MURRAY STATE UNIVERSITY

Contemporary Rural Social Work Journal

Volume 7 | Number 2 Article 3

9-1-2015

Longitudinal Description of Developmental Youth Assets and Substance Use: A Cohort Study of Rural Youth

Michael P. Vimont
Ashland University

Recommended Citation

Vimont, Michael P. (2015) "Longitudinal Description of Developmental Youth Assets and Substance Use: A Cohort Study of Rural Youth," *Contemporary Rural Social Work Journal*: Vol. 7: No. 2, Article 3.
DOI: https://doi.org/10.61611/2165-4611.1081
Available at: https://digitalcommons.murraystate.edu/crsw/vol7/iss2/3

Longitudinal Description of Developmental Youth Assets and Substance Use: A Cohort Study of Rural Youth

Michael P. Vimont
Ashland University

Abstract. Rural communities seeking strategies to enhance the well-being of their youth must have local data for guidance. As a concept, developmental youth assets is increasingly used in measuring the psycho-social health of adolescents. This longitudinal study focuses on a cohort of over 200 youths residing in a rural community located in northeast Ohio. This five-year study observes trends of eight assets and the use of three substances. Results show that a decrease in asset scores took place between the sixth and eighth grade while the use of substances increased between the eighth and tenth grades. Additionally, outcomes show that youths coming from households without two parents have lower assets scores and higher substance use rates compared to youth residing in two-parent households. Strategies used by this community upon obtaining results are discussed.

Keywords: youth assets, substance use, rural youth, longitudinal research, rural community, developmental systems theory

A central focus for rural communities is the enhancement of the well-being of its youth as they transition into adulthood. This effort is challenging when considering that adolescence is a time of disengagement from one's family of origin, testing of established norms, and experimentation with new ideas and concepts. In addition, adolescence is also a time of rapid change in biological, psychological and social learning. Coupled with these elements are the unique aspects attributed to rural living. Rural adolescents, who are seeking their identity, face challenges that differ from their urban counterparts. Attempts to maintain standards developed by their family and community may result in tremendous tension in adhering to those standards (Bushy, 1994). Close-knit relationships, while providing a source of comfort and support, may be a source of stress experienced by rural youth when they contemplate challenging existing norms.

Rural communities are tasked with equipping their adolescents with the ingredients necessary to cultivate their growing independence while at the same time supplying them with components required for healthy development. These objectives are challenged by shortages of economic, physical, and human resources in many rural communities (Belanger, 2005). On the other hand, many of these same rural communities harness the strengths found in rural living through the use of informal resource systems, such as neighbors, friends, local organizations and church congregations, to name a few.

In order to carry out the responsibility of cultivating its youth with limited resources, a select number of rural communities have implemented primary prevention efforts. A central component of this strategy is the notion that all youth need essential psycho-social elements in their lives. These elements are conceptualized as youth assets.

Michael P. Vimont, Program Director, Department of Social Work, Ashland University. Correspondence concerning this article should be addressed to Michael P. Vimont, Department of Social Work, Ashland University, 401 College Ave., Ashland, OH 44805. E-mail: mvimont@ashland.edu

A rural county located in northeast Ohio chose this strategy over a decade ago but needed localized data to assist in planning and evaluation. Social work practitioners were used in the collection and interpretation of data collected due to the profession's understanding and use of ecological systems theory in community-based planning efforts. This study is a sub-component of that effort. Following a cohort of youth from their entry into the 6th grade through the 10th grade, patterns of youth assets and behaviors were tracked and examined to assist in the development of community-based strategies.

Literature Review

Developmental Systems Theory and Youth Assets

Transforming youth into becoming productive adults requires an understanding of factors essential for the achievement of this objective. These factors are conceptualized by Leffert et al. (1998) and expressed in Developmental Systems Theory as assets that blend contextual and individual dynamics that serve to protect from or inhibit risky behaviors in youth, and enhance the propensity for positive developmental outcomes. Instead of concentrating on the problem of risk behavior, the developmental asset approach focuses on building the necessary foundation that young people need to become healthy and productive adults (Benson, 2006). This approach moves away from the familiar deficit reduction approach and emphasizes positive youth development.

Youth developmental assets are often referred to as building blocks (Leffert et al., 1998; Scales, Leffert, & Lerner, 1999) and are centered on the second decade of life (Benson, Leffert, Scales, & Blyth, 1998). When assets are present, they theoretically enhance essential developmental outcomes, reduce health-compromising behaviors, and increase positive outcomes (Leffert et al., 1998). Communities using Developmental Systems Theory as a prevention based framework seek to enhance the acquisition of assets by adolescents in order to achieve positive outcomes. Instead of focusing on a specific problem area, the theory emphasizes positive youth development which, if present, should decrease occurrences of most if not all high-risk behaviors. "It is assumed that increases in developmental assets, like a rising tide, raise all ships" (Lorion & Sokoloff, 2003, p. 133).

Assets may be either internal or external. Internal assets are psychological qualities that result in positive choices, and a sense of control, confidence, and purpose; whereas external assets are positive experiences given to youth from family, schools, and the community (Benson, 2003). The two assets categories are closely related to one another; however, there is a consensus among developmental theorists that for youth to possess high levels of internal assets, they must access external assets. Without them, internal assets are compromised.

Communities may either aid or undermine youth in obtaining or maintaining external assets essential for healthy development. Further, many communities, especially rural ones, may face challenges in obtaining the resources necessary to deliver these ingredients to their youth. Limited access or distrust of formal resource systems such as mental health services, medical services, and substance use resources (Kelleher & Robbins, 1997) may hinder a rural community's ability to respond to social problems. On the other hand, a rural population's

reliance on self-care practices and informal helping systems may provide positive benefits to youth (Bushy, 1994) that are unique to rural communities.

Personal conduct in matters of perceived morality, such as dating, personal associations, and attending church contributes considerably to a person's acceptance within the community. Social relationships are based on a person's identity rather than accomplishments. These relationships tend to be personal, lasting, and community-standing oriented (Daley & Avant, 2004). Loyalty to one's society is important, and a collective sense of belonging results in a lack of need to enforce social control externally (Tönnies, 2001).

Developmental Systems Theory posits that youth who acquire and maintain assets in their life are less likely to become involved in at-risk behaviors (Ford & Lerner, 1992). As such, the theory is a guide rural communities can use to develop primary prevention strategies to maximize assets and reduce unwanted and dangerous risk behaviors by youth. Several studies have displayed a significant positive relationship between a variety of youth assets and the lack of involvement in at-risk behaviors such as sexual activity (e.g., Harris et al., 2007); violence (e.g. Aspy et al., 2004); and substance use (e.g., Oman et al., 2004).

