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Major Article

Self-esteem, Self-focused Attention, and the Mediating Role of Fear of Negative Evaluation in College Students With and Without Asthma

Ashley N. Junghans-Rutelonis, PhD; Kristina I. Suorsa, MS; Alayna P. Tackett, MS; Edward Burkley, PhD; John M. Chaney, PhD; Larry L. Mullins, PhD

Abstract. Objective: The current study investigated the mediating role of fear of negative evaluation on the relationship between self-focused attention and self-esteem among college students with and without asthma. **Participants:** Young adults with ($n = 148$) and without ($n = 530$) childhood-onset asthma were recruited from a college student population. **Methods:** Self-focused attention and fear of negative evaluation measures were completed. Participants also answered questions about inclusion in a social activity. **Results:** Higher levels of self-focused attention and fear of negative evaluation were associated with lower self-esteem in both groups within the context of social activity participation. Fear of negative evaluation mediated the relationship between self-consciousness and self-esteem. No significant differences were found between groups. **Conclusions:** Findings indicate significant relationships among self-focused attention, fear of negative evaluation, and self-esteem in the context of social activity participation. Further examination of self-esteem regarding participation in social activities among college students appears warranted.

Keywords: asthma, college students, mental health, self-esteem

Asthma remains the most common chronic disease among children and adolescents, impacting over 300 million people worldwide.¹ In the United

States, it is estimated that 24.6 million people are currently diagnosed with asthma.² Of these individuals, about 17.5 million are adults and 7.1 million are children and adolescents.³ Although asthma has historically been conceptualized as a childhood disorder,⁴ the impact of asthma on young adults is quite significant. The direct medical costs associated with adult asthma expenditures are over double that of the costs associated with children with asthma.⁵ In addition to accounting for a larger percentage of the annual health care utilization costs, there are also higher odds of adults having an asthma exacerbation.⁶ Therefore, it is clear that impairment associated with asthma continues well into the college years.

To date, relatively little research has been conducted on adolescents and young adults (AYAs) with asthma, particularly concerning psychosocial outcomes. When compared with healthy peers, AYAs with asthma have greater difficulties with psychosocial adjustment and mental health issues, including an increased incidence of internalizing difficulties such as anxiety symptoms⁷⁻⁹ and depression,^{10,11} increased absenteeism from college classes,¹³ greater sleep disturbance,¹⁴ lower health-related quality of life, and higher rates of global psychological distress (37%), compared with their healthy peers (10%).¹⁵

Notably, self-esteem has been identified as an important variable in understanding the association between health status, psychological adjustment, and quality of relationships.¹⁶ In fact, self-esteem may be a particularly important link between chronic illness and social relationships.¹⁷ Lower self-esteem has been predictive of greater negative affect, higher levels of stress,¹⁸ greater illness symptoms

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including coughing and wheezing, greater illness-related restrictions and interference with daily activities, and higher severity ratings for stressors (eg, stressful thoughts).¹⁹ Prior studies have also shown a significant association between self-esteem, psychological well-being, and social behavior, including social competence and participation in prosocial activities with peers (eg, time spent with friends).^{20–22} However, research examining these factors is not conclusive.

Although research has been mixed on the direct and indirect impact of asthma on self-esteem,^{23,24} many individuals with asthma exhibit increased social anxiety and decreased self-esteem.^{20,25} La Greca¹⁹ identified a number of reasons why a chronic illness might impact self-esteem, particularly when it comes to opinions about the self and the ways in which one views him or herself in a social setting. The most salient reason may be that the physical constraints of a chronic illness may limit social interaction with peers, resulting in a lack of successes during subsequent interactions. A college student with asthma may therefore be more susceptible to experiencing, or at least perceiving, greater difficulty “fitting in” socially.

