

Understanding and Assessing Construct Validity of the Social Provisions Scale: Implications for Youth Development

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Abstract

Confirmatory factor analysis using structural equation modeling was used to measure the construct validity of the increasingly utilized social provisions scale. This scale was used to measure social support sources and types among a sample of 421 youth from 4 Pennsylvania schools. The youth were surveyed to determine their levels of social support and the relationship of social support to community and youth development capacities. Research findings indicated an acceptable model fit indices for the sources of the social support model. A lower fit for the types of social support was found. Overall, the analysis further verified the reliability and validity of the social provisions scale. With this information, youth practitioners can better measure and assess social support and use the social provisions scale to tailor youth development programs to individual and group needs.

Key words: social support, youth, confirmatory factor analysis, youth development

Introduction

Social support is widely recognized as an essential component to personal and community level and youth developmental outcomes (Cutrona, 1989; Dolan, 2006). Social support can be seen

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as a process by which an individual achieves a sense of belonging to a group of people and gets support in stressful situations (Cohen & Wills, 1985). It can be defined as “information leading the subject to believe that he is cared for and loved, esteemed, and a member of a network of mutual obligations” (Cobb, 1976, p.300). According to Dolan (2006), the most critical sources of social support are community-based. These resources represent social networks. Youth engagement in their communities allows them to build their social support networks. Such networks allow youth to become more effective leaders and increase their communities’ resiliency (Brennan, 2008; Dolan & McGrath, 2006). Youth who have access to social support networks are more likely to access resources than their counterparts who do not have this access (Redmond, 2012). Social support is also a strong predictor of youth well-being (McGrath et al., 2009).

The social provisions scale was initially developed by Cutrona and Russell (1987) within the context of the social psychology field, whereas Dolan amended and developed this further with specific attention to community development, youth work, and child welfare and protection (Dolan, 2006). The social provisions scale (Cutrona, 1989; Dolan, 2006) has been widely used and modified to measure youth social support. It has been used to measure both sources and types of social support. It has previously been validated in the original adult format (Cutrona & Russel, 1987; Oluwatomowo, 2015). While the construct validity for the social provisions scale has already been conducted for the adult version (Cutrona & Russel, 1987; Oluwatomowo, 2015), it has not been completed for the youth scale version. Understanding the validity of this scale can provide program practitioners and policy makers with information to determine whether to use and how to apply this scale in youth development programs and initiatives.

This article uses structural equation modeling (SEM) to measure the construct validity of this increasingly utilized adolescent version of the social provisions scale (Dolan, 2006; Redmond 2012; Smyth et al., 2015). The current existing studies mainly describe the reliability level for the youth social provisions scale, yet not the construct validity (Redmond, 2012; Dolan, 2006; Butterbaugh, 2014). Construct validity ensures that the tool measures what it is intended to measure (Cappelli, 2012). While reliability scores indicate a scale’s internal consistency, they are not sufficient to measure unidimensionality or, in other words, construct validity (Tavakol & Dennick, 2011). Therefore, validating the social provisions scale is critical, as it will guide research studies and program evaluation targeting youth social support.

Purpose of the Study

This study aims to measure how well data can fit the models of sources of support and types of support. It aims to verify the construct validity of the social provisions scale focusing on a youth audience. The construct validity is the extent to which a scale measures what it is supposed to measure (Cappelli, 2012; Garver & Mentzer, 1999; Groves et al., 2009). In order to measure construct validity, confirmatory factor analysis (CFA) is utilized. This statistical tool is part of the SEM used to verify scales and measurement tools. CFA is used widely to determine the scale's construct validity (Brown, 2006; Jackson et al., 2009; Russell, 2002).

Literature Review and Conceptual Framework

Social support is considered a buffering cushion for individuals against psychological stress (Cassel, 1976; Cobb, 1976; Cohen & McKay, 1984; Gottlieb, 1985; Cutrona, 1989; Gardner & Webb, 2017). Several studies have shown the positive outcomes of social support on health (Cohen & Wills, 1985; Uchino, 2006) and well-being (Leme et al., 2015; McGrath et al., 2014). It has also been recognized as a protective factor during trauma situations promoting social and emotional well-being among youth (Monte Verde et al., 2019). Additionally, social support promotes positive youth development, coping, resilience, and civic engagement (Jain et al., 2019).

