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Perceived Stress, Coping Behaviors, Social Support and Subjective Health among Unmarried Older Adults

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Abstract

The purpose of this study was to examine coping behaviors and social support as mediators and moderators between perceived stress and subjective health among older adults. A sample of 227 unmarried older adults was recruited. A hierarchical regression analysis was performed in order to analyze mediator and moderator effects of coping behaviors and social support. The results suggest that problem-focused coping and social support partially mediated the association between perceived stress and subjective health. We conclude that stress in older adults should be minimized and effectively managed to prevent negative effects on subjective health. Intervention programs focusing on problem-focused coping and social support should be developed for older adults.

Keywords: Coping Behaviors, Social Support, Subjective Health, Older Adult

Introduction

Perceived stress among older adults is an important psychological health issue that needs to be addressed. Empirical research has shown that perceived stress is related to the subjective health of older adults (De Frias & Whyne, 2015; Lee et al., 2012). Older adults who reported higher levels of stress experience lower levels of subjective health. In addition, unmarried adults are important to be studied because this group is at risk for adverse psychological outcomes (Arslantaş et al., 2015). The stress and coping model, which informed this study, hypothesizes that coping resources can mediate the adverse effect of perceived stress on subjective health problems (Lazarus & Folkman, 1984). Previous researchers have suggested that older adults use a variety of coping resources to deal with stress (Cohen, Hassamal, & Begum, 2011; Mauro, Canham, Martins, & Spira, 2015). These include substance-use coping, cognitive coping, instrumental coping, and avoidant coping. However, in this study, we investigated four types of coping behaviors including seeking social support,

problem-focused coping, emotion-focused coping, and escape avoidant coping. In addition, we included social support in our perceived stress-subjective health model. As described by Cohen and Wills (1985) social support acts as a mediator and moderator in the relationship between perceived stress and subjective health.

Although there are many studies concerning stress and health, research among unmarried older adults remains limited. To fill this gap, this paper highlights older unmarried adults including never married, divorced, and widowed persons. Thus, the main purpose of this study was to examine the mediating and moderating effects of coping behaviors (i.e., seeking social support, problem-focused coping, emotion-focused coping, and escape avoidant coping) and social support in the relationship between perceived stress and subjective health among unmarried older adults. Previous studies have examined mediator and moderator effects of coping behaviors and social support, although not among unmarried older adults. Results found mixed results. For example, some studies supported the mediating model (Calvete et al., 2008; Dunkley et al., 2000) . In contrast, other studies supported the moderator model (Connor-Smith & Compas, 2002; Devereux et al., 2009; Morano, 2003). Therefore, to further understand this concept, it is essential to test these two models in this study specifically among unmarried older adults. Also, the differences in perceived stress, social support, coping, and subjective health comparing never married, divorced, and widowed were assessed due to variations of their life experiences.

Perceived Stress, Coping and Subjective Health

A growing body of literature indicates that stress is associated with subjective health among older adults (De Frias & Whyne, 2015; Hahn et al., 2013; Lee et al., 2012). An empirical study yielded that healthy ways of coping serve as a resource to maintaining subjective health among adults aged 65 years and older (Thumala Dockendorff, 2014). Stress and coping theories suggest that adaptive coping might hinder an individual from experiencing a high level of stress and increase their well-being (Lazarus & DeLongis, 1983). In contrast, maladaptive coping may worsen stress levels and decrease well-being. Besides, coping strategies mediate the association between stress and psychological outcomes (Lazarus & Folkman, 1984). For example, Folkman and Lazarus (1988) found that coping mediated the emotional response in stressful encounters. Adaptive coping, such as planful problem-solving and positive reappraisal in dealing with stress, increase positive emotion. In contrast, maladaptive coping such as distancing and confrontive coping with stress increase negative emotion. Helvik et al. (2016) revealed that one type of coping behavior known as locus of control behavior was positively correlated with health-related quality of life among older people aged 60 years and older. However, the study did not find any significant relationship between problem-focused and emotion-focused coping towards health-related quality of life (Helvik et al., 2016). On the other hand, active and avoidant coping mediated association between psychopathology and quality of life (Cohen et al., 2011). In addition, frequent substance-use coping was associated with poor self-rated health among older adults aged between 54 and 99 years old (Mauro et al., 2015). A past study showed that divorced participants had the highest percentage of smokers and those drinking heavily than widowed and never married adults (Joung et al., 1995). Also, widowed people reported lower levels of well-being than divorced people (Ben-Zur, 2012; Ben-Zur & Michael, 2009). In summary, these previous studies of stress and coping provide ideas in examining the association between perceived stress, coping behaviors, and subjective health. In this study, we examined four