A significant gap in the literature remains in examining 2 psychosocial variables—self-focus and fear of negative evaluation—with possible linkages to self-esteem. Fenigstein and colleagues suggested that self-focus occurs “when the person is focusing on his thoughts, feelings, behaviors or appearance; when he is reflecting, fantasizing, or daydreaming about himself; or when he is making decisions or plans that involve himself.”^{26(p522)} The concept of self-focused attention originated as part of a model associating self-regulation (ie, goal-oriented thoughts, feelings, and behaviors initiated by the self) and affect.²⁷ As part of an affective model, self-focused attention leads to self-evaluation where the self is compared with a personally idealized standard. If the self surpasses the idealized standard, positive affect is experienced. If the self falls short of the standard, negative affect is experienced.

Self-focused attention is a pertinent construct to examine in AYAs with a history of asthma due to the high degree of self-monitoring that is needed to attend to the physiological signs of a forthcoming asthma attack.²⁷ Differences in self-focused attention between AYAs with and without asthma appear to exist. Chaney and colleagues posited that the cognitive pattern in some AYAs with asthma is similar to a “depressive self-focusing style (ie., making internal causal attributions for performance following failure).” This negative self-focus may then result in emotional lability (eg, emotional reactivity) and less ability to focus on the immediate task.²⁸ Additionally, research has shown college students with asthma have a tendency to focus their attention on their own cognitions and affect (private self-focused attention) more often than age- and gender-matched controls.²⁹

Self-focused attention has more recently been associated with fear of negative evaluation.³⁰ Weeks and colleagues defined fear of negative evaluation as the “sense of dread associated with being evaluated unfavorably while anticipating or participating in a social situation.”³¹ Although a large body of research supports the role of fear of negative evaluation in the experience of social anxiety prior to or during social situations,³² few studies have examined this construct in the context of asthma. Interestingly, the limited research that does exist suggests that individuals with current asthma symptoms endorse greater discomfort in social situations, fear of negative evaluation, and feeling different from their peers, possibly due to distress about experiencing asthma symptoms that are visible to others (eg, wheezing).³³

Currently, little is known about the interrelationship of self-esteem, fear of negative evaluation, and self-focused attention among college students with asthma. Indeed, the experience of having asthma places an individual at risk for decreased self-esteem, increased self-focused attention, and fear of negative evaluation, particularly when placed in a social situation in which having asthma may be problematic. Thus, the primary purpose of this study was to examine the relationship of self-esteem, fear of negative evaluation, and self-focused attention in college students with childhood-onset asthma as compared with peers without asthma. We hypothesized that (1) college students with asthma would endorse greater self-focused attention and fear of negative evaluation than their peers without asthma; (2) college students with asthma would endorse lower self-esteem than their peers without asthma; (3) self-focused attention and fear of negative evaluation would be significant predictors of self-esteem in college students; and (4) fear of negative evaluation would mediate the relationship between self-focused attention and self-esteem.

METHODS

Participants

Participants were college undergraduates at least 18 years of age and were composed of 2 groups: students with or without a history of childhood-onset asthma. Six hundred ninety-three participants signed up for participation in the study, of which 15 participants failed to complete the protocol (97.83% completion rate). A total of 530 participants without asthma and 148 participants with asthma were included in the final sample. Demographic information for both groups is available in Table 1. Medical characteristics of the asthma participants are presented in Table 2.

Procedure

All participants were undergraduates enrolled in psychology courses at a midwestern university and were

TABLE 1. Demographic Characteristics of Participants Stratified by Healthy or Illness Grouping (N = 678)

Characteristic	Healthy participants (n = 530)		Asthma participants (n = 148)	
	%	n	%	n
Gender – Female	64.5	342	66.2	98
Age				
M	19.82		19.43	
SD	2.44		1.57	
Ethnicity				
Caucasian	76.4	405	75.7	112
Native American	5.1	27	6.1	9
African American	4.9	26	7.4	11
Biracial	4.7	25	5.4	8
Asian American	3.8	20	2.7	4
Year in school				
M	1.95		1.83	
SD	1.19		1.21	
Parental household income				
\$100,000–\$124,999	17.6	119	25.7	38
Maternal education				
At least some college	80.8	428	85.2	126
Paternal education				
At least some college	76.8	407	83.7	124