Social support depends on peoples' social networks and the quality of their relationships within their social networks (Lopez & Cooper, 2011; Schwarzer et al., 2004; Zimet et al., 1988). Social support theorists emphasized the centrality of social integration and relationships in maintaining support (Cassel, 1976; Cobb, 1976; House et al., 1988). While integration addresses the structure and size of relationships, social support refers to their role and quality (Schwarzer et al., 2004).

In conceptualizing social support, Lopez and Cooper (2011) distinguished between two categories of social support: perceived support and enacted support. Perceived social support is considered a subjective measure that reflects individuals' belief in the availability of social support to them when needed (Lakey & Cohen, 2000; Lopez & Cooper, 2011; Schwarzer et al., 2004). The enacted or received social support is considered an objective measure of social support. It reflects the amount of the received support in a specific time (Lakey & Cohen, 2000; Lopez & Cooper, 2011; Schwarzer et al., 2004). Perceived social support is considered a better predictor of well-being than received social support (Lakey & Cohen, 2000; Lopez & Cooper,

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2011). However, the measurement of received social support would be more critical in stressful events (Barrera, 1986).

Finally, Dolan (2008) addressed the concept of social support at the human and the community level, indicating that "Social support relates to the capacity of a community to informally and formally sustain its membership; it is a buffer to stress and applies both in everyday living and in times of crises" (p.112). In short, support allows humans to handle their daily challenges.

Youth Social Support

Social support plays a major role in adolescents' well-being. Youth who believe that social support is available to them are reinforced by this belief (McGrath et al., 2014). In addition, research has shown that among young adults, positive social supports are associated with a success in reaching higher education (Langley et al., 2019). Social support is essential during adolescence because youth live in a transition phase that includes biological, psychological, and social changes (Pinkerton & Dolan, 2007). It helps in buffering stress, developing self-esteem and self-efficacy (Cutrona, 1989; Dolan, 2008; Redmond, 2012), and reducing depressive symptoms (Fernandez et al., 2017; Simoni & Bauldry; 2018) and psychological distress (Wang et al., 2018). Kahn et al. (2009) indicated the importance of support, commitment, and belonging within youth in the developmental context. Youth social support can be reflected in their interactions with their families, schools, communities, and organizations, while policies and regulations affect youth support.

The sources of social support can be both formal and informal. The social support network for every person can include immediate family or extended family members, siblings, friends, neighbors, and other adults from the community (Kernan & Morilus-Black, 2010; Pinkerton & Dolan; 2007). Each represents a different role, function, and opportunity for meeting youth needs. For example, family and friends represent what Granovetter (1973) referred to as strong ties, while neighbors and other adults represent weak ties. Each serves a central function in providing support for youth and provides a distinct role in linking youth to their communities.

Social networks of support show a positive role for families in young people's lives. Youth supported by their parents are less likely to engage in antisocial or criminal activities (McGrath et al., 2009). Additionally, friends are a critical source of social support (McGrath et al., 2009) which can be positive or negative support. It is necessary that programs address and educate children about the signs of a real and positive friendship and their connection to mental health

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(McGrath et al., 2014). In addition, the relationship with a caring adult is a key factor that keeps youth attached to clubs, organizations, and extracurricular activities. Mentoring relationships provide youth with support, guidance, expertise, and enable them to succeed in the leadership development process (Redmond & Dolan, 2014). Thus, it is necessary to consider fostering such relationships to improve youth involvement (McGrath et al., 2009).

Alternately social support serves different functions. Four main social support types are commonly identified: concrete, emotional, advice, and esteem support. Concrete support (or tangible support) is known as practical support (Redmond, 2012). It includes the act of helping others physically with different tasks such as financial help, homework completion, and others (Redmond, 2012). Emotional support "comprises acts of empathy, listening, and generally 'being there' for someone when needed or in times of trouble" (McGrath et al., 2014, p.238). Advice support consists of guiding the completion of tasks for others who have no experience conducting these tasks (Pinkerton & Dolan, 2007). Finally, providing esteem support is showing another person how much they are valued. This type of support is also considered as belonging support (Brennan et al., 2007).

