Social Support as a Mediator of the Relationship Between Self-esteem and Positive Health Practices: Implications for Practice

Cynthia G. Ayres, Ganga Mahat, Robert Atkins & Susan Norris

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Abstract

Introduction: This study developed and tested theory to gain a better understanding of the factors influencing positive health practices (PHP) among Asian American adolescents. Theoretical relationships postulated among (a) PHP and (b) self-esteem (SE), and (c) social support (SS) were tested.

Objective: Based on the theoretical and empirical linkages found in the literature between SE and PHP, SE and SS, and SS and PHP, it is hypothesized that there is a positive relationship between SE and PHP; there is a positive relationship between SS and PHP; and that SS mediates the relationship between SE and PHP in Asian adolescents and thus helps to explain this relationship.

Method: This correlational study used a convenience sample of 163 Asian adolescents in an urban setting who completed four questionnaires. Pearson correlations and multiple regression analysis were used to test research hypotheses.

Results: There were statistically significant positive relationships between SE ($r = .288, p < .01$) and SS ($r = .435, p < .01$) with PHP. There was a statistically significant relationship between SS ($r = .426, p < .01$) and SE. Social support mediated the relationship between SE and PHP.

Conclusion: Findings contribute to a more comprehensive knowledge base regarding factors influencing the health practices among Asian adolescents.

Keywords: health promotion, social support, self-esteem, positive health practices, Asian adolescents
Adolescence is a significant developmental phase in regards to health and illness. Many positive health behaviors such as diet and exercise emerge, and at the same time, health risk behaviors such as alcohol use, poor eating habits and physical inactivity, smoking, and unsafe sexual practices may also begin to develop (Millstein, Peterson, & Nightingale, 1993; Ayres, 2008; Ayres & Mahat, 2012; Williams, Holmbeck, & Greenley, 2002). Therefore, the risks of the major sources of mortality and morbidity during adolescence, and later in life, can be significantly reduced by targeting behaviors in certain areas such as smoking, alcohol use, nutrition, physical activity, and sexual behavior during adolescence (US Department of Health and Human Services, 2001; Ayres & Mahat, 2012; Ayres, Atkins & Mahat, 2010; Ayres, Mahat, & Atkins, 2012).

Gaining a better understanding of the factors that influence the health practices in adolescence is an important initial step in designing effective interventions to increase their knowledge and development of positive health practices. There is, however, a lack of studies in the literature that examine the factors which may influence the general health practices of Asian adolescents in late adolescence. Research that increases our knowledge of the health practices in this age group has the potential to reduce disease risk, improve health, and help eliminate health disparities among this ethnic and racial group (Ayres, Mahat, & Atkins, 2012.; Ayres, Atkins, & Mahat, 2010; Ayres & Mahat, 2012).

**Literature Review**

Positive health practices are specific activities performed that may affect one’s health. They are defined as behaviors performed by individuals, regardless of health status, to protect, promote, or maintain health (Harris & Guten, 1979). They are a composite of exercise, nutrition, relaxation, avoidance of substance use, and the promotion of health (Brown, Muhlenkamp, Fox, & Osborn, 1983). Self-esteem is defined by Rosenberg (1965) as a positive or negative attitude toward a particular object, namely, the self. Wells and Marwell (1976) and Bandura (1986) postulated that positive health practices are an outcome of self-esteem. Individuals with high self-esteem are more functional and self-accepting; therefore, they are more likely to perform healthy behaviors. Researchers have shown a positive relationship between self-esteem and positive health practices (McNicholas, 2002; Mahat & Scoloveno, 2001; Yarcheski, Mahon, & Yarcheski, 1997).

**Mediational Models**

Baron and Kenny (1986), authors of the definitive paper on the moderator-mediator distinction in social psychological research, took into account conceptual, strategic, and statistical considerations. They suggested that when a strong relationship is found between two variables, theoretically derived mediators of the relationship need to be found and studied to help explain the relationship (Ayres, 2008). Although there is strong empirical support for an association between self-esteem and positive health practices, the identification of mediator variables would provide a better understanding of the mechanism that accounts for this association. Mediator variables are key explanatory mechanisms to understand the relationship between two variables, in this case, the independent variable, self-esteem, and the dependent variable, positive health practices. One variable that has been identified as potential mediator to this relationship is social support.