recruited using SONA, an online research system. In accordance with the university's institutional review board, potential participants were provided with information about the study through an online portal and written informed consent was obtained. Asthma diagnosis was obtained through self-report. Participants were informed that the purpose of the study was to investigate adjustment, specifically concerning social

relationships, attention, and anxiety among college students with asthma compared with college students without asthma. As part of the larger study, participants were asked to type a paragraph about themselves being considered for inclusion on a hypothetical intramural soccer team. Procedures took approximately 30 minutes and participants were compensated with 1 research credit towards an undergraduate course.

TABLE 2. Medical Characteristics of Asthma Participants (n = 148)

Characteristic	Asthma participants (n = 148)	
	%	n
Age of diagnosis		
M	8.30	
SD	4.73	
Asthma severity		
Mild	76.2	113
Mild–Moderate	12.8	19
Moderate	6.8	10
Moderate–Severe	2.7	4
Severe	1.4	2
Use asthma medication—Yes	45.3	67
Rescue inhaler	27.4	17
Prevention inhaler	27.4	17
Inhaler—Type unspecified	25.8	16
Multiple methods	14.5	9
Visited doctor for asthma in past 12 months	35.1	53
Hospitalized for asthma in past 12 months	2.7	4
Hospitalized for asthma during lifetime	35.1	52
Missed school due to asthma in past 12 months	15.5	23

TABLE 3. Correlations Among Predictor and Criterion Variables for Participants With and Without Asthma

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Gender	—	-.45	-.10*	.05	.14	-.08	-.06	-.10	.07	-.01	-.05	.02	-.10**	-.03
2. Age	—	—	.62**	.01	.08	-.03	-.12	.08	.03	.03	.09*	-.01	-.08*	-.03
3. School year	—	—	—	-.06	.01	-.13	-.12	-.4	-.01	.08*	.16**	.05	-.01	.04
4. Ethnicity	—	—	—	—	.04	.07	.31**	.02	-.02	.05	.05	.06	.02	-.01
5. Years with asthma	—	—	—	—	—	.28**	.41**	.14	-.01	.06	.09	.12	.03	.05
6. Use of medication	—	—	—	—	—	—	.19*	.36**	-.3	.06	.20	.22**	.12	.13
7. Hospitalized	—	—	—	—	—	—	—	.19*	.16*	-.14	-.06	-.09	-.08	-.10
8. Asthma severity	—	—	—	—	—	—	—	—	-.10	.08	.11	.11	.09	.07
9. Self-esteem	—	—	—	—	—	—	—	—	—	-.13**	-.12**	-.10*	-.16**	-.16**
10. SCS mean	—	—	—	—	—	—	—	—	—	—	.70**	.77**	.62**	.49**
11. PrSC	—	—	—	—	—	—	—	—	—	—	—	.63**	.39**	.40**
12. PuSC	—	—	—	—	—	—	—	—	—	—	—	—	.54**	.58**
13. SCS SA	—	—	—	—	—	—	—	—	—	—	—	—	—	.43**
14. BFNE	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Note. SCS = Self-consciousness Scale; PrSC = Private Self-consciousness subscale; PuSC = Public Self-consciousness subscale; SCS SA = Social Anxiety subscale; BFNE = Brief Fear of Negative Evaluation Scale.

* $p < .05$; ** $p < .01$.

Measures

Demographic Form

Demographic measures included participants' gender, age, ethnicity, parents' level of education, and annual household income (see Table 1). Participants with asthma were asked to report about their illness symptoms based on the International Study of Asthma and Allergies in Childhood (ISAAC) questionnaire,³⁴ a standard survey that has been widely used to assess the prevalence and severity of asthma. Participants reported on, for example, their asthma severity (eg, mild to severe), age of asthma diagnosis, medication use, and hospitalization due to asthma. For a complete list of illness characteristics, see Table 2.