The Social Provisions Scale

The social provisions scale (SPS) was first conceptualized by Cutrona & Russell (1987) and further built upon and tested by Dolan (Dolan, 2006; Pinkerton & Dolan, 2007). The SPS arose out of a need for a multidimensional assessment of the perceived social support available to youth (and consequently) their communities (Dolan & McGrath, 2007). Historical measures failed to adequately measure and bring together the various types and forms of support available or not available to youth (Pinkerton & Dolan, 2007). The SPS for adolescents was designed to measure social support at multiple levels (Cutrona, 1989; Dolan, 2006).

Researchers have widely used this scale to measure sources and types of social support (Brennan et al., 2009; Butterbaugh, 2014; Redmond, 2012; Smyth et al., 2015). This scale has also been used in youth programs evaluation such as the Foróige's youth citizenship program (Foróige; 2013), and the Big Brothers Big Sisters program (Rodriguez et al., 2018). While the scale was rigorously developed and has been consistently and widely used to measure social support types and sources, there is a need to verify further the construct validity of this scale for both measurements. As previously stated, social support is predictor of youth leadership skills, mental health, civic engagement well-being, etc., thus it is a crucial factor in understanding youth development. Having a proper measurement tool for social support is

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deemed necessary to ensure that enhanced youth program and policy development can take place and programs are better tailored to individual youth and communities' needs.

Research Methodology

Participants

A convenience sample of students from four high schools in Pennsylvania was selected to complete a questionnaire. These students were agricultural students in urban and suburban communities. Around 32% of the sample participated in leadership programs for youth, and half of them were volunteering in community groups. The questionnaire was completed by 86% of the students yielding 421 valid survey responses. Table 1 shows the demographic characteristics of the students surveyed. The majority of students (51.1%) were female. Most students were white (53%), and about 20.2% were African American. About one third of the participants lived in urban areas (31.8%), and about one third (31.6 %) lived in rural farming or non-farming areas. The vast majority (71%) considered financial issues to be a concern.

Table 1. Student Socio-Demographic Characteristics: Nominal Variables, *N* = 421

Variable	<i>n</i>	%	Variable	<i>n</i>	%
School			Grade level		
A	75	17.8	Grade 9	99	23.5
B	84	20.0	Grade 10	87	20.7
C	98	23.3	Grade 11	99	23.5
D	164	39.0	Grade 12	117	27.8
Total	421	100.0	Missing/No response	19	4.5
			Total	421	100.0
Gender			Residence		
Male	186	44.2	Rural farming	70	16.6
Female	215	51.1	Rural non-farming	63	15.0
Missing/No response	20	4.8	Small town	77	18.3
Total	421	100.0	Suburb	54	12.8
			Urban	134	31.8
			Missing/No response	23	5.5
			Total	421	100.0

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Table 1. (continued)

Variable	<i>n</i>	%	Variable	<i>n</i>	%
Ethnicity			Financial issues		
White/Caucasian	223	53.0	Not a concern	63	15.0
African American	85	20.2	A slight concern	173	41.1
Asian	10	2.4	A big concern	126	29.9
Hispanic/Latino	32	7.6	Don't know	39	9.3
Native American	6	1.4	Missing/No response	20	4.8
Other	42	10.0	Total	421	100.0
Missing/No response	23	5.5			
Total	421	100.0			

Measure: The Social Provisions Scale

The SPS contains 16 individual items that are associated with their corresponding subscales (types and sources). The 16 items were combined in two different ways to form eight subscales to show the sources and types of social support. The first combination consisted of individual items of social support based on sources of support, including friends support, parents support, other adult support, and sibling support. The second combination was based on types of support, which includes esteem support, advice support, concrete support, and emotional support. Each subscale was composed of four items. Items to this concept had an ordinal scale: 1 (yes), 2 (sometimes), 3 (no). The first and second combination of social support types and sources are presented in Table 2.

Regarding sources of social support subscales, reliability values showed to be acceptable (higher than 0.7; Ursachi et al., 2015). Table 3 shows the reliability values of social support subscales in previous studies targeting youth. In the study conducted by Butterbaugh (2014), the reliability values of the subscales measuring sources of social support subscales ranged between 0.818 and 0.888. In Redmond's study (2012), the reliability values for social support sources ranged between 0.710 and 0.876. Moreover, the reliability values for the types of social support subscales in Redmond's study ranged between 0.495 and 0.613 which were low and not acceptable (lower than 0.7). To sum up, the subscales of social support sources showed good reliability, while social support types showed low reliability.