types of coping behaviors which were seeking social support, problem-focused coping, emotion-focused coping, and escape avoidant coping.

Perceived Stress, Social Support and Subjective Health

Research has consistently shown that social support has a strong, significant buffering effect on stress outcomes (Cohen, 2004; Kawachi & Berkman, 2001; Mauro et al., 2015; Peek, Howrey, Ternent, Ray, & Ottenbacher, 2012; Roh et al., 2015). Social support may provide necessary resources in dealing with any demands and assist in lowering stress level and increasing well-being adjustment. For example, having support from friends and family members after a divorce can help individuals feel more comfortable and alleviate their stress and enhance their well-being. Moreover, psychologists have emphasized that social support is an essential element in stress-buffering models (Cohen, 1988; Cohen & Wills, 1985; Cutrona & Russell, 1990). An empirical study yielded that never married seek more social support and received a higher quality of social support from their siblings than divorced participants (Pinquart, 2003). Then, social support is associated with subjective health among older adults (aged range between 69 and 105 years old) who were married and widowed (Guindon & Cappeliez, 2010). Besides that, past studies among women who were 50 to 80 years old reported that social support was correlated with both physical and mental health in San Francisco (Wong et al., 2014). Furthermore, Nelson, Noonan, Goldberg, and Buchwald (2013) reported that social engagement was associated with self-reported health among American Indian/Alaska Natives older adults. In summary, previous studies provide a framework for the association between perceived stress, social support, and subjective health.

Purpose of Study

The main purpose of this study was to examine the mediating and moderating effects of coping behaviors (i.e., seeking social support, problem-focused coping, emotion-focused coping, and escape avoidant coping) and social support in the relationship between perceived stress and subjective health among unmarried older adults. It is important to note that mediation and moderation are two different concepts. These two concepts are often overlooked in research designs (Bennett, 2000). We examined the mediating effects to understand how coping behaviors and social support explain the association between perceived stress and subjective health. Furthermore, we investigated the moderating effects of coping behaviors and social supports with perceived stress to understand how these predictors affect subjective health. Specifically, research questions included:

1. Do coping behaviors (i.e., seeking social support, problem-focused coping, emotion-focused coping, and escape avoidant coping), and social supports differ by marital status?
2. Do coping behaviors (i.e., seeking social support, problem-focused coping, emotion-focused coping, and escape avoidant coping) mediate the relation between perceived stress and subjective health?
3. Does social support mediate the relation between perceived stress and subjective health?
4. Do coping behaviors (i.e., seeking social support, problem-focused coping, emotion-focused coping, and escape avoidant coping) moderate the relation between perceived stress subjective health?
5. Does social support moderate the relation between perceived stress and subjective health?

Method

Sample

The sample was recruited from a Midwestern state. Participants were recruited through network connections, such as area agencies on aging, senior centers, retirement communities, and field extension specialists. All participants were given a short mental status questionnaire (i.e., the SPMSQ, Pfeiffer, 1979) to test for global cognitive functioning. Individuals who incorrectly answered four out of ten basic questions of orientation of time and place and short- and long-term recall of information were not included in our sample.

As shown in Table 1, there were 227 participants between 65 and 94 years of age (*M* = 78.23) who participated in this study. The data were collected in-group sessions or individual visits. The participants filled out a questionnaire unless they needed assistance in reading items. Of the sample, a majority were female (71%) and the remaining 29% of participants were male. In terms of ethnicity, 92% of participants were White, 6.6% of participants were African American, and 1.3% of participants were American Indian. Regarding marital status, 41% were widowed, followed by 30.4 % of participants who were divorced and 28.6% of participants who had never been married.