Assessment of Self-focused Attention

The Self-consciousness Scale (SCS)³⁵ is a 23-item scale used to assess individual differences in the tendency to focus one's attention on oneself. Participants rate how much each statement is characteristic of them using a Likert-type scale, ranging from 0 (*extremely uncharacteristic of me*) to 4 (*extremely characteristic of me*). The SCS includes 3 factor analytically derived scale scores (Private Self-consciousness, Public Self-consciousness, and Social Anxiety) and a total score. The Private Self-consciousness (PrSC) subscale measures the process of attending to one's inner thoughts and feelings, the Public Self-consciousness (PuSC) subscale reflects a general awareness of oneself as a social object that may affect others, and the Social Anxiety (SA) subscale looks at discomfort in the presence of others. The SCS has demonstrated good discriminant validity, construct validity, and good internal consistency reliabilities, with alphas ranging from .63 to .80 and has been used with undergraduate populations.²⁹ Cronbach's alpha for internal consistency for the current sample was .85.

Assessment of Fear of Negative Evaluation

The Brief Fear of Negative Evaluation Scale (BFNE-II)³⁶ is a 12-item self-report measure used to assess the fear of receiving negative social evaluation. Participants rate items on a Likert-type scale, ranging from 1 (*not at all characteristic of me*) to 5 (*extremely characteristic of me*). A total sum score is calculated, with greater scores indicating greater fear of negative evaluation. The BFNE-II has been shown to have high levels of sensitivity and validity³⁷ and high internal consistency ($\alpha = .90-.91$) in undergraduate samples.³⁸ Cronbach's alpha for the current sample was .97.

Assessment of Self-esteem

Self-esteem was assessed by asking participants if they thought they would or would not be picked for the intramural soccer team. Self-esteem has been defined as the evaluative emotional self-concept of the broader self-concept³⁹ and addresses the social function of being accepted by external forces in a group.⁴⁰ Although many self-esteem assessments are global in nature, other assessment measures of self-esteem, such as the External Sources of Self-esteem Scale,⁴¹ have focused specifically on the report of externally based self-esteem, particularly approval/acceptance by friends. It has been argued that global self-esteem (eg, a favorable global evaluation of oneself), as is frequently assessed via common self-report questionnaires (eg, The Self-esteem Scale),⁴² is a stable trait that is not likely to be greatly impacted when acting as a dependent variable in a laboratory experiment.⁴³ Instead of supporting solely assessing "a favorable global interpretation of oneself," arguments have been made for utilizing "very specific and/or novel attributes" when attempting to better understand self-esteem. Based on the definition of self-esteem that is focused on acceptance by peers, the developmental importance of peers among adolescents and young adults, and

research calling for utilization of more focused areas of self-esteem, a specific measurement of self-esteem regarding inclusion in a social activity was utilized in this study. We believe that the current measurement, though novel, is a unique step in understanding self-esteem⁴⁰ not yet captured in common assessment measures.

Data Analyses

Statistical analyses were conducted in 5 stages. First, sample means, standard deviations, and minimum and maximum values were examined (Tables 1 and 2). Second, bivariate correlations were used to examine potential relationships among demographic variables (gender, age, school year, ethnicity), illness variables (years with asthma, medication use, hospitalization due to asthma, asthma severity), and the variables of interest (self-esteem, BFNE-II, SCS). Results of these analyses are presented in Table 3. Variables with significant correlations were controlled for during the respective primary analysis regression models (see regression analyses below). Third, independent-samples *t* tests were conducted to examine mean differences in variables of interest between the college students with and without asthma. Analyses utilizing Levene's test of equality of error variances indicated that homogeneity of variance could be assumed. Next, linear regression analyses were conducted to examine the predictive relationship of self-focused attention, fear of negative evaluation, and illness variables on self-esteem. Young adults with and without asthma were separated in order to elucidate the within-group, as well as the between-group, relationships. In separating these analyses, a more comprehensive understanding of our variables was made possible. For the final step, a bootstrapping analysis (a nonparametric resampling procedure⁴⁴) was utilized to assess our mediation model. Bootstrapping resamples from the data set to produce an empirical approximation of the sampling distribution and confidence intervals for the indirect effect. The confidence interval for the size of the indirect path is produced and notes a significant mediation effect if the values between the upper and lower confidence intervals do not include zero. Per prior research on the utility of the confidence intervals,⁴⁴ we utilized the bias-corrected and accelerated intervals. A significance level of .05 was used throughout the analyses. All analyses were conducted using the Statistical Package for the Social Sciences (SPSS) version 20 (IBM, Armonk, New York).