Social support, as defined in this study, was based on Weiss’ (1974) classic work on social support. This definition consists of six categories of relational provisions: attachment, social integration, opportunity for nurturance, reassurance of worth, a sense of reliance, and obtaining guidance and information in stressful situations (Ayres & Mahat, 2012; Ayres, 2008; Ayres, Mahat, & Atkins, 2012). Theorists have proposed that social support influences positive health practices by providing guidance and information in socially supportive relationships, such as how to take care of oneself and prevent disease (Mechanic & Cleary, 1980; Ayres & Mahat, 2012; Ayres, 2008; Ayres, Mahat, & Atkins, 2012). Langlie (1977) & Cohen (1988) have suggested that the performance of specific health behaviors, such as seat belt use, exercise, nutrition, medical checkups, dental care, immunizations, and miscellaneous screening examinations can be
influenced by social support by providing information about positive health practices and by establishing norms that encourage healthy behaviors. In the literature, social support and positive health practices in adolescents (Ayres, 2008; Ayres & Mahat, 2012; Ayres, Mahat, & Atkins, 2012; Ayres, Atkins, & Mahat, 2010; Mahat & Scoloveno, 2001; Mahat et al., 2002; Mahon et al., 2004; Yarcheski et al., 2003) have consistently demonstrated a strong to moderately strong positive relationship, thereby providing credibility to the work of Langlie (1977) and Cohen (1988) and suggesting a relationship between the two variables (Ayres, Mahat, & Atkins, 2012). Therefore, the purpose of this study was to examine the relationships between self-esteem and positive health practices in Asian adolescents and to test social support as a variable that may theoretically mediate this relationship in an effort to better understand the performance of positive health practices in this racial/ethnic group. More specifically, this study tested theoretical relationships postulated in the literature between the dependent variable, PHP, and the independent variables of a) self-esteem and b) social support.

Hypotheses

Based on the theoretical and empirical linkages found in the literature between self-esteem and positive health practices, self-esteem and social support, and social support and positive health practices, it is hypothesized that:

1. There is a positive relationship between self-esteem and positive health practices;
2. There is a positive relationship between social support and positive health practices; and
3. Social support mediates the relationship between self-esteem and positive health practices in Asian adolescents, and thus, helps to explain this relationship.

Method

Design

For the study, a meditational model was constructed based on theory and previous research and a cross-sectional correlational design was used to test this meditational model.

Sample

In determining the appropriate sample size, a small to medium effect was chosen based on the previously reported theoretical and empirical literature with respect to the relationships investigated in the present study. Using an alpha of .05 and power of .80 (beta = .20), a small to medium effect size of $r = .20$ was anticipated. The sampling method was a convenience sample of 163 participants, who were Asian adolescents between the ages of 18-21 years and attended an East Coast Asian student delegation meeting for Asian college students.

Procedure

Following approval of the university’s institutional review board and participating agency, Asian Americans, who met the delimitations of the study, were recruited. The purpose of the study was discussed as well as the eligibility criteria for potential participation. After obtaining their consent, Asian American adolescents completed the survey questionnaires in the meeting area and returned them to the investigator.

Instruments

The Personal Lifestyle Questionnaire

The Personal Lifestyle Questionnaire (PLQ) is a 24-item self-administered instrument used to measure the positive health practices of individuals (Brown et al., 1983). The PLQ consists of six subscales: exercise, less substance use, nutrition, relaxation, safety, and general health promotion. Since one health promotion item on the PLQ was relevant only to females (“Do a monthly self-breast exam”), the following item was added for males: “Do a monthly testicular self-exam (males only).” Each subject responded to a total of 22 items on the PLQ. The PLQ is a 4-point summated rating scale with a total range
of possible scores from 22 to 88; higher scores reflect the practice of more positive health behaviors. Studies using this instrument demonstrated appropriate coefficient alphas as a measure of reliability. In addition, the findings of those studies have been consistent with the theoretical literature (Ayres, 2008; Ayres, Atkins, & Lee, 2010; Ayres, Atkins, & Mahat, 2010; Ayres, Mahat, & Atkins, 2012; Ayres & Mahat, 2012). For example, Yarcheski, Mahon, and Yarcheski (1997) and Mahon, Yarcheski, and Yarcheski (2002) reported coefficient alphas ranging from .72 to .80 for the PLQ when used with adolescents. In the present sample, the coefficient alpha was .72 (Ayres, Mahat, & Atkins, 2012).