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Table 2. Social Support Sources and Types

Sources of social support	
Friendship support	<p>FS1: Are there friends you can depend on to help you?</p> <p>FS2: Do your relationships with your friends provide you with a sense of acceptance and happiness?</p> <p>FS3: Do you feel your talents/abilities are recognized by your friends?</p> <p>FS4: Is there a friend you could trust to turn to for advice?</p>
Parent support	<p>PS1: Can you depend on your parent(s)/guardian to help you?</p> <p>PS2: Do your relationships with your parent(s)/guardian(s) provide you with a sense of acceptance and happiness?</p> <p>PS3: Do you feel your talents/abilities are recognized by your parents?</p> <p>PS4: Could you turn to your parent(s)/guardian for advice?</p>
Sibling support	<p>SS1: Can you depend on your brother(s)/sister(s) to help you?</p> <p>SS2: Do your relationships with your brother(s)/sister(s) provide you with a sense of acceptance and happiness?</p> <p>SS3: Do you feel your talents and abilities are recognized by your brother(s)/sister(s)?</p> <p>SS4: Could you turn to your brother(s)/sister(s) for advice?</p>
Other adult support	<p>OAS1: Can you depend on other adult(s) (i.e., sports coach, family friend) you know to help you if you really need it?</p> <p>OAS2: Does your relationship with this adult provide you with a sense of acceptance and happiness?</p> <p>OAS3: Do you feel your talents and abilities are recognized by this adult?</p> <p>OAS4: Could you turn to another adult for advice?</p>
Types of Social Support	
Concrete support	FS1, PS1, SS1, OAS1
Emotional support	FS2, PS2, SS2, OAS2
Esteem support	FS3, PS3, SS3, OAS3
Advice support	FS4, PS4, SS4, OAS4

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Table 3. Cronbach's Alpha Reliability Values of Social Support Subscales in Previous Studies by Redmond and Butterbaugh

Dimension	Cronbach's α	
	Redmond (2012)	Butterbaugh (2014)
Sources of social support		
Friends support	0.710	0.818
Parent support	0.859	0.888
Sibling support	0.876	0.879
Other adult support	0.849	0.876
Types of social support		
Concrete support	0.55	
Emotional support	0.598	
Esteem support	0.613	
Advice support	0.495	
Overall scale	0.863	
Number of respondents	431	209

Procedures

A survey questionnaire was distributed to students in Grades 9 through 12. Data collection occurred between December 2014 and February 2015. Regarding research ethics, the Office of Research and Protection and the Pennsylvania State University approved the study in August 2014 (IRB# 451). Students' participation was voluntary, and no incentives were provided. Student participants provided their consent to participate before completing surveys, and they were informed about their right to withdraw at any point in time.

Analytic Methods

Descriptive statistics were calculated to measure the level of social support among high school students and check normality assumptions. The reliability values were checked for each subscale.

A second-order CFA using SEM (Using Amos 22.0) was conducted to confirm the social provisions scale's construct validity. The number of usable questionnaires (421) exceeded the minimal number of cases proposed in the literature; MacCallum et al. (1996) proposed 164 cases for 100 degrees of freedom; Garver and Mentzer (1999) determined that 200 cases are

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necessary to conduct SEM; and Tabachnick and Fidell (2014) argued that SEM could be conducted using a dataset of 60 cases in some cases. All variables were checked individually for normality by examining skewness and kurtosis, and the assumptions of multivariate normality were met (Garson, 2012). No outstanding outliers were found.

Results

Descriptive Statistics

Table 4 shows the descriptive statistics and reliability values for the social support subscales. All social support subscales presented higher means than their theoretical midpoint. The reliability values for all sources of support subscales were acceptable ($> .7$; Field, 2005). On the other hand, the reliability values for concrete support and advice support were not acceptable ($< .7$).