RESULTS

Primary Analyses

Self-esteem and Self-focused Attention

To test the hypothesis that young adults with asthma would have lower self-esteem than young adults without asthma, an independent-samples *t* test was conducted. Results revealed that young adults with asthma did not

differ significantly from young adults without asthma when it came to self-esteem, specifically, the belief that they were less likely to be picked to participate in the intramural team, $p > .05$. In order to examine mean differences between the groups on the mean SCS score and the SCS subscales, 4 independent-samples *t* tests were conducted. The analyses showed that there was no group difference in mean scores on the SCS mean or the 3 SCS subscales: PrSC, PuSC, and SA. In order to examine the association between self-focused attention and self-esteem, a series of hierarchical regression analyses were conducted using participants with and without asthma.

College Students Without Asthma

Next, we sought to examine the relationship between self-focused attention and self-esteem. When examining the SCS mean score and self-esteem in the AYA group without asthma, no covariates were entered based on preliminary analyses. Results revealed that the overall model was significant ($F[1, 526] = 5.23, p = .023$) and explained 1.0% ($R^2 = .010$) of the variance in self-esteem in healthy AYAs. When examining the SCS PrSC, age and year in school were entered in the first step of the hierarchical linear regression analysis and SCS PrSC was entered as the predictor of interest in the second step. Results revealed that the overall model was significant ($F[1, 523] = 2.79, p = .040$) and explained 1.2% ($R^2 = .012$) of the variance in self-esteem. Additionally, PrSC emerged as a significant predictor of self-esteem ($\beta = -.111, p = .011$). For the SCS SA score analysis for AYAs without asthma, no variables were entered as covariates. Results revealed that the model was significant ($F[1, 526] = 15.05, p = .000$), with SA explaining 2.6% ($R^2 = .026$) of the variance. Lastly, the SCS PuSC score was entered into the first step of the hierarchical linear regression analysis and self-esteem in healthy AYAs was entered as the predictor of interest in the second step; no covariates were entered. Results revealed that the overall model was not significant.

College Students With Asthma

When examining the SCS mean score and self-esteem in AYAs with asthma, no covariates were entered into the regression analysis. Results revealed that the overall model was significant ($F[1, 143] = 7.79, p = .006$), with the SCS mean score explaining 4.5% ($R^2 = .045$) of the variance in self-esteem in AYAs with asthma. The SCS SA score for AYAs with asthma was entered into the first step of the hierarchical linear regression analysis, with no variables entered as covariates. The overall model was not significant. For the next model, the SCS PuSC total score and self-esteem in AYAs with asthma were examined. Asthma medication use was entered in the first step of the hierarchical linear regression analysis and SCS PuSC was entered in the second step. Next, for the SCS PrSC score in the AYA

group with asthma, asthma medication use was entered in the first step of the hierarchical linear regression model and SCS PrSC was entered as the predictor of interest in the second step. Ultimately, results revealed the SA, PuSC, and PrSC models were not significant.

Fear of Negative Evaluation

In order to compare the mean differences in fear of negative evaluation between the college students with and without asthma, an independent-sample *t* test was conducted. Participants with and without asthma did not differ in their mean scores on the BFNE Scale.