**Rosenberg’s Self-Esteem Scale (RSE)**

Developed by Rosenberg (1965), the Rosenberg Self-Esteem Scale is a 10-item instrument that assesses self-esteem. The self-administered instrument has a 4-point Likert-type scale, with possible scores ranging from 1 (strongly agree) to 4 (strongly disagree); the higher the score, the higher the self-esteem. Studies using this instrument demonstrated appropriate coefficient alphas as a measure of reliability. Previous research (Mahat & Scoloveno, 2001; Yarcheski et al., 1994) reported coefficient alphas ranging from .72 to .83 for the RSE in adolescents. In the present sample, the coefficient alpha was .85 (Ayres, Atkins, & Mahat, 2010).

**The Personal Resource Questionnaire85-Part 2**

Developed by Brandt and Weinert (1981), the Personal Resource Questionnaire (PRQ85-Part 2) is a 25-item instrument that measures relational provisions in Weiss’s (1974) definition of social support, with subscales representing intimacy, social integration, nurturance, worth, and assistance. This self-administered instrument has a 7-point Likert-type scale, with possible scores ranging from 25 to 175; higher scores indicate higher perceived social support. Studies using this instrument demonstrated appropriate coefficient alphas as a measure of reliability. In addition, the findings of those studies have been consistent with the theoretical literature (Ayres, 2008). Previous research (Ayres, Atkins, & Mahat, 2010; Ayres, Mahat, & Atkins, 2012; Ayres & Mahat, 2012; Ayres, 2008; Mahat & Scoloveno, 2001; Mahat et al., 2002; Mahon et al., 2004; Yarcheski, Mahon, & Yarcheski, 2001) has reported coefficient alphas ranging from .76 to .92 for the PRQ85-Part 2 in adolescents. In the present sample, the coefficient alpha was .93.

**Data collection**

Data collected to address this study’s research questions were part of a larger study reported elsewhere (Ayres, Mahat, & Atkins, 2012). Specific to the current study, data collection included Asian American late adolescents responding to a demographic data sheet and three study instruments to measure self-esteem, social support, and PHP.

**Mediation Models**

A series of three regression equations, as specified in the work of Baron and Kenny (1986), were performed to test each mediation model. The first equation regressed the mediator variable (social support) on the independent variable (self-esteem). The second equation regressed the dependent variable (positive health practices) on the independent variable. The third equation regressed the dependent variable on the independent variable and the mediator variable (Ayres & Mahat, 2012; Ayres, 2008).

According to Baron and Kenny (1986), the following conditions must be met for mediation: the independent variable must affect the mediator variable in the predicted direction in the first equation; the independent variable must affect the dependent variable in the predicted direction in the second equation; and the mediator must affect the dependent variable in the predicted direction in the third equation. If these conditions are met,
the effect of the independent variable on the dependent variable must be less in the third equation than in the second equation (Ayres & Mahat, 2012; Ayres, 2008).

Results

Sample
A convenience sample of 163 Asian American adolescents completed the survey questionnaires on the day of data collection. Study participants consisted of 71 males and 92 females whose ages ranged from 17 to 21 years. Approximately 52% were Chinese, 15% were Korean, and 12% were Filipino; the remaining were Vietnamese (9%), Japanese (7%), and Taiwanese (5%). The majority of participants (60.7 %) reported that they were born in the US, while about 39.3 % reported that they were foreign-born. About 85% grew up in the US; 14.5% did not. When asked if their cultural identity was of value to them and to be retained, the majority of the respondents (89.6 %) reported “yes”. Eighty-nine percent of respondents also reported that they wish to seek positive relations with the larger (dominant) society. Less than seven percent (6.2%) reported the presence of one or more medical conditions that limited or restricted their physical activity. Only 28.8% of the respondents reported participation in organized sports.