Substance Use and Risk Behaviors

Substance use is a common area of concern for most rural communities due to perceived proliferation of the problem. Efforts to combat adolescents' involvement in substance use such as alcohol, tobacco and illicit drugs, have gone through a number of transitions since the 1950s. Levitt, Selman and Richmond (1991) organized these efforts by describing three distinct stages of prevention efforts. The first stage used psycho-education programming to teach youth about the harmful effects of using substances. The presumption was that youths were ignorant of possible harms. The second stage emphasized teaching youth how to deal with peer pressure, popularized by the Just Say No campaign. The third stage, and the focus of this study, involved the conceptual developmental model approach mentioned earlier.

Rural prevention programming and community responses to risky behaviors in adolescents may require markedly different strategies than those conducted in urban or suburban areas. D'Onofrio (1997) recognized these possible differences and stressed the importance of conducting research specific to rural youths when it comes to addressing the problem of rural substance use. Rural programs must often use nationwide studies to provide strategies for their prevention planning, which may or may not be valid for the youths they serve. Rural prevention efforts must have information specific to their local youths' assets and behaviors.

Limitations of Previous Research

A limitation found in the literature is a lack of longitudinal studies regarding developmental youth assets. The lack of this type of study is rather ironic since the term *developmental* directly relates to variable change that should occur over time. Cross-sectional research provides information for a specific moment in time but fails to capture changes taking place over time. Another benefit of longitudinal studies is their capacity to determine whether changes in presumed independent variable(s) precede changes in presumed dependent variable(s) (Engel & Schutt, 2013). While this alone is not sufficient to assert causality among predictors

and the predicted, it does assist in establishing time order requirements for developmental youth assets and substance use associations.

Focus of Study

The purpose of this study was to describe trends in developmental youth assets and the reported use of substances within a youth cohort attending a rural school district in northeast Ohio over a period of five years. In addition, I conducted bivariate descriptive analyses of the relationship between assets and reported substance use. The aim was to assist community practitioners in the development of primary prevention efforts in order to maximize youth assets and target efforts to minimize the engagement of high-risk behaviors.

Specifically, this study focused on the following three sets of research questions. First, what were the trends within a cohort of rural youth in their reported use of substances during their 6^{th}, 8^{th}, and 10^{th} grade years; and if significant changes in reported use rates occured, was there a period when this was most likely? Second, what were the trends in asset levels within a cohort of rural youth during their 6^{th}, 8^{th} and 10^{th} grade classes; and if significant changes occured during this time, when were they most likely? Third, what was the relationship between youth assets and substance use within each of the three grade levels? Would asset scores differ significantly between youths who reported using substances and those who did not?

A secondary focus was on the question of how gender and household type (i.e., number of parents in the household) would impact the above associations. Prior research found these two characteristics to be frequent intervening variables between the relationship of assets and substance use (Blum et al., 2000; Oman et al., 2002; Oman et al., 2007; Scales, Benson, Leffert, & Blyth, 2000). In addition, Vimont's (2010) study of a similar population type found that females had significantly higher scores than males on six of the eight assets, and youths coming from two-parent households had significantly higher asset scores when compared to youths coming from other types of households. This current report will discuss the development and implementation of primary prevention strategies that rural community planners can use to reduce substance use behaviors among their youth, as well as possibly other at-risk behaviors that undermine youths'well-being.

Method

Design

Beginning in December of 2008, the Youth Asset and Substance Use Survey was administered to youth enrolled in the 6^{th}, 8^{th}, 10^{th}, and 12^{th} grade classes of a rural school district in northeast Ohio. Data were gathered every other academic school year through the spring of 2013. This current study examines cohort data gathered from the 6^{th} grade class of 2008 - 2009, 8^{th} grade class of 2010 - 2011, and 10^{th} grade class of 2012 - 2013. The expected age range for the cohort study was a beginning measurement of youth when they were 11 or 12 years old, and ended when they were age 16. Grade levels six through eight were housed in the middle school building, while grade levels nine through twelve were located on the high school campus.

This rural school district is nestled between two major Ohio metropolitan areas, Cleveland and Columbus, and areas experiencing recessionary-induced economic problems.

Median income fell between 2008 and 2009, and had only slightly increased through 2012. Unemployment rates increased sharply within the same period to over 10% in 2009, and have only recently began to level off. Nearly 20% of the county's children live in poverty with a near doubling of the number of children receiving food assistance between 2008 and 2011 (FCFCWC, 2012).

The school district administered the survey during regular school hours. Teachers were typically in charge of the administration of the survey in their respective classes. Specific written instructions were developed by this researcher to provide guidance on how best to administer the survey. Administrators of the survey were instructed not to clarify or explain the items on the survey to students, even if some students specifically requested help. Instead, they were to tell students to do the best they could in responding to the items on the survey, and skip items they did not understand.

The initial survey was performed using a paper version while subsequent surveys were administered through the online computer software system, *SurveyMonkey*. The school district adhered to its policies and standards regarding survey administration to students. The anonymity of the respondents was guaranteed by not including any identifiable information in the survey. Due to the survey's anonymity, the school district established passive parental consent for students to take the survey rather than active consent. Students were informed verbally and in writing that participation was voluntary. Additionally, students were informed that at any time while taking the survey they wished to stop they were permitted to do so, and that they could skip any item they did not want to answer. The institutional review board for the use of human subjects at the researcher's university approved the secondary use of this data for the purpose of presentation and publication.

Measures

All study variables were taken from surveys administered between the years 2008 and 2013. Youth assets were measured from 37 items extracted from The Youth Asset Survey (YAS) developed by Oman et al. (2002). The original survey purported to measure nine assets from 38 items; however, one item was removed due to the expectation that the survey would not be approved for use by the school board with its inclusion.

After the first administration of the survey, an exploratory principal axis factor analysis using varimax rotation was conducted on the Youth Asset Survey's 37 items to determine whether the items were sufficiently interconnected to make them factorable. Scree plots and eigenvalues were examined to determine the number of factors extracted. Items were considered for inclusion in a factor if they loaded at the .30 level or above (Pett, Lackey, & Sullivan, 2003). A factorial analysis of the scale's survey was conducted in two steps. First, factors with eigenvalues of 1.0 or greater were considered for retention (DeVellis, 2003). Second, scree plots were examined, and factors that were above an *elbow* created when eigenvalues started to trend toward a horizontal line were also considered for retention. Eight factors loaded with eigenvalues of 1.0 or greater, all of which were above the *elbow* in the scree plot. All 37 items had factor loading scores of .30 or above, and 36 of the 37 items had factor loading scores of greater than .40. Only one item had more than one factor with loading scores of .40 or greater. The eight factors represented eight of the nine assets proposed to be measured by the scale. These assets

were Family Communication (3 items), Future Aspirations (2 items), Responsible Choices (6 items), Use of Time (religion) (2 items), Use of Time (groups/sports) (4 items), Non-parental Adult Role Models (7 items), Peer Role Models (6 items), and Community Involvement (6 items). The one asset dropped from the analysis was Good Health Practices that had been measured by one item in Oman's et al. (2002) original study. The item, *you take good care of your body by eating well and exercising*, factored cleanly into the asset of Responsible Choices. Two of the eight assets, Future Aspirations and Responsible Choices, are conceptualized as internal assets, with the remaining six assets categorized as external assets.

