. Since the scales are additive in nature, those who did not answer each question were removed; if not, their score would be artificially lower. A larger sample and broad areas will help understanding the relationships of all the variables.

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