Correlations
Pearson correlations were used to test the hypothesized relationships. Positive correlations were found between self-esteem and reported performance of positive health practices ($r = .288, p = .01$), between self-esteem and social support ($r = .426, p = .01$), and between social support and positive health practices ($r = .435, p = .01$).

Mediating effect of social support
The results of testing the mediational model for social support revealed that, in the first equation, self-esteem was positively related to social support in the predicted direction, $F(1, 161) = 20.311, p < .001$, explaining 13.4% of the variance in social support. In the second equation, self-esteem positively influenced positive health practices, $F(1, 161) = 14.568, p < .001$, explaining 8.3% of the variance in positive health practices. In the third equation, social support was positively related to positive health practices, $t = 6.137 p < .001$, explaining 18.9% (Beta = .435 squared) of the variance in positive health practices. Furthermore, in this third equation, which included both self-esteem and social support, self-esteem added 1.6 % (Beta = .125 squared) of the variance in positive health practices, beyond the 18.9% contributed by social support. With social support present, the proportion of variance in positive health practices accounted for by self-esteem was changed from 8.3% (see Equation 2 above) in to 1.6% (see Equation 3 above) and the standardized regression coefficient (Beta) increased from .44 to .13. There was a loss of 6.7% of the explained variance in positive health practices due to the partial mediation of social support.

Conclusion
The findings of this study demonstrated a positive and moderate relationship between self-esteem and positive health practices in a sample of Asian Americans in late adolescence. This finding is consistent with the findings of other researchers who have examined the relationship between social support and positive health practices in adolescents (Mahat & Scoloveno, 2001; Mahat et al., 2002; Mahon et al., 2004; Yarcheski et al., 2003; Ayres, 2008; Ayres, Atkins, & Mahat, 2010; Ayres, Mahat, & Atkins, 2012; Ayres & Mahat, 2012). This finding extends the theory regarding the relationship between self-esteem and positive health practices to a defined population of Asian American adolescents aged 18-21. Additionally, the strength of this relationship met the criterion for studying variables that might mediate the relationship (Baron & Kenny, 1986).

The positive relationship found in this study between self-esteem and social support in Asian Ameri-
can late adolescents is lower than that reported in a previous study that examined this relationship in middle adolescents (Ayres, 2008; Ayres, Atkins, & Mahat, 2010; Mahat & Scoloveno, 2001). Furthermore, the moderately strong positive relationship between social support and positive health practices found in this study is consistent with previous studies examining this relationship. Thus, this research extends knowledge of the relationship between self-esteem and social support and the relationship between social support and positive health practices to a sample of Asian American late adolescents.

The hypothesized mediational model, which tested social support as a mediator in the relationship between self-esteem and positive health practices, was supported. Social support mediated the relationship between self-esteem and positive health practices. From a methodological perspective, Baron and Kenny (1986) maintained that, in addition to a strong relationship between the independent variable and the dependent variable, there should be a strong relationship between the independent variable (self-esteem) and the mediator (social support) and between the mediator (social support) and the dependent variable (positive health practices) to demonstrate mediation. In this study, all of these relationships were positively significant with correlations ranging between .22 and .44.

Implications for Nursing Practice

In the present study, self-esteem and social support contributed to positive health practices in Asian adolescents. The findings of this study contribute to the body of knowledge regarding the influence of health practices that promote the adoption and maintenance of healthy behaviors in Asians in late adolescence. It is possible to use the knowledge gained in this study to identify individuals who may be at risk for engaging in risky behaviors by assessing each individual’s attitude towards one’s self and their social support through valid and reliable self-report instruments such as the PRQ and RSE when planning culturally sensitive interventions designed to encourage and promote positive health behaviors. By assessing these areas of self-esteem and social support, it may be possible to use this knowledge gained to develop strategies to reduce the likelihood to engage in unhealthy behaviors and promote healthy habits.

Through the knowledge of the relationships between social support and self-esteem to positive health practices, nursing interventions for Asians in the adolescent age group should include teaching about the importance of engaging in positive health practices, focusing on positive outcomes and on their autonomy in decision-making to increase their self-esteem. Interventions that would facilitate an increase in the quality or quantity of their social support need to be included.

References
Social Support as a Mediator