Table 4. Descriptive Statistics of the Social Support Indicators Based on Sources and Types of Social Support

Variable	<i>N</i>	Number of items	Cronbach's alpha	Mean	<i>SD</i>
Social support subscales					
<i>Sources of social support</i>					
Parent support	395	4	0.888	9.797	2.283
Sibling support	389	4	0.903	8.818	2.623
Friend support	394	4	0.853	10.229	2.051
Other adult support	396	4	0.909	9.431	2.524
<i>Types of social support</i>					
Concrete Support	390	4	0.672	9.962	1.912
Emotional Support	386	4	0.723	9.646	1.970
Esteem Support	391	4	0.738	9.452	2.068
Advice support	392	4	0.660	9.460	1.995
<i>Total summated scales</i>					
Summated social support	385	16	0.921	38.239	7.401

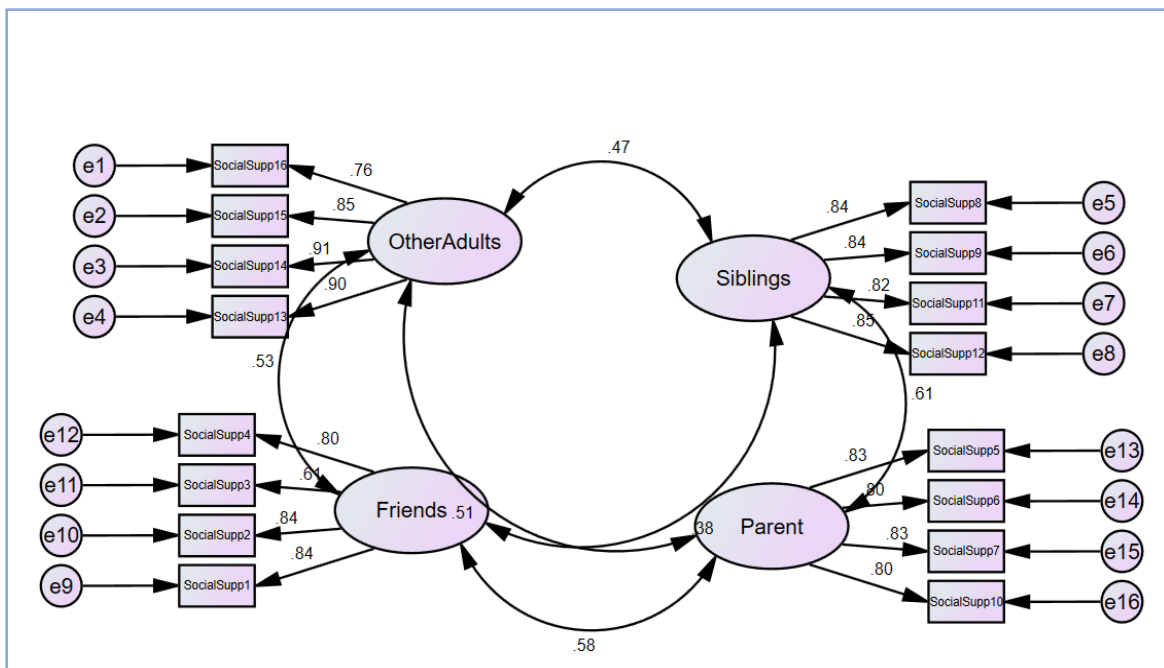
Note. The summated social support scale ranged from 16 to 48 with a mid-point of 32. Social support subscales ranged from 4 to 12 with a theoretical mid-point of 8.

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Confirmatory Factor Analysis Using Structural Equation Modeling

A CFA was performed to assess the social support scale's factor structure using SEM. The second-order CFA was also conducted to test the construct validity of the social support scale. Table 5 shows the results of the CFA analysis. Figure 1 shows the AMOS output of a four-factor model based on social support sources. It shows the loadings of social support items on their corresponding factors (subscales). These loadings were significant and ranged from 0.61 to 0.91. Moreover, covariance among subscales ranged from 0.47 to 0.61.

Figure 1. CFA for Social Support Scale (Sources)