An inter-item reliability analysis of the eight subscales was conducted after the first administration of the survey using Cronbach's alpha. Each of the eight subscales displayed acceptable internal consistency for the purpose of the type of analysis to be conducted (Nunnally, 1978). Peer role model displayed the highest degree of internal consistency ($\alpha = .87$, $M = 17.84$, $SD = 3.86$) and future aspirations with two items had the lowest alpha level ($\alpha = .71$, $M = 10.72$, $SD = 1.56$). In general, the inter-item reliability alpha levels were stronger than levels published by Oman and colleagues (2002) for their study.

Items were scored between 1 (low) and 4 (high). The mean score of items measuring each asset was used for the scoring of each of the eight assets as long as at least half of the items had a response. If less than half of the items had a response, then no score was rendered for that asset.

The risk behavior of substance use was measured using respondents' self-reports of how often they used alcohol, tobacco, and marijuana during the past year. Items related to substance use were constructed using a Likert-type, eight-point scale. This scale was coded with zero reflecting no use of the substance during the past year; one indicating use of the substance once during the past year; two, using the substance six times during the year; three, monthly use; four, twice per month; five, once a week; six, three times a week; and seven, use every day. Three substances (cigarettes, cigars, and smokeless tobacco) measured tobacco use. The most frequent type of tobacco used was the code used for this variable. Similarly, alcohol use was measured by taking the three substances reflecting the frequency of alcohol use (beer, coolers, and liquor) and taking the maximum score of the three to determine the code used for this variable. Marijuana use was measured based on the response to a single item regarding the frequency of smoking marijuana. Recoding was done by taking the most frequent reported use rates of the three substances in order to calculate the overall reported frequency rate of substance use.

Because of the study's focus on the avoidance of risk behavior, it was decided that there had to be discernment between behavior that exemplified experimentation, and behavior that was indicative of a lifestyle pattern. For this reason, the variable substance use was made a dichotomous variable based on the reported monthly use of substances defined as having a score of three or greater.

Demographic variables used in this study were gender and household type. Household type was based on the number of parents in the household, either two or other (one or zero). Parents were defined as mother, father, step-mother, step-father, foster mother or foster father. Although race/ethnicity was a variable collected in the survey by the school district, it was decided not to use it in the study due to the homogenous nature of the sample with over 96% identifying themselves as Caucasian.

Participants

The original sample size for the statistical analysis was 244 for the 6th grade class (2008-09); 186 for the 8th grade class (2010-11); and 236 for the 10th grade class in (2012-13). Youths whose responses indicated possible deception were excluded from the analysis (n=31). Deception was determined by youths who reported having used a fictitious substance during the past year. Respondents who did not have scores on each of the eight assets due to missing data were also excluded from the final analysis (n=29). This left a total of 606 responses (6th grade, N = 211; 8th grade, N = 176; 10 grade, N = 219) for the final analysis.

Table 1 displays the demographic characteristics of gender, age, and household type for each of the three grade levels. Approximately three-quarters of youth reported living in a two-parent household in each of the three grade levels. This proportion is higher than national figures of 66.03% reported by the U.S. Census (2013a). Slightly more females responded to the survey than males, and age range was within general expectations for each of the three grade levels. There was one youth who reported him or herself to be 12 years old among the 10th grade responders.

Analysis

Statistical analyses were performed using SPSS for Windows (Release 17.0). The first set of research questions related to the use of substances applied a chi-square analysis to provide conclusions regarding reported monthly substance use rates for each of the three grade levels, as well as use rates when controlling for gender and household type for each grade level.

To address the second set of research questions related to youth assets, a series of 3 x 2 Factorial ANOVAs of Cohort Effects were conducted using each of the eight assets for the dependent variables. In addition to grade level (6th, 8th, 10th) used as an independent variable, gender (male, female) was used as a second independent variable in one series of ANOVAs, and household type (two-parent, other) was used as an independent variable in the second series of ANOVAs in order to assess for possible interactional effects.

The third research question related to the relationship between reported substance use and youth assets were analyzed through a series of t-tests, comparing mean asset scores between youths reporting having used substances on at least a monthly basis and youths reporting not to be using substances on a monthly basis. A more robust analysis of the relationship between reported substance use and youth assets, such as the use of logistic regression, was not possible due the paucity of youth in the sixth and eighth grade years reporting monthly substance use.

Results

Trends in Substance Use

Eleven sixth graders (5.2%) reported having used substances at least monthly. Two years later in the eighth grade, 14 (8%) reported the same type of use, and two years later 49 youths in the tenth grade (22.4%) reported monthly substance use. A 3 x 2 chi-square test indicated that the relationship between grade levels and reported monthly substance use was significant, χ^2 (2, N = 606) = 33.72, $p < .001$, $V = .24$. The significant relationship, however, was established due to differences seen between the 8th grade year and 10th grade year; χ^2 (1, N = 395) = 15.14, $p < .001$, $V = .20$. No significant difference in reported monthly substance use rate was observed between the 6th grade and 8th grade years; χ^2 (1, N = 387) = 1.19, $p = .28$, $V = .06$. Differences in use rates by gender were not significant for any of the three grade levels, while household type displayed

Table 1

Demographic and Family Characteristics, and Monthly Substance Use as a Percentage of the Sample By Grade Cohort

Characteristics/Variables	6th Grade (2008-09) (n = 211)	8th Grade (2010-11) (n = 176)	10th Grade (2012-13) (n = 219)
Gender			
Male	49.3	48.9	48.9
Female	50.7	51.1	51.1
Age			
11 years	68.7	0.0	0.0
12 years	30.3	4.0	0.5
13 years	0.1	42.1	0.0
14 years	0.0	51.1	1.8
15 years	0.0	2.8	28.8
16 or older	0.0	0.0	68.9
Household Type			
Living with both parents	75.8	73.3	75.3
Living with one or no parent	24.2	26.7	24.7
Substance Use (monthly)			
Alcohol	4.7	7.4	14.2
Tobacco	1.4	3.4	8.2
Marijuana	0.5	3.4	12.8
Any substance	5.2	8.0	22.4

lower monthly substance use rates for youths in two-parent households; however, the differences were not significant.

