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Sendal, L., Sawicki, A., Bagińska P., Atroszko P. A. (2016). Relationship of cynical hostility with anxiety and depressiveness among university students in Poland. W: J. Leśny, J. Nyćkowiak (red.) *Badania i Rozwój Młodych Naukowców w Polsce. Nauki humanistyczne i społeczne* (s.91-98). Poznań: Młodzi Naukowcy

# Relationship of cynical hostility with anxiety and depressiveness among university students in Poland

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Keywords: *social support, stress response, loneliness*

Abstract:

This study aimed to investigate the relationship cynical hostility with anxiety and depressiveness among university students in Poland. Psychosocial costs of cynical hostility are usually investigated in older populations, and little is known about its adverse effects on young people. On the grounds of previous findings it was hypothesised that cynical hostility will be positively related to both depression and anxiety among university students. The study was conducted in the sample of 244 university students (including 151 women and 89 men, 4 participants did not report gender). Mean age was  $M = 21.22$  ( $SD = 2.80$ ). Valid, reliable and widely used measurement tools were applied. Both hypotheses were confirmed, cynical hostility was positively related to anxiety and depressiveness. The results showed that when controlled for Big Five personality traits and social support, cynical hostility was an independent predictor of depressiveness but not anxiety. A possible mediating effect of social support on the relationship between cynical hostility and anxiety, and cynical hostility and depressiveness needs to be researched. The results are analysed from the perspective of high psychosocial costs of cynical hostility among university students.

## 1. Introduction

Studies systematically show that positive social relations are crucial for health, well-being, and the development and productivity of individuals. Today's popular culture seems to value agency more than communion. This fact is incompatible with scientific knowledge placing cooperation, good will and benevolence as crucial for satisfactory social relations and happiness. In modern, western individualistic societies contacts with strangers are almost inevitable and trust seems to be the foundation of satisfactory interpersonal relations. Cynical hostility is a trait characterized mainly by mistrustfulness and cynical individuals experience less social support. According to the buffering model (Cohen & Wills 1985) good social relations protect its participants from negative outcomes of stress. Therefore, monitoring new generation's psychological characteristics is necessary. Students, being a pillar of immediate future society, are subject to significant pressures. They are usually also in a situation of transition related to the continuous choices, high stress and insecurity, and are particularly vulnerable to psychological problems such as anxiety or depression.

According to American Psychiatric Association (APA 2013) anxiety is an anticipation of future threat, associated with muscle tension and vigilance in preparation for future danger and cautious or avoidant behaviours. Anxiety disorders share features of excessive fear and anxiety and related behavioural disturbances. Depressive disorders share the presence of sad, empty, or irritable mood, accompanied by somatic and cognitive changes (APA 2013) that

significantly affect the individual's ability to function, socially as well as intellectually (Sullivan et al. 2000). Depression is a common problem, expensive from the global viewpoint, associated with considerable morbidity and excess mortality, as well as a huge burden of disability. Although depressive and anxiety disorders represent two separate categories of psychiatric disorders on a clinical level (APA 2013), clinical observations as well as community and clinical studies showing that measures of anxiety correlate fairly well with measures of depression (Stein et al. 1995) indicate significant overlap of these entities.

Cynical hostility, defined as an enduring, negative attitude toward others involving cognitive, affective, and behavioural components, has progressively been established as a psychological characteristic with a negative impact on health, and recently its potential role is starting to be recognized in educational studies (Sawicki et al. in press). Psychological functioning of a hostile person is based on the belief that others are motivated by selfish concerns (cynicism), expectation that people are frequent source of mistreatment (mistrust), and interpreting others' actions as involving aggressive intent (hostile attributional style) (Smith et al. 2004). There is also strong evidence that cynical hostility is negatively related to social support. Cynical people also report more conflicts and experience more stress both objectively and subjectively. Due to exaggerated cardiovascular and neuroendocrine responses to potential stressors, they also experience them as more unpleasant (Smith et al. 2004). Recent study showed that relationship between cynical hostility and stress is fully mediated by ineffective coping strategies, congruent with the hostile attitude (Sendal et al. in press). Cynical hostility was related to the tendency to disengage from the stressful situation, not searching for emotional or instrumental social support, reduced planning of solutions for the problems, lack of positive reinterpretation of the situation, and not searching for comfort in spirituality.