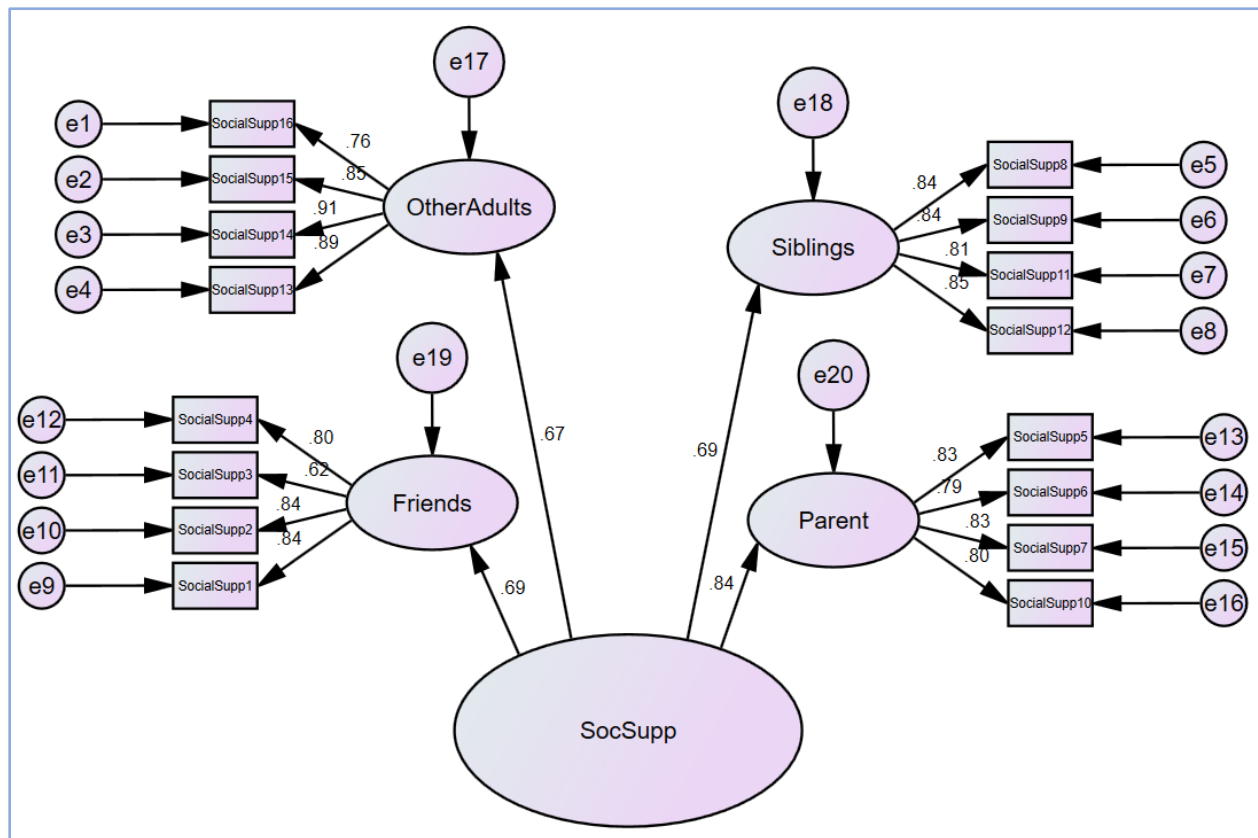
The chi-square value for the overall model fit was significant, $\chi^2(98) = 330.4, p < .001$. Moreover, the goodness of fit indices showed acceptable model fit with CFI = .946, TLI = .925, SRMR = .056 and RMSEA = .075 (Hoe, 2008; Garver & Mentzer, 1999). The same approach was used to test the four-factor model based on social support types. The values of the model fit indices were CFI = .606, TLI = 0.435, SRMR = .127 and RMSEA = .202. These values suggest a poor model fit (Hoe, 2008; Hu & Bentler, 1999). Thus, only the four-factor model based on sources of support was retained.

A second-order CFA using SEM was conducted to test the construct validity of the social support construct based on the four sources of support subscales. Figure 2 presents the AMOS output of

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this analysis. The four factors loaded significantly on the latent second-order factor. Loadings ranged between .62 and .91. This analysis showed acceptable model fit with $\chi^2 (100) = 347.386, p < .001, CFI = .942, TLI = .921, SRMR = .067$ and $RMSEA = .077$ (Hoe, 2008; Garver & Mentzer, 1999). The four-factor model of social support and the second-order one-factor model showed similar fit indices. Both models can be retained, and a social support overall score and the four sources summative sub scores are valid measurements.

Figure 2. Second-Order CFA for Social Support



The CFI and TLI are relative fit indices that range between 0 and 1 with acceptable fit for values higher than .90 (Awang, 2012). The RMSEA is an absolute fit index with the following fit criteria: A value of .00 is an exact fit, values between 0 and .05 are considered a close fit, values between .05 and .08 an adequate fit, values between .08 and .10 a mediocre fit, and values greater than .10 are a poor fit or not acceptable (Schermelleh-Engel et al., 2003).