Trends in Developmental Youth Asset Scores

Table 2 displays the mean scores of the eight developmental assets for each of the three time measurements. Future Aspirations retained the highest mean score for each of the three grade levels while Community Involvement had the lowest mean. Use of Time (Religion) displayed the greatest degree of variance within each of the three grade levels. A general trend of decreasing asset levels between the 6th grade year and 10th grade year was observed for all eight assets; however, the magnitude of the decrease differed between the assets. Family Communication and Community Involvement displayed the greatest decrease, and Use of Time (Groups/Sports) displayed the smallest decrease.

Table 2
Means and Standard Deviations for Youth Asset Scores By Grade Cohort

	6th Grade (2008-09) (n = 211)	8th Grade (2010-11) (n = 176)	10th Grade (2012-13) (n = 219)
Asset Score [a]	*M (SD)*	*M (SD)*	*M (SD)*
Family Communication	3.12 (0.66)	2.85 (0.79)	2.80 (0.80)
Peer Role Model	3.17 (0.61)	2.99 (0.70)	2.96 (0.59)
Future Aspirations	3.61 (0.53)	3.67 (0.49)	3.56 (0.53)
Responsible Choices	3.31 (0.55)	3.31 (0.61)	3.26 (0.54)
Community Involvement	2.58 (0.66)	2.41 (0.79)	2.28 (0.75)
Use of Time (Religion)	2.89 (1.04)	2.83 (1.02)	2.54 (1.08)
Non-Parental Adult Role Model	3.42 (0.42)	3.22 (0.56)	3.26 (0.47)
Use of Time (Groups/Sports)	2.83 (0.82)	2.83 (0.89)	2.81 (0.94)

[a] asset scores range from 1 (low) to 4 (high)

All independent variables (asset scores) were interval and assessed for acceptable normality in order to conduct Factorial ANOVA and were found to be within acceptable ranges. According to Kennedy and Bush (1985), slight departures from normality and even larger deviations do not typically have much of an effect on the interpretation of results.

Eight separate two-way analyses of variances were conducted to examine asset score differences in the three grade cohorts and gender, used as a fixed factor. ANOVA results presented in Tables 3 and 4, show a significant main effect for grade level for the following five assets: Family Communication; Peer Role Model; Community Involvement; Use of Time (Religion); and Non-Parental Adult Role Model. The calculated effect size for each factor indicated a small proportion of asset scores being accounted for by the factor. A Tukey post hoc test was conducted to determine which grade categories were significantly different. Results

showed that significant decreases occurred between the 6th grade and 8th grade years, but not between the 8th and 10th grade years. Gender was not significant for any of the assets, nor were there any interactions between factors (grade and gender) that were significant.

Table 3

Two way Analyses of Variance (ANOVA) for Youth Assets (Family Communications, Peer Role Model, Future Aspirations, Responsible Choices) by Grade Level and Gender; & Grade Level and Household (HH) Type (N=606)

		F			
Variable	df	Asset 1	Asset 2	Asset 3	Asset 4
Grade Level and Gender					
Grade Level	2	10.67***	6.32**	2.48	0.60
η^2		*.021*	*.021*		
Gender	1	1.35	0.00	1.46	2.04
Grade x Gender	2	0.29	0.06	1.05	1.04
Within-cells variance	600	(0.56)	(0.40)	(0.27)	(0.32)
Grade Level and Household (HH) Type					
Grade Level	2	7.21**	3.82*	2.29	0.71
η^2		*.023*	*.013*		
Household (HH) Type	1	16.47***	13.90***	8.80**	13.62***
η^2		*.027*	*.023*	*.014*	*.022*
Grade x HH Type	2	0.08	0.93	0.11	2.25
Within-cells variance	600	(0.55)	(0.39)	(0.26)	(0.32)

Note. η^2 reported only for F scores significant at the .05 level or less. Values in parentheses represent mean square errors.

Asset #

1 Family Communication
2 Peer Role Model
3 Future Aspirations
4 Responsible Choices

*$p < .05$, **$p < .01$, ***$p < .001$.

Also conducted were eight two-way analysis of variances to investigate asset score differences between the three grade cohorts and the fixed factor of household type (two-parent and other). Unlike with the demographic variable of gender, the demographic variable of household type displayed a significant main effect for all eight asset scores. Assets of Future Aspirations, Responsible Choices, and Use of Time (Groups/Sports) that were not significantly

different between grade levels were significantly different between two-parent and other type of households regardless of grade level. There were no significant interactions between factors for any of the eight assets.

Table 4
Two Way Analyses of Variance (ANOVA) for Youth Assets (Community Involvement, Use of Time [Religion], Non-Parental Adult Role Model, Use of Time [Groups/Sports]) by Grade Level and Gender; & Grade Level and Household (HH) Type (N=606)

		F			
Variable	df	Asset 5	Asset 6	Asset 7	Asset 8
Grade Level and Gender					
Grade Level	2	8.91***	7.14**	9.65***	0.03
η^2		*.029*	*.023*	*.031*	
Gender	1	0.02	1.13	0.26	0.84
Grade x Gender	2	1.11	0.26	0.74	2.29
Within-cells variance	600	(0.54)	(1.09)	(0.23)	(0.78)
Grade Level and Household (HH) Type					
Grade Level	2	3.66*	4.96*	4.81**	0.11
η^2		*.012*	*.016*	*.016*	
Household (HH) Type	1	9.37**	8.22**	12.37***	33.77***
η^2		*.015*	*.014*	*.020*	*.053*
Grade x HH Type	2	2.65	0.03	0.99	1.04
Within-cells variance	600	(0.53)	(1.08)	(0.23)	(0.74)

Note. η^2 reported only for F scores significant at the .05 level or less. Values in parentheses represent mean square errors.

Asset #
5 Community Involvement
6 Use of Time (Religion)
7 Non-Parental Adult Model
8 Use of Time (Groups/Sports)

*$p < .05$, **$p < .01$, ***$p < .001$.