Measures

In this study, we used a subjective health question, the Perceived Stress Scale, the Brief Cope Inventory, and the Social Provisions Scale in order to measure subjective health, perceived stress, coping, and social support. Also, several demographic characteristics were assessed in order to gather more information about the participants.

Demographic characteristics. Information was collected on the participants' demographic characteristics (i.e., age, gender, ethnicity, and marital status).

Subjective Health. Subjective health was measured by using four items from the Older Americans Resources and Services scale (Fillenbaum, 2013). The first item participants had to rate was concerned with overall health, ranging from 1 = poor to 4 = excellent. The second item compared participants' health to 5 years ago, ranging from 1 = worse to 3= better. The third item asked the participants to respond on a Likert scale with three responses (1 = A great deal to 3 = not at all) on how much does health stand in the way of doing things you want to do? The last item asks the participants to respond on 4-point Likert scale (1 = Don't know to 4 = Better) to the question "Compared to others your age, how is your health? Total scores were summed, and higher scores obtained from the scale indicate higher subjective health. Cronbach's alpha coefficient for the subjective health scale in this study was .70.

Perceived Stress Scale (PSS). The Perceived Stress Scale (S. Cohen et al., 1983) consists of 14 items of which the respondents indicated their level of stress on a Likert scale with 5 responses (1 = never to 5 = very often). The PSS includes seven negative items (e.g., "In the last month, how often have you been upset because of something that happened unexpected?") and seven positive items (e.g., "In the last month, how often have you dealt successfully with irritating life hassles?"). Positively worded items were reverse scored, and the total scores were summed. A higher total score indicates higher perceived stress. In this sample, Cronbach's alpha of the PSS was .82.

Brief Cope Inventory. The Brief Cope Inventory (Carver, 1997) assessed coping behaviors of participants using 28 items to which participants responded on a Likert scale ranging from 1 = I usually don't do this at all to 4 = I usually do this a lot. The Brief Cope consists of 14 subscales (i.e., self-distraction, active coping, denial, substance use, use of emotional support, use of instrumental support, behavioral disengagement, venting, positive reframing, planning, humor, acceptance, religion, and self-blame). Exploratory factor analysis (EFA) was computed to identify how many factors should be extracted. The results of the principal component analysis with promax rotation indicated that there were 9 components with eigenvalues greater than 1. However, further interpretation using the scree plot suggested that there were only four components that should be extracted. The four factors represented the original factors, which were seeking social support (e.g., "I look for something good in what is happening"), problem-focused coping (e.g., "I concentrate my efforts on doing something about the situation I'm in"), emotion-focused coping (e.g., "I blame myself for the things that happened") and escape avoidant coping (e.g., "I do something to think about less such as go to the movies, watch TV, read, daydream, sleep or shop"). Then, the total scores of each dimension were computed. A high score on either dimension indicates an increase in seeking social support, problem-focused coping, emotion-focused coping or escape avoidant coping. Cronbach's alpha of seeking social support, problem-focused coping, emotion-focused coping, and escape avoidant coping in this sample was .77, .69, .56, and .50, respectively. The relatively low Cronbach's alpha values for emotion-focused coping and escape avoidant coping might be due to the small number of items in the subscales.

Social Provisions Scale. The Social Provisions Scale (Cutrona & Russell, 1987) was used to measure the social support received by the participants. The scale contains 24 Likert-type items (12 positive items and 12 negative items) with responses ranging from 1 = strongly disagree to 4 = strongly agree. An example of a positive item is, "There are people I can depend on to help me." Negative items include, "I feel I don't have close relationships with other people." Negative items of this scale were reverse scored. Higher scores obtained from this scale indicate higher social support received by the participants. Cronbach's alpha obtained from this sample was .89.