Original, 50-item *Hostility Scale* (Cook & Medley 1954), consistently shows relationship with characteristics outside of the conceptual definition of hostility such as anxiety and depressive symptoms (Smith et al. 2004). Decreased amount and quality of perceived social support is distinctive for high anxiety levels (Zimet et al. 1988). According to the buffering model social support is protecting persons from potentially adverse effects of stressful situations, and lack of positive social relationships leads to anxiety and depression (Cohen & Wills 1985). Both depressive symptoms and hostility are risk factors of incident coronary heart disease (CHD) and poor prognosis among CHD patients (Smith et al. 2004, Krantz & McCeny 2002), suggesting that shared physiological mechanisms are involved, such as exaggerated neuroendocrine responses to distress (Ströhle & Holsboer 2003). On the basis of previous research and theoretical frameworks it is hypothesised that cynical hostility is positively related to anxiety (H1); cynical hostility is positively related to depressiveness (H2).

## 2. Methods

*Participants.* Two hundred and forty four students took part in this study: 151 women (62%), 89 men (36%), 4 persons (2%) did not report gender. Their mean age was  $M = 21.22$  years ( $SD = 2.80$ ). These individuals were studying at the universities from Pomerania Region in Poland: the University of Gdańsk, and Technical University of Koszalin. Students were from different faculties, courses of study, years and modes of study.

*Measures.* Cynical hostility was measured with the Polish version of *Cook Medley Hostility Inventory Brief*, developed on the basis of five items from *Cook-Medley Hostility Inventory* (Cook & Medley 1954). It is a tool widely used in large scale surveys concerning health and psychosocial functioning. The response alternatives range from completely disagree (1) to completely agree (6). It showed good validity and reliability in previous

studies (Clarke et al. 2008). For the present sample the Cronbach's alpha reliability coefficient was .76.

Anxiety and depressiveness were measured with the Polish version of *Hospital Anxiety and Depression Scale* (HAD) (Zigmond & Snaith 1983). It was originally developed to identify caseness of anxiety disorders and depression among patients in nonpsychiatric hospital clinics. The questionnaire was recently also found to perform well in assessing the symptom severity and caseness of anxiety disorders and depression in somatic, psychiatric and primary care patients and in the general population (Bjelland et al. 2002). It is one of the most commonly used tools to measure anxiety and depressiveness both in clinical and healthy populations. It contains 14 items with 4-point response scales, 7 items for depressiveness and 7 items for anxiety. This tool has good validity and reliability. For the present sample the Cronbach's alpha reliability coefficient was .84 for anxiety and .81 for depressiveness.

Five Factor Model of personality was measured with the Polish version of *Ten Item Personality Inventory* (TIPI). It is a 10-item, 7-point response scale. The response alternatives range from disagree strongly (1) to agree strongly (7). Each of Big Five factors is measured with two items, one for its positive extremity and one for its negative extremity. This tool showed good validity in previous studies. For the present sample Spearman-Brown reliability coefficients were .59 for extraversion, .19 for agreeableness, .65 for conscientiousness, .64 for emotional stability, and .45 for openness to experience. This results are similar to original Cronbach's alpha reliability coefficients, which were .68, .40, .50, .73, and .45. This supports its adequate reliability, taking into account its extreme briefness.

Loneliness was measured with the Polish version of *Short Loneliness Scale* (Hughes et al. 2004). It is a 3-item tool developed to use in large scale research. Response scale is a 3-point Likert format (1= hardly ever, 2 = some of the time, 3= often). In previous studies it showed good validity and reliability. For the present sample Cronbach's alpha coefficient was .81.

Social support was measured with two variables: satisfaction with personal relationships and satisfaction with support from friends. Both variables were measured with one-item self report measures that were developed on the basis of items from WHOQOL Bref scale (Atroszko et al. 2015). In previous studies intraclass correlation coefficients (ICC) for test-retest reliability were satisfying, .80 for satisfaction with personal relationships, and .64 for satisfaction with support of friends.

*Procedure.* Data collection used convenience sampling. Students were invited to participate anonymously in the study during lectures or classes. More than 90% of all present students agreed to do so. One hundred ninety eight (81.1%) participants filled in 'paper and pencil' questionnaires and forty six (18.9%) students completed online versions of the questionnaires. Participation in the study was anonymous and no monetary or other material rewards were offered.