Trends in Relationships Between Substance Use and Assets

For each grade level, independent t-tests were used to compare asset scores between monthly users and non-monthly users of substances. As Tables 5, 6 and 7 show, non-monthly users of substances displayed higher mean asset scores for each of the eight assets regardless of grade level. The 6th grade year displayed significant differences for five of the eight assets; Peer Role Model, $t(209) = 4.87$, $p < .001$; Responsible Choices $t(209) = 2.48$, $p < .05$; Community Involvement $t(209) = 2.08$, $p < .05$; Use of Time (Religion) $t(209) = 2.37$, $p < .05$; and Non-Parental Adult Role Model $t(209) = 2.71$, $p < .01$. The 8th grade year displayed differences for four of the eight assets; Family Communication $t(174) = 2.31$, $p < .05$; Peer Role Model $t(174) = 3.11$, $p < .01$; Responsible Choices $t(174) = 2.21$, $p < .05$; and Non-Parental Adult Role Model $t(174) = 2.59$, $p < .01$. Finally, for the 10th grade year, all assets displayed significant differences partially explained by a larger n among the monthly users. Among the assets displaying the highest *t* scores were Peer Role Model $t(217) = 5.08$, $p < .001$; Future Aspirations $t(217) = 3.55$, $p < .001$; Responsible Choices $t(217) = 4.21$, $p < .001$; and Community Involvement $t(217) = 3.58$, $p < .001$.

Table 5

Mean Asset Scores and Standard Deviations Between Groups Among 6th Graders (2008-09) Who Did and Did Not Report Using Substances (Alcohol, Tobacco or Marijuana) on a Monthly Basis.

Asset	Did not use (n = 200) *M (SD)*	Used (n = 11) *M (SD)*	*t* (209)
Family Communication	3.13 (0.64)	2.87 (0.85)	1.24
Peer Role Model	3.21 (0.58)	2.34 (0.57)	4.87***
Future Aspirations	3.63 (0.53)	3.33 (0.42)	1.80
Responsible Choices	3.33 (0.55)	2.91 (0.47)	2.48*
Community Involvement	2.61 (0.66)	2.18 (0.54)	2.08*
Use of Time (religion)	2.93 (1.02)	2.18 (1.05)	2.37*
Non-Parental Adult Role Model	3.44 (0.40)	3.09 (0.61)	2.71**
Use of Time (group/sports)	2.85 (0.82)	2.39 (0.69)	1.84

*$p < .05$, **$p < .01$, ***$p < .001$.

Table 6
Mean Asset Scores and Standard Deviations Between Groups Among 8th Graders (2010-11) Who Did and Did Not Report Using Substances (Alcohol, Tobacco or Marijuana) on a Monthly Basis.

	Did not use (n = 162)	Used (n = 14)	
Asset	*M (SD)*	*M (SD)*	*t* (174)
Family Communication	2.89 (0.76)	2.39 (0.99)	2.31*
Peer Role Model	3.04 (0.67)	2.45 (0.76)	3.11**
Future Aspirations	3.69 (0.49)	3.52 (0.50)	1.21
Responsible Choices	3.34 (0.57)	2.97 (0.96)	2.21*
Community Involvement	2.44 (0.79)	2.14 (0.84)	1.36
Use of Time (religion)	2.85 (1.00)	2.57 (1.18)	0.98
Non-Parental Adult Role Model	3.25 (0.53)	2.86 (0.76)	2.59**
Use of Time (group/sports)	2.85 (0.89)	2.59 (0.84)	1.03

*$p < .05$, **$p < .01$.

Table 7
Mean Asset Scores and Standard Deviations Between Groups Among 10th Graders (2012-13) Who Did and Did Not Report Using Substances (Alcohol, Tobacco or Marijuana) on a Monthly Basis.

	Did not use (n = 170)	Used (n = 49)	
Asset	*M (SD)*	*M (SD)*	*t* (217)
Family Communication	2.88 (0.77)	2.52 (0.85)	2.80**
Peer Role Model	3.07 (0.54)	2.61 (0.61)	5.08***
Future Aspirations	3.63 (0.49)	3.33 (0.58)	3.55***
Responsible Choices	3.33 (0.51)	2.98 (0.57)	4.21***
Community Involvement	2.38 (0.76)	1.95 (0.65)	3.58***
Use of Time (religion)	2.65 (1.08)	2.15 (0.96)	2.94**
Non-Parental Adult Role Model	3.31 (0.47)	3.08 (0.44)	3.01**
Use of Time (group/sports)	2.89 (0.90)	2.51 (1.03)	2.49*

*$p < .05$, **$p < .01$, ***$p < 01$.

A more robust analysis, such as logistic regression analysis, would have been instrumental in order to control for the effects of household type; however, the lack of monthly users in the 6th grade and 8th grade made this problematic. Hence, follow-up independent *t*-test analyses were conducted comparing the mean score between two-parent and other households for each of the eight assets within each grade level.

The 6th grade year revealed significant differences in asset scores for six of the eight assets. Two-parent households displayed significantly higher asset scores for Family Communication $t(209) = 3.04$, $p < .01$; Peer Role Model $t(209) = 2.62$, $p < .01$; Responsible Choices $t(209) = 4.09$, $p < .001$; Community Involvement $t(209) = 4.20$, $p < .001$; Non-Parental Adult Role Model $t(209) = 3.73$, $p < .001$; and Use of Time (Groups/Sports) $t(209) = 4.51$, $p < .001$. In 8th grade, three of the eight assets displayed significantly higher scores for two-parent households: Family Communication $t(174) = 2.14$, $p < .05$; Peer Role Model $t(174) = 2.51$, $p < .05$; and Use of Time (Groups/Sports) $t(174) = 3.66$, $p < .001$. In 10th grade, Family Communication $t(217) = 2.00$, $p < .05$; Future Aspirations $t(217) = 2.11$, $p < .05$; and Use of Time (Groups/Sports) $t(217) = 2.12$, $p < .05$ were significantly higher in two-parent households as compared to other households.

Discussion

The purpose of this descriptive study was to investigate trends in developmental youth assets and substance use within a cohort of rural youth. Of primary interest was the contrast between three time periods of youth development operationalized by the grade levels of 6th, 8th, and 10th grade. Also of interest were the effects of two demographic variables, gender and household type, which in previous research have shown to impact asset acquisition and maintenance (i.e. Oman et al., 2002; Vimont, 2010). The study also sought to describe, despite sample size limitations, the relationship between youth assets and substance use.

Consistent with previous research on developmental youth assets (Vimont, 2010), the present study provided empirical findings that as youths age their asset levels decrease. This decrease was most evident between the sixth and eighth grade years with five of the eight assets showing significant declines between the two grade levels. All five of these assets were external, which as previously mentioned, are assets that are provided to youth by their family and community. The failure to provide such opportunities hinders the acquisition and maintenance of these assets by youth. Of the three assets not displaying a significant decline, two of these, Future Aspirations and Responsible Choices, were internal assets.