Data Analyses

All statistical analyses were carried out using SPSS 24. Descriptive statistics were computed to describe the demographic characteristics of respondents (age, gender, marital status, and ethnicity). We coded marital status as 1 (*never married*), 2 (*widowed*), and 3 (*divorced*). In addition, we coded ethnicity as 1 (*White*), 2 (*African American*), and 3 (*African Indian*). One-way ANOVA and post hoc tests were used to compare marital status (never married, widowed, and divorced) for perceived stress, coping behaviors, social support, and subjective health. A blocked multiple regression analysis was computed to assess the mediating effects of coping behaviors (i.e., seeking social support, problem-focused coping, emotion-focused coping, and avoidant coping) and social support on the association between perceived stress and subjective health. This study utilized the methods suggested by Baron and Kenny (1986) to assess the mediating effects of the four coping behaviors and social support between perceived stress and subjective health. To test moderation effects, we created five interaction terms (perceived stress X seeking social support, perceived stress X problem-focused coping, perceived stress X emotion-focused coping, perceived stress X

escape avoidance coping, and perceived stress X social support) and regressed on subjective health.

Results

Mean Group Comparisons

Table 2 shows marital status differences for perceived stress, coping behaviors, social support, and subjective health. The results of the one-way ANOVA indicated that perceived stress, four types of coping (i.e., problem-focused coping, emotion-focused coping, escape avoidance coping, and seeking social support), social support, and subjective health did not differ by marital status.

Test of Mediation

Five sets of multiple regressions were computed to examine the mediating effects of coping and social support on the relationship between perceived stress and subjective health. In this analysis, each mediated model was tested in three steps (Baron & Kenny, 1986).

In step one of the mediation model, perceived stress had a significant and direct negative effect on subjective health (β= -.24, p <. 001). In the second step, associations of perceived stress with the five possible mediators (seeking social support, problem-focused coping, emotion-focused coping, escape avoidance coping, and social support) were examined. The results suggest that perceived stress significantly predicted four types of coping behaviors. Perceived stress had a significant and direct negative effect on problem-focused coping (β = -.29, p < .001) as well as seeking social support (β = -.23, p < .001). In contrast, perceived stress had a significant and direct positive effect on emotion-focused coping (β = .15, p <.05) as well as escape avoidant coping (β = .26, p < .001).

In the third step, possible mediators were regressed on subjective health (i.e., problem-focused coping, emotion-focused coping, seeking social support, and escape avoidance) and social support. The four regression models demonstrated that problem-focused coping (β = .22, p <. 01), and social support (β = .36., p < .001) had a significant and direct positive effect on subjective health. However, the emotion-focused coping (β = .03, p > .05), seeking social support (β= .45, p > .05) and escape avoidant coping (β= -.14, p > .05) were not significant with subjective health.

The association of perceived stress and subjective health was reduced when problem-focused coping was added to the hierarchical equation (from -.24 to -.19, Table 3). Applying the Sobel test for indirect effects of perceived stress to subjective health via problem-focused coping was significant (p = .01). This result demonstrates that problem-focused coping partially mediated the perceived stress-subjective health relationship as described by Baron and Kenny (1986). Thus, problem-focused coping was a mediator for the stress-subjective health relationship (Figure 1). Finally, the mediating effects of social support on perceived stress and subjective health were also observed (Table 3). The results show that the association between perceived stress and subjective health was significantly reduced when the variable of social support was added (from -.24 to -.15, Table 3). The Sobel indicated that the indirect effect of perceived stress on subjective health via social support was significant (p = .02). Based on Baron and Kenny (1986), this result suggests that the relationship between stress and subjective health is partially mediated by social support (Figure 2). Therefore, there was a mediator effect on social support in the relationship between stress and subjective health.

Test of Moderation

In this current study, regression analyses were used to test the hypothesis that the relationship between perceived stress and subjective health occurs primarily under certain conditions with the four types of coping strategy and social support serving as a buffer. Initially, the measures of seeking social support, problem-focused coping, emotion-focused coping, escape avoidance coping, social support and perceived stress were centered and interaction terms with perceived stress were computed. Moderation was examined by creating five hierarchical regression equations that included perceived stress, seeking social support, problem-focused coping, emotion-focused coping, escape avoidance coping, social support and interaction terms. As with tests of mediation, a separate set of regression analyses was computed for each of the four coping behaviors and social support with all regression analyses controlling for perceived stress as perceived stress is entered first in the analysis. Results yielded the four types of coping behaviors, and social support did not show a moderating effect of perceived stress and subjective health (Table 4).