Next, we sought to examine the relationship between fear of negative evaluation and self-esteem. When examining the BFNE mean score and self-esteem among AYAs with asthma, based on the preliminary analyses, no covariates were entered in the regression analysis. Results revealed fear of negative evaluation was a significant predictor of self-esteem ($F[1, 525] = 10.86, p = .001$), explaining 2.0% ($R^2 = .020$) of the variance. A linear regression analysis was conducted to examine the fear of negative evaluation mean score and self-esteem among AYAs without asthma. Based on the preliminary analyses, no covariates were entered. Results revealed fear of negative evaluation was a significant predictor of self-esteem, ($F[1, 143] = 8.50, p = .004$), explaining 5.6% ($R^2 = .056$) of the variance.

Lastly, we sought to examine fear of negative evaluation as a mediator of the relationship between self-focused attention and self-esteem. We conducted a final investigative model examining the potential mediation relationship between fear of negative evaluation, self-focused attention, and self-esteem for AYAs with and without asthma. In order to examine possible mediation of self-focused attention and self-esteem, a bootstrapping analysis was conducted. Bootstrapping enabled us to calculate the 95% confidence interval of the indirect effect by drawing 5,000 bootstrap samples with replacement from the original distribution. Analyses showed that fear of negative evaluation mediated self-consciousness and self-esteem, with a 95% bias-corrected and accelerated confidence interval (CI) of $[-.508, -.088]$.

COMMENT

The purpose of this study was to compare college students with asthma with their peers without asthma on a number of socially relevant psychosocial variables including self-esteem, self-focused attention, and fear of negative evaluation. Importantly, there were no significant differences between college students with and without asthma among the psychosocial variables of interest. Overall, the results suggest that college students who endorse greater self-focused attention and fear of negative evaluation report lower self-esteem. Additionally, fear of negative evaluation mediated the relationship between self-focused attention and self-esteem.

College students with asthma did not significantly differ from peers without asthma in their levels of self-esteem as measured by their self-reported beliefs that they would be picked (or not picked) for an intramural athletic team. Additionally, they did not significantly differ from their peers in the domains of fear of negative evaluation or self-focused attention. Although research on poorer adjustment in AYAs with asthma has not been conclusive,^{13,45} some literature has suggested individuals with asthma are at a higher risk for low self-esteem,^{20,25} engage in less prosocial behavior and peer contact,²² report discomfort in social situations, report a fear of negative evaluation, and feel dissimilar to peers.³³ Contrary to previous findings, our results indicating no significant differences in AYAs with or without asthma were unexpected. It is possible that the similar levels of self-esteem in college students with and without asthma may be a function of the limited health impairment manifested in a college sample with well-controlled asthma. Although asthma is characterized by variability in both symptoms and presentation over the disease course, the current sample reported mostly mild or mild-moderate asthma severity. Well-controlled asthma has been associated with adaptation to asthma symptoms and fewer internalizing symptoms,⁷ as well as engagement in social and physical activities.⁴⁶ It is possible college students with well-controlled asthma are not experiencing differing levels of self-esteem from their peers due to their similar levels of functioning in other areas of their lives (eg, academics, social support). Additionally, certain psychological and environmental variables (eg, protection from chronic stressors associated with discrimination and disadvantage)^{47,48} have been shown to be protective factors when examining prosocial behavior and adjustment. AYAs with asthma in this college sample had similar levels of family household income and maternal education and a higher average level of paternal education than their healthy peers, and this may have been associated with similar adjustment in the psychosocial variables of interest.

For all college students, lower self-esteem was associated with greater self-focus, paying more attention to their inner thoughts and feelings (private self-consciousness), increased awareness of themselves as a social object that may affect others (public self-consciousness), discomfort in the presence of others (social anxiety), and greater fear of receiving negative social evaluation. These results are consistent with previous research showing individuals experience negative affect following engagement in private or public self-focus.⁴⁹ Our findings build on the work of Monfries and Kafer³⁰ by showing a significant relationship between fear of negative evaluation and private-self focus, public self-focus, social anxiety, and self-esteem. Based on our results, it seems self-esteem is associated with a host of psychosocial stressors that are especially pertinent during the socially focused college experience, above and beyond asthma characteristics.