The study found no main effect for gender regarding assets scores. Household type was found to be a variable that significantly impacted all eight asset scores for each of the three time periods; however, there were no interactional effects. It is beyond the scope of this study to explore factors that might influence the differences between household types, but these differences are present regardless of the age of the youths in this study.

Also, consistent with previous research, current study results showed that as adolescents became older their propensity to engage in substance use increased significantly (Eaton et al., 2012; Oetting & Beauvais, 1990; Vimont, 2010; Windle, 1991). This cohort's reported substance use rate increased substantially between the eighth grade and tenth grade years. Seen as a

transition from middle school to high school, the impact on behavior related to substance use is noteworthy.

In summary, asset scores decreased between the sixth and eighth grade years, while substance use increased between the eighth and tenth grade years. Although the research design of the study does not allow for the deductive conclusion of causation, this finding provides some cursory evidence of a time order effect with developmental youth assets impacting decisions made later by youth on whether to use alcohol, tobacco, or marijuana.

A primary assertion of developmental systems theory is that youths who possess higher levels of developmental youth assets will be less likely to engage in health-compromising behaviors (Leffert et al., 1998). During the 6th grade year, youths who reported not using substances on a monthly basis had significantly higher assets scores for five of the eight assets. Similar findings were displayed for the 8th grade year with four of eight assets having significantly higher scores for reported non-users of substances. In the 10th grade year, all assets displayed significantly higher scores. It is noteworthy that all eight assets for each of the three grade levels displayed higher scores for youths not reporting monthly substance use. The lack of significance in the early grade levels was due to the low number of youths reporting monthly substance use.

The assets of Peer Role Model, Non-Parental Adult Role Model, and Responsible Choices had scores that were significantly higher for youths who were non-monthly users of substances for all three grade levels. These results are consistent with previous research of rural youth from the same geographical location that displayed through regression analysis all three assets being significant in predicting the frequency of substance use within the past year (Vimont, 2010).

Future Aspiration, as well as Use of Time (Groups/Sports), displayed the weakest relationship with reported monthly substance use for the 6th grade and 8th grade years. In the 10th grade year, Use of Time (Groups/Sports) and Family Communication were assets showing weaker relationships with reported monthly substance use, yet as mentioned previously were still significant.

Irrespective of grade level, youths living in other than two-parent households had significantly lower asset scores compared to youths living in two-parent households. The assets displaying the greatest level of differences were Use of Time (Groups/Sports), Family Communication, Peer Role Model and Responsible Choices. With the latter two assets exemplifying significant predictability in youths engaged in monthly substance use, it is not surprising that youths from non-two parent households were also more likely to be users of substances, especially in their 10th grade year.

Gender provided no significant explanation of variance found in asset scores for any of the three grade levels. A prior cross-sectional study with a similar population and a larger sample size displayed females having significant higher scores for six of the eight asset scores. The same study also showed males reporting the use of substances at a higher rate than females (Vimont, 2010). The lack of significance regarding gender as a predictor for either assets or substance use within this cohort study provides evidence that this type of longitudinal study delivers a fresh

perspective on the inquiry of trend information regarding both asset development and substance use. This cohort may have confronted unique external factors that contributed to found differences when compared to previous work. While the examination of possible factors contributing to this distinct difference in results related to gender is beyond the scope of this study, its effects are noteworthy for future research.

Implications for Community Practice

Rural communities desiring to initiate primary prevention-based strategies using developmental assets as a guiding framework must contain two components. First, they must have information pertaining to their local situation (Arthur & Blitz, 2000). This study provides an example of how a local community can obtain empirical information regarding trends in assets and the at-risk behavior of substance use. Although earlier studies (e.g., Arthur et al., 2002; Aspy et al. 2004; Oman et al., 2004; Vesely et al., 2004) consistently displayed a strong association between youth assets and at-risk behavior, using data from other communities may provide faulty conclusions regarding specific assets and their relationship to specific types of at-risk behaviors. Rural communities require data specific to their adolescent populations since there is a dearth of literature specific to this population. This approach rejects the cookie-cutter concept and instead leads to the perspective that building healthy communities requires an appreciation of the unique character found within each community (Ersing & Otis, 2004).

Second, communities must develop strategies and resources that enable adolescents to bond with their communities. Strategies would extend beyond the mere provision of groups and activities can involve youth, but would also include their empowerment to effect change within their community. Specific to these findings, rural adolescents have significant influence over their peers. Positive peer influence can be used to strengthen the community for youths who are likely to seek friends for guidance, advice, and support (Benson, 2006). Recognizing this mutual support propensity can help develop or refine its normalization. A peer-helping approach can also facilitate healthy youth relationships through conversation and decision-making (Benson, 2006). Other strategies that can enhance bonding to community include putting youths in leadership roles; allowing their involvement in the governance of operations and development of policy; using youths to communicate ideas, talents and skills to others; and providing an opportunity for youths to become active in philanthropic volunteer work.

The social work profession with its theoretical orientation coming from the ecological systems perspective is tailored-made to implement asset-based strategies on behalf of communities (Vimont, 2012). Social work practitioners are trained in recognizing barriers of inadequate economic, physical, and human resources often present in rural communities (Belanger, 2005); uncovering, accessing, and maximizing assets (Haulotte & Oliver, 2004); and empowering all layers of a community "in advocating and developing collaborative programs that address the needs of rural children and families" (Templeman & Mitchell, 2004, p. 202). Natural helping networks are essential for developing assets in youth (Watkins, 2004); and the reliance on these networks by members of a community, especially rural communities, requires practitioners invested in this process. Social work's emphasis on the strengths perspective provides the type of practitioner ready to be engaged in primary prevention efforts.

A corresponding finding of this study that directly impacts primary prevention-based strategy for social work community planners is the significant reduction of asset scores related to peer role models and non-parental adult role models between the 6th grade and 8th grade years. Implementation strategies must initiate, at the latest, during these key years of youth development in order to reduce what appears to be a significant increase in substance use that takes place after the 8th grade year. Both of these external assets reflect the need for youth in this vulnerable period of development to establish positive connections with people outside of their immediate family. A youth's gradual disengagement from his or her family of origin is a normal developmental process, but needs to be managed through the establishment of positive connections as they leave this primary source of socialization.

Descriptive results showing youth from two parent households having significantly higher asset scores and lower substance use rates may be indicative of the socio-economic status of families based on the number of parents in the household. The American Community Survey (U.S. Census, 2013b) results from the local area indicated that the proportion of two-parent households with children under the age of 18 in poverty was 10.4 (95% Cls [8.6, 12.6]) compared to single female-headed households' poverty at 39.6 (95% Cls [31.9, 47.3]). These data indicate that the presence of two parents in a household may have its strength in building assets for youth stemming from a household being less likely to face the stress of living at or near poverty, and able to focus more its attention on the socio-emotional development of its youth.