Discussion

This current finding adds new information to existing research, specifically the gerontology field. First, the current study confirms the known effects of perceived stress on subjective health (De Frias & Whyne, 2015; Hahn et al., 2013; Lee et al., 2012) and highlights the mediating effects of problem-focused coping (Chao, 2011), and social support (Fuller-Iglesias, 2015) on the perceived stress-subjective health relationships, which have insufficiently been explored among older unmarried adults. The mediating effects of problem-focused coping and social support indicated that these components helped to alleviate the adverse effects of stress thus preventing older unmarried adults experiencing subjective health problems.

The direct effects of problem-focused coping, emotion-focused coping, seeking social support, escape avoidant coping, and social support on perceived stress provides further understanding about the well-being of unmarried older adults. Each of these findings in this study are consistent with previous studies. First, utilizing problem-focused coping and seeking social support helps the participants reduce their stress levels (Cohen et al., 2011). In contrast, those who were utilizing escape avoidant coping and emotion-focused coping may exacerbate their stress (Lazarus, 2006). Third, problem-focused coping was associated with higher subjective health (Etezadi & Pushkar, 2013). Fourth, greater social support was associated with lower stress and higher subjective health (Guindon & Cappeliez, 2010). However, the pathways between three types of coping behaviors (i.e., emotion-focused coping, seeking social support, and escape avoidant coping) and subjective health were not significant.

Although many studies have studied the concept of coping and social support, there remains a relative deficiency of psychosocial intervention for unmarried older adults in reducing their stress level and subjective health problems. Some studies, however, show promising results concerning coping (Van Hook & Rivera, 2004) and social support (Yoon & Lee, 2006) interventions for older adults. Effective interventions are needed to instruct unmarried older adults in how to use knowledge about coping behaviors in daily practice and decrease perceived stress levels and improve overall subjective health. Empirical evidence from this study has implications for practitioners of older adult healthcare in planning intervention programs. As preventive strategies, stress reduction that is associated with increasing subjective health with an emphasis on building social support and problem-focused

coping can be developed and delivered to unmarried older adults. Also, social support elements can be provided to this group in order to reduce the stress level in reducing subjective health problems. The social support from parents, friends, and acquaintances is helpful in managing their stress after divorce (Kołodziej-Zaleska & Przybyła-Basista, 2016).

This research has a number of limitations. First, because this is a cross-sectional study, causality cannot be inferred from the present study. Future longitudinal research should focus on the change of coping behaviors and social support, especially among older unmarried adults. Besides, the number of participants in this study is not representative of the entire population of unmarried older adults. Therefore, future researchers should include larger samples to represent a broader range of unmarried older adults. Also, cultural perspectives and gender differences should be the main concern in studying coping behaviors due to the differences in approaches and interpretation in dealing with stress. In addition, a questionnaire was the only instrument used to collect the data in this study. Future researchers can also use interviews methods to get an in-depth information from the participants. Finally, this study only involved unmarried older adults. Future research may want to include married people to gain more insight into potential differences of coping behaviors, social support, stress, and subjective health between married and unmarried of older adults.

Conclusion

In conclusion, the present findings are helpful in providing information on unmarried older adults and therefore enriching the literature in this field. In addition, it confirmed the Stress and Coping theory by Lazarus and Folkman (1984) on the importance of certain coping skills in dealing with any psychological issues among older unmarried adults. Finally, this present study provides implications for future practices such as counselors, social workers, educators, etc. They could highlight the potential benefit of problem-focused coping and social support for future intervention programs such as stress management to promote subjective health among older unmarried adults.