For all college students in the study, fear of negative evaluation mediated the relationship between self-focused attention and self-esteem, specifically the belief that an individual would be chosen for a social activity. In other words, if a college student had greater self-focused attention and greater fear of negative evaluation, they were more likely to endorse lower self-esteem specific to being included in a social activity and were less likely to believe they would be chosen for the team. These findings are again consistent with the literature demonstrating an association between self-focused attention and social difficulties. Specifically, it has been shown that individuals who are higher in general self-focused attention also experience greater fear of negative evaluation,³⁰ that those with higher public self-consciousness are more likely to have doubts about how they present themselves to others, and that those who are higher in public self-consciousness are more vulnerable to criticism.³⁶ Overall, encouraging children, adolescents, and young adults with or without asthma to engage in pro-social activities, such as team sports, may work as a preventative measure against later self-focused attention and lower self-esteem.

Limitations

The current findings should be considered in light of several limitations. First, only self-report measures were utilized, which can be unreliable in regards to illness characteristics and may result in shared method variance issues. Another limitation included the relative homogeneity of the sample. Although the participants were representative of the university at which the data were collected, the results may not be generalizable to all college students, the larger asthma population, or individuals with other backgrounds. Also, the use of a sample of convenience may have contributed to an unequal distribution of college students with and without asthma. Additionally, it should be acknowledged that the measure of self-esteem in this study was indeed novel. However, this approach involved a definition that incorporated components of self-esteem (components including the evaluative emotional self-concept of the broader self-concept³⁹ and the social function of being accepted by external forces in a group⁴⁰) that are critical in the college population. The current measurement of self-esteem is also consistent with sociometer theory, which proposes self-esteem is part of inner processes that emerge to facilitate social interaction.⁵⁰ Future research would benefit from examining if self-esteem is associated with future attempts to participate in social activities or willingness to participate if extended an invitation. Additionally, it may be beneficial for future research to incorporate physician-reported asthma symptoms and severity of asthma diagnosis in order to utilize diagnostic criteria directly from medical professionals instead of relying on only self-reported illness characteristics.

Conclusions

To the best of our knowledge, this was the first study to examine the interrelationship of fear of negative evaluation, self-focused attention, and self-esteem in either healthy college students or those with asthma. The results of this study have important implications for health promotion practice by increasing understanding of the interplay of these important psychosocial constructs and also the similarities and differences among college students with and without asthma. Professionals involved in planning campus social or physical activities should be aware of the influence of fear of negative evaluation and self-focused attention. They can ask about these concepts directly and can also assist in creating collegiate atmospheres that do not condone harsh evaluative feedback during intramural and other social activities. Encouraging intramural teams to place less emphasis on negative evaluation and to incorporate positive evaluation and constructive feedback, while also being more focused on team building and less focused on individual team members, may positively impact participation. Lastly, college professionals can be especially encouraging to college students who express concern about their chances of being picked for activities and intramural teams. Briefly assessing psychosocial functioning, particularly the constructs of interest in the current study, could provide additional information about psychological factors that may influence maladaptive functioning. For example, college mental health providers would do well to assess fear of negative evaluation and self-focused attention in all of their young adults and incorporate psychoeducation about these constructs into their therapy sessions. As beliefs about inclusion in social activities are important predictors of participation, understanding what factors impact beliefs is especially important. The present research design utilized measures that are both brief and free to the public. As such, the opportunity to incorporate the BFNE and Self-Consciousness scales into psychological assessment is both reasonable and feasible in college mental health clinics where time and resources are frequently short.

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CONFLICT OF INTEREST DISCLOSURE

The authors have no conflicts of interest to report. The authors confirm that the research presented in this article met the ethical guidelines, including adherence to the legal requirements, of the United States and received approval from the Institutional Review Board of Oklahoma State University.

NOTE

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