In general, rural poverty rates are higher than those in urban areas, and are characterized by higher unemployment and a greater prevalence of low wage labor (USDA, 2013). The period for the survey took place during the time that the United States' economy was in the midst of a deep recession, further exacerbating challenges faced by impoverished households. For the social work community planner in rural areas, using skills in resource development and engagement are required.

Due to the survey's lack of variables addressing socio-economic conditions, it was not possible to control for this possible intervening variable. It does, however, merit attention for future survey development and administration. Other factors may also play a role in two-parent households having youth with higher asset scores and reduced chances of engaging in substance use; however, such factors are beyond the scope of the study but do warrant further exploratory research.

Limitations

There are limitations to this study. The small sample size limited the use of stronger statistical testing related to measurements of association between assets and substance use. While the purpose of this study was to provide a description of trends related to both youth developmental assets and substance use, a larger sample size would have produced more definitive findings regarding the association between the two variables over an extended period.

Another limitation of this study was the use of a survey that measured just eight assets. An updated version of this survey now includes concepts such as Cultural Respect, School Connectedness, General Self-Confidence, and Relationship with Mother and Father. The asset of

Good Health Practices dropped from this study, is also an asset measure in the updated survey. Unlike the original survey that measured this asset through one item, an updated version measures the concept using four items (Oman et al., 2010). Future work should include the analysis of this refined instrument regarding its validity and reliability for rural communities.

The inability to conduct repeated measurements at the individual level through the use of a panel study is also another limitation. Panel studies can provide greater capacity to study social life "as an interlocking series of events" (Ruspini, 1999, p. 220) than do cohort studies. Panel studies, however, require the use of identifiable data thereby precluding assurances of anonymity. For youth, disclosing information on sensitive issues related to high-risk behaviors may result in a limited number of youths choosing to participate, or for youths choosing to participate not being forthcoming regarding their behaviors.

This study employed the strategy of measuring substance use by asking responders about the frequency of use during the past year. This type of questioning emphasizes behavioral practices being incorporated within a lifestyle pattern, but such an approach has problems of the responder's faulty memory. Whether this results in the over- or undercounting of actual behavioral practices is unknown; but accuracy may be compromised, especially for those behavioral practices that exist but not on a regular basis.

Finally, there were a limited number of demographic variables available in this study. Additional information such as economic status, specific geographical location of households (i.e., zip code information), and other family information would enhance factors that may contribute to the understanding of asset development, as well as youth engagement in at-risk behavior. These additional variables would require approval by school boards for their inclusion on surveys of this type, and often such governing bodies are reluctant to provide this required permission.

References

Arthur, M., & Blitz, C. (2000). Bridging the gap between science and practice in drug abuse prevention through needs assessment and strategic community planning. *Journal of Community Psychology, 28*(3), 241-255.

Arthur, M. W., Hawkins, J. D., Pollard, J. A., Catalano, R. F., & Baglioni, A. J., Jr., (2002). Measuring risk and protective factors for substance use, delinquency, and other adolescent problem behaviors: The communities that care youth survey. *Evaluation Review, 26*(6), 575-601.

Aspy, C. B., Oman, R. F., Vesely, S. K., McLeroy, K., Rodine, S., & Marshall, L. (2004). Adolescent violence: The protective effects of youth assets. *Journal of Counseling & Development, 82*(3), 268-276.

Belanger, K. (2005). In search of a theory to guide rural practice: The case for social capital. In L. Ginsberg (Ed.), *Social work in rural communities* (4th ed.) (pp. 75-93). Alexandria, VA: Council on Social Work Education.

Benson, P. L. (2003). Developmental assets and asset-building community: Conceptual and empirical foundations. In R. M. Lerner & L. P. Benson (Eds.), *Developmental assets and assets building communities: Implications for research, policy, and practice* (pp. 19–43). New York: Kluwer Academic/Plenum.

Benson, P. L. (2006). *All kids are our kids: What communities must do to raise caring and responsible children and adolescents* (2nd ed.). San Francisco, CA: Jossey Bass.

Benson, P. L., Leffert, N., Scales, P. C., & Blyth, D. A. (1998). Beyond the "village" rhetoric: Creating healthy communities for children and adolescents. *Applied Developmental Science, 2*(3), 138-159.

Blum, R. W., Beuhring, T., Shew, M. L., Bearinger, L. H., Sieving, R. E., & Resnick, M. D. (2000). The effect of race/ethnicity, income, and family structure on adolescent risk behaviors. *American Journal of Public Health, 90*, 1879-1884.

Bushy, A. (1994). Implementing primary prevention programs for adolescents in rural environments. *The Journal of Primary Prevention, 14*(3), 209-229.

D'Onofrio, C. (1997). *The prevention of alcohol use by rural youth.* Retrieved from National Institute on Drug Abuse: The Science of Drug Abuse and Addiction: http://archives.drugabuse.gov/pdf/monographs/monograph168/250-363_DOnofrio.pdf

Daley, M. R., & Avant, F. (2004). Rural social work: Reconceptualizing the framework for practice. In T. L. Scales & C. L. Streeter (Eds.), *Rural social work: Building and sustaining community assets* (pp. 34-42). Belmont, CA: Brooks-Cole.

DeVellis, R. (2003). *Scale development: Theory and applications* (2nd ed.). Applied Social Research Methods Series (Vol. 26). Newbury Park, CA: Sage.

Eaton, D. K., Kann, L., Kinchen, S., Shanklin, S., Flint, K. H., Hawkins, J., …Wechsler, H. (2012). Youth risk behavior surveillance: United States, 2011. *Morbidity and Mortality Weekly Report. Surveillance Summaries, 61*(4), 1-162.

Engel, R. J., & Schutt, R. K. (2013). *The practice of research in social work* (3rd ed.). Thousand Oaks, CA: SAGE.

Ersing, R. & Otis, M. (2004). An asset-building approach to promoting community well-being in a rural county. In T. L. Scales & C. L. Streeter (Eds.), *Rural social work: Building and sustaining community assets* (pp. 160 – 177). Belmont, CA: Brooks-Cole.

Family and Children First Council of Wayne County (FCFCWC). (2012). *And how are the children?: A community report of outcomes and indicators.* Retrieved from http://www.waynefcfc.org/PDFs/And%20How%20are%20the%20Children%202012.pdf

Ford, D. H., & Lerner, R. M. (1992). *Developmental systems theory: An integrative approach.* Newbury Park, CA: SAGE.