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Table 5: Goodness of Fit Indices of the Proposed Models for Social Support Scales

Scale	No. of items	Cronbach's α	χ^2	<i>df</i>	CFI	TLI	RMSEA	SRMR
CFA								
Social support (sources)	16	.921	319.5***	98	.947	.935	.077	.056
Social support (types)	16	.921	1735.182**	98	.610	.453	.209	.136
<i>2nd Order CFA</i>								
Social support (sources)	-	-	338.881**	100	.943	.32	.079	.067

Note. CFI = comparative fit index, TLI = Tucker-Lewis index, RMSEA = root mean square error of approximation

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

Discussion

The innate bond of social support is a significant factor in child and youth development. For example, assessing social support among youth is critical in predicting their health outcomes (Cutrona, 1989), their social and leadership skills (Osmane & Brennan, 2018), and their well-being (Russel & Cutrona, 1991; McGrath et al., 2009). Thus, it is essential that youth development practitioners, researchers and program and policy makers to be aware of the importance, types, and sources of social support. Furthermore, it is important that they understand how these are operationalized and measured, and the reliability of these in meeting the needs of youth development programs, research studies and policies. The literature showed that the SPS had proven adaptability to work with differing targeted populations, such as early-years parenting, including parents under stress; adolescence; people working with adults with mental health concerns; and gerontology practice (Cutrona, 1989; McGrath et al., 2014).

In this study, the youth version of the SPS was examined for reliability and construct validity to guide future social support researchers. On one hand, results showed good internal consistency of the four dimensions of sources of social support. Items tend to group themselves among the four social support sources as initially planned, including friends, parents, siblings, and other adults' support. The CFA results showed a good model fit verifying the construct validity of this model. On the other hand, there were low reliability values for two of the four subscales of the

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social support types. CFA results further showed an unacceptable model, therefore lacking construct validity for the social-support-types model.

While the four-factor model based on sources of social support showed acceptable fit indices, the model based on social support types showed less than desirable fit indices, suggesting the need for additional research. Thus, using conservative evaluation criteria, the model based on social support types was rejected, and the model based on sources of social support was retained. Therefore, the subscales of the four sources of social support were verified for construct validity. This implies, that the SPS can be used by youth practitioners, policy makers, and researchers to measure sources of social support, esteem support, and emotional support. The SPS and reliable subscales can be used to measure social support in research studies, needs assessment, program evaluations, and other activities requiring an appropriate measure of social support.

According to Spector (1992), summated scores can be issued when validity and reliability can be demonstrated for a specific scale. Consequently, scores can be issued for friends' support, parent support, sibling support, and other adult support. However, using four summated social support scores based on support types should be critically examined based on the data present because there was questionable evidence of construct validity using this data. Thus, researchers using the SPS should be careful in combining individual items to measure social support subscales.

Future research needs to further test the SPS in different cultural, social, and economic settings. Additional research will also be needed to tease out overall interrelationships within subscales and various conditions. Additionally, the measurement of perceived social support does not address the enacted support or the social network size. Measures for these could also be explored in future research.

Furthermore, no scale is ever perfect and complete. Future research will need to continue to validate the scale and adjust it to ever-changing social and cultural conditions. Future research should investigate how youth increasingly get support from friends and others and its impact on actual support (technology, more globally connected lives, etc.) and how changing family structures shift support provision off to other groups.

A concern that should be noted is that the sample of this study was spread across four schools and was somewhat limited and not statistically representative of each location, resulting in a

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lower-than-desired representation that is not generalizable. This concern can have implications for under-representing the data and diminishing the results of SEM and similar analyses.

Finally, CFA is a multivariate statistical technique widely used in social sciences research to verify observed variables' factor structure (Brown, 2015). It shows whether the data fit a theoretical model factor structure. In other words, it allows researchers to figure out if the measurement tool used fits their theoretical understanding of factor structure (Brown, 2015). In youth SPS, the scale showed a good fit for the social support model sources and not for the types of support model. Thus, researchers, extension specialists, youth program managers, and practitioners can use the SPS validated scale to measure social support sources. This scale is critical to measure the effectiveness of youth interventions. Yet, using the same scale items and having a different combination for social support types was found to be inadequate. Therefore, the use of the SPS to measure types of social support will need to be further studied in youth populations. On a final note, this research will help program and policymakers create improved efforts to advance positive youth development. It will also serve as a basis for future research to ensure the accurate measurement and application of youth social support measures.

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