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Tables

Table 1

Summary of Demographic Characteristics

Demographic Characteristics	*n* (%)	Mean	*SD*	Min	Max
Age		78.23	8.112	65	94
Gender					
Male	66 (29.0 %)				
Female	161 (71.0 %)				
Ethnicity					
White	208 (92.1%)				
African American	15 (6.6%)				
American Indian	3 (1.3%)				
Marital Status					
Never Married	65 (28.6%)				
Widowed	93 (41.0%)				
Divorced	69 (30.4%				

Note. SD = Standard Deviation, Min = Minimum, Max = Maximum

Table 2

Marital Status Differences in Perceived Stress, Coping Strategies, Social Support, and Subjective Health

Variables	Never Married		Widowed		Divorced			
	M	*SD*	*M*	*SD*	*M*	*SD*	*F*	*p*
Perceived Stress	2.24	.57	2.40	.61	2.32	.60	1.55	.22
Seeking Social Support	3.22	.54	3.21	.54	3.16	.46	.27	.76
Problem-Focused Coping	3.41	.38	3.44	.49	3.47	.42	.31	.74
Emotion-Focused Coping	2.42	.54	2.45	.54	2.46	.56	.12	.88
Escape Avoidant Coping	2.19	.38	2.20	.35	2.20	.34	.03	.97
Social Support	3.26	.43	3.23	.44	3.33	.45	.97	.38
Subjective Health	2.42	.52	2.50	.56	2.47	.55	.40	.67

Note. M = Mean, *SD* = Standard deviation

Table 3
Problem Focused Coping and Social Support as a Mediator

Steps in Testing for mediation	*B*	*SE*	β
Problem Focused Coping			
Testing Step 1			
Outcome: Subjective Health			
Predictor: Perceived Stress	-.06	.02	-.24***
Testing Step 2			
Outcome: PFC			
Predictor: Perceived Stress	-5.13	.21	-.27**
Testing Step 3			
Outcome: Subjective Health			
Mediator: PFC	.87	.33	.17**
Predictor: Perceived Stress	- .05	.02	-.19*
Social Support			
Testing Step 1			
Outcome: Subjective Health			
Predictor: Perceived Stress	-.06	.02	-.24***
Testing Step 2			
Outcome: Social Support			
Predictor: Perceived Stress	-.45	.07	-.34***
Testing Step 3			
Outcome: Subjective Health			
Mediator: Social Support	.05	.02	.22***
Predictor: Perceived Stress	-.04	.02	-.15*

Note. PFC = problem-focused coping, *$p < .05$, ** $p < .01$, ***$p < .001$

Table 4
Moderated Model Regression Analyses for the Four Coping Behaviors and Social Support

Block	Variables	Subjective Health						
		R^2	ΔR_2	*B*	*SE*	β	*t*	*p*
1	Perceived stress	.07	.06	-.12	.04	-.21	-3.32	.002**
	SSS			.06	.04	.11	1.71	.09
2	Perceived stress	.07	.06	-.12	.04	-.21	-3.11	.002**
	SSS			.06	.04	.11	1.68	.10
	SSS X PS			.02	.03	.04	.67	.51
1	Perceived stress	.08	.08	-.105	.04	-.19	-2.89	.005**
	PFC			.10	.04	.17	2.57	.011*
2	Perceived stress	.09	.07	-.10	.04	-.19	-2.80	.006**
	PFC			.10	.04	.17	2.47	.014*
	PFC X PS			.02	.04	.03	.52	.61
1	Perceived stress	.06	.05	-.13	.04	-.24	-3.70	.000***
	EFC			.02	.04	.03	.44	.66
2	Perceived stress	.06	.05	-.14	.04	-.24	-3.71	.000***
	EFC			.02	.04	.03	.41	.69
	EFC X PS			-.01	.04	-.03	-.38	.70
1	Perceived stress	.06	.06	-.12	.04	-.21	-3.17	.002**
	EAC			-.05	.04	-.09	-1.26	.20
2	Perceived stress	.07	.06	-.12	.04	-.21	-3.10	.002**
	EAC			-.05	.04	-.09	-1.34	.18
	EAC X PS			-.05	.04	-.09	-1.40	.18
1	Perceived stress	.12	.11	-.05	.04	-.10	-1.33	.19
	SS			.16	.04	.29	4.02	.000***
2	Perceived stress	.12	.11	-.05	.04	.10	-1.29	.20
	SS			.15	.04	.28	3.77	.000***
	SS X PS			.02	.03	.05	.80	.43

Note. PS = perceived stress, SSS = seeking social support, PFC = problem-focused coping, EFC = emotion-focused coping, EAC = escape avoidance coping, SS = social support.
*p < .05. **p <. 01. *** p <.001.