Harris, L. L., Oman, R. F., Vesely, S. K., Tolma, E. L., Aspy, C. B., Rodine, S. S., & ... Fluhr, J. J. (2007). Associations between youth assets and sexual activity: Does adult supervision play a role? *Child: Care, Health and Development*, *33*(4), 448-454. doi:10.1111/j.1365-2214.2006.00695.x

Haulotte, S. M., & Oliver, S. (2004). A strategy for uncovering, accessing, and maximizing assets and strengths in rural area social services. In T. L. Scales & C. L. Streeter (Eds.), *Rural social work: Building and sustaining community assets* (pp. 108-117). Belmont, CA: Brooks-Cole.

Kelleher, K. J., & Robbins, J. M. (1997). Social and economic consequences of rural alcohol use. In E. B. Robertson, Z. Siobova, G. Boyd, Beatty, Lula, & N. Kozel (Eds.), *Rural substance abuse: State of knowledge and issues*, 196-219. Washington, DC: Department of Health and Human Services, National Institutes of Health, National Institute on Drug Abuse.

Kennedy, J. J., & Bush, A. J. (1985). *An introduction to the design and analysis of experiments in behavioral research.* Lanham, MD: University Press of America.

Leffert, N., Benson, P. L., Scales, P. C., Sharma, A. R., Drake, D., R., & Blyth, D. A. (1998). Developmental assets: Measurement and prediction of risk behaviors among adolescents. *Applied Developmental Science, 2*(4), 209-230.

Levitt, M. Z., Selman, R. L., & Richmond, J. B. (1991). The psychosocial foundations of early adolescents' high-risk behavior: Implications for research and practice. *Journal of Research on Adolescence*, *1*(4), 349-378.

Lorion, R. P., & Sokoloff, H. (2003). Building assets in real-world communities. In R. M. Lerner & P. Benson (Eds.), *Developmental assets and asset-building communities: Implications for research, policy, and practice* (pp. 121-156). New York, NY: Kluwer Academic/Plenum Publishers.

Nunnally, J. C. (1978). *Psychometric theory* (2nd ed.). New York, NY: McGraw-Hill.

Oetting, E. R., & Beauvais, F. (1990). Adolescent drug use: Findings of national and local surveys. *Journal of Consulting and Clinical Psychology, 58,* 385-394.

Oman, R. F., McLeroy, K. R., Vesely, S. K., Aspy, C. B., Smith, D. W., & Penn, D. A. (2002). An adolescent age group approach to examining youth risk behaviors. *American Journal of Health Promotion, 16*(3), 167-176.

Oman, R. F., Vesely, S., Aspy, C. B., McLeroy, K. R., Rodine, S., & Marshall, L. (2004). The potential protective effect of youth assets on adolescent alcohol and drug use. *American Journal of Public Health, 94*(8), 1425-1430.

Oman, R. F., Vesely, S. K., McLeroy, K. R., Harris-Wyatt, V., Aspy, C. B., Rodine, S., & Marshall L. (2002). Reliability and validity of the youth asset survey (YAS). *Journal of Adolescent Health, 31*(3), 247-255.

Oman, R. F., Vesely, S. K., Tolma, E. L., Aspy, C.B., & Marshall, L. D. (2010). Reliability and validity of the youth asset survey: An update. *American Journal of Health Promotion, 25*(1), e13-e24. doi:10.4278/ajhp.081009-QUAN-242

Oman, R. F., Vesely, S. K., Tolma, E. L., Aspy, C. B., Rodine, S., & Marshall, L. D. (2007). Does family structure matter in the relationship between youth assets and youth alcohol, drug and tobacco use? *Journal of Research on Adolescence, 17*(4), 743-766.

Pett, M. A., Lackey, N. R., & Sullivan, J. J. (2003). *Making sense of factor analysis: The use of factor analysis for instrument development in health care research.* Thousand Oaks, CA: SAGE.

Ruspini, E. (1999). Longitudinal research and the analysis of social change. *Quality and Quantity, 33*(3), 219-227.

Scales P. C., Benson, P. L., Leffert, N., & Blyth, D. A. (2000). Contribution of developmental assets to the prediction of thriving among adolescents. *Applied Developmental Science, 4*(1), 27-46.

Scales P., Leffert, N., & Lerner, R. M. (1999). *Developmental assets: A synthesis of the scientific research on adolescent development*. Minneapolis, MN: Search Institute.

Templeman, S. B., & Mitchell, L. (2004). Utilizing an asset-building framework to improve policies for rural communities: One size does not fit all families. In T. L. Scales & C. L. Streeter (Eds.), *Rural social work: Building and sustaining community assets* (pp. 196-205). Belmont, CA: Brooks-Cole.

Tönnies, F. (2001). *Tönnies: Community and civil society* [Cambridge Texts in the History of Political Thought]. J. Harris (Ed.). Boston, MA: Cambridge University Press.

U.S. Census Bureau. (2013a). American FactFinder. *Table B09005: Household type for children under 18 years in households (Excluding householders, spouses, and unmarried partners) 2011-2013 American Community Survey 3-Year Estimates*; generated by Michael Vimont; using American Factfinder; http://factfinder2.census.gov (2015, January)

U.S. Census Bureau. (2013b). American FactFinder. *Table S1702: Poverty status in the past 12 months of families 2011-2013 American Community Survey 3-Year Estimates*; by Michael Vimont; American Factfinder; http://factfinder2.census.gov (2015, January)

U.S. Department of Agriculture (USDA). (2013). *Rural America at a glance: 2013 edition.* Retrieved from http://www.ers.usda.gov/media/1216457/eb-24_single-pages.pdf

Vesely, S. K., Wyatt, V. H., Oman, R. F., Aspy, C. B., Kegler, M. C., & Rodine, D., …Kenneth, R. (2004). The potential protective effects of youth assets from adolescent sexual risk behaviors. *Journal of Adolescent Health, 34*(5), 356-365.

Vimont, M. (2010). *Relationship between youth assets and substance use in rural youths: An empirical process for community based planning.* Saarbrücken, Germany: VDM Verlag Dr. Müller.

Vimont, M. (2012). Developmental systems theory and youth assets: A primer for the social work researcher and practitioner. *Child & Adolescent Social Work Journal*, *29*(6), 499-514.

Watkins, T. (2004). Natural helping networks: Assets for rural communities. In T. L. Scales & C. L. Streeter (Eds.), *Rural social work: Building and sustaining community assets* (pp. 65-76). Belmont, CA: Brooks-Cole.

Windle, M. (1991). Alcohol use and abuse: Some findings from the National Adolescent Student Health Survey. *Alcohol Health and Research World, 15*(1), 5-10.