Figures

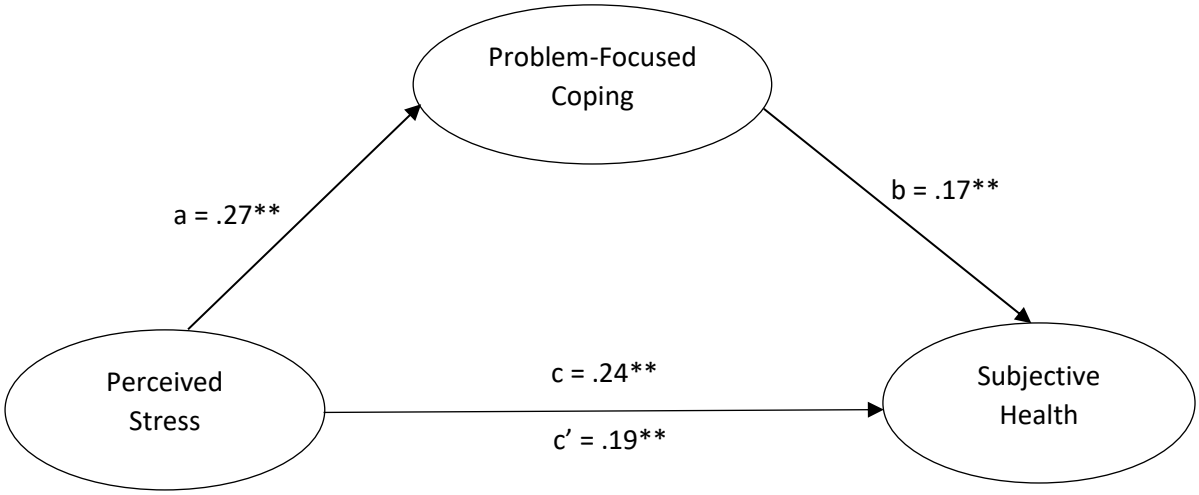

Figure 1. Mediation model of problem-focused coping for the relationship between perceived stress and subjective health.

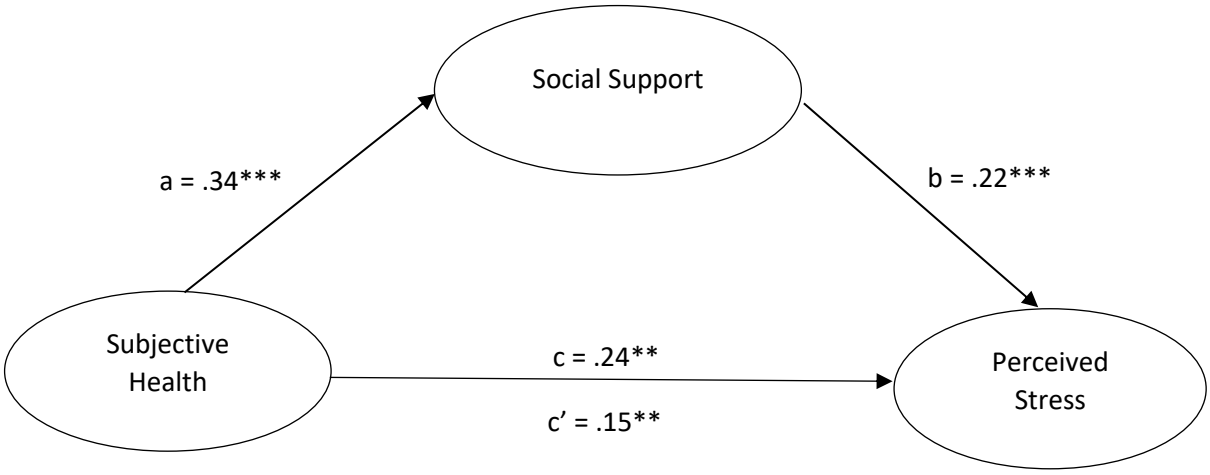

Figure 2. Mediation model of social support for the relationship between perceived stress and subjective health.