*Statistical analyses.* Means, standard deviations, percentages and correlation coefficients were calculated. Two hierarchical regression analyses were conducted. All tests were two-tailed, and the significance level was set to  $\alpha = 0.05$ . Dependent variables were depressiveness and anxiety. Cynical hostility was added in the first step as independent variable in order to examine confounding effects of other variables. In the second step sex and age were added. Step three included Big Five personality traits. Variables added in third step were satisfaction with personal relationships, satisfaction with support from friends, and loneliness. All statistical analyses were conducted in IBM SPSS 22.

### 3. Results

Table 1 presents mean scores, standard deviations and percentages for the study variables as well as their interrelationships.

Regression analysis for depressiveness showed that the independent variable added in step 1 explained 12.1% of the variance ( $F_{1,210} = 28.82, p < .001$ ). Two independent variables added in Step 2 explained 1.4% of the variance ( $\Delta F_{2,208} = 1.72, p = .18$ ). Five independent variables added in Step 3 explained 19.2% of the variance ( $\Delta F_{5,203} = 11.59, p < .001$ ). Three independent variables added in Step 4 explained 4% of the variance ( $\Delta F_{3,200} = 4.24, p < .01$ ). The independent variables explained a total of 36.7% of the variance of depressiveness ( $F_{11,211} = 10.56, p < .001$ ). Significant independent variables in Step 4 were sex ( $\beta = .19$ ), showing that men scored higher on depressiveness, extraversion ( $\beta = -.15$ ), emotional stability ( $\beta = -.34$ ), loneliness ( $\beta = .15$ ), and cynical hostility ( $\beta = .12, p = .071$ ) (see table 2).

The regression analysis for anxiety showed that the independent variable added in step 1 explained 4.7% of the variance ( $F_{1,210} = 10.37, p < .01$ ). Two independent variables added in Step 2 explained 3.1% of the variance ( $\Delta F_{2,208} = 3.50, p < .05$ ). Five independent variables added in Step 3 explained 34.1% of the variance ( $\Delta F_{5,203} = 23.87, p < .001$ ). Three independent variables added in Step 4 explained 4.5% of the variance ( $\Delta F_{3,200} = 5.59, p < .01$ ). The independent variables explained a total of 46.4% of the variance of anxiety ( $F_{11,211} = 15.76, p < .001$ ). Significant independent variables in Step 4 were age ( $\beta = .12$ ), extraversion ( $\beta = -.13$ ), agreeableness ( $\beta = .19$ ), emotional stability ( $\beta = -.57$ ), and loneliness ( $\beta = .19$ ) (see table 3).

### 4. Discussion and conclusions

Both hypotheses were confirmed, cynical hostility was positively related to depressiveness and anxiety. These results are in line with previous studies ([Smith et al. 2004](#)). The relationship of cynical hostility with depressiveness and anxiety was weaker when controlled for Big Five personality traits and social support. Previous studies showed that cynical hostility among university students is negatively related to seeking for social support and that this stress coping strategy mediates the relationship between cynical hostility and perceived stress. Taking this into account current results provide further support for the buffering model which posits that social support is protecting persons from potentially adverse effects of stressful situations, and lack of positive social relationships leads to anxiety and depression ([Cohen & Wills 1985](#)). More studies on the potential mediating effect of social support on the relationship of cynical hostility with anxiety and depressiveness are needed.

This topic is extremely important from social and health point of view. Cynical people are found to be more careful and circumspect in social interaction and it is caused by the belief that other people cannot be trusted. In many, if not most, situations trusting other people is crucial for psychologically beneficial social life. Cynical approach may hinder asking for help in difficult and stressful situations. Suspended trust in others cause existential anxiety which manifests in the form of hurt, puzzlement, and betrayal together with suspicion and hostility ([Giddens, 1990](#)). Without the development of basic trust (initially with parents, family, friends) people may experience existential anxiety, and lack of confidence in the continuity of their self-identity and the constancy of their environment ([Miształ, 1996](#)).



**Tab 2.** Results of hierarchical multiple regression analyses in which cynical hostility, age, sex, Big 5 personality traits, satisfaction with personal relationships, satisfaction with support from friends, and loneliness were regressed upon the scores on depressiveness.

Step	Predictor	$\beta$	$\Delta R^2$
1	Cynical hostility	.35**	.121**
2	Cynical hostility	.31**	.014
	Age	.05	
	Sex <sup>a</sup>	.11	
3	Cynical hostility	.19**	.192**
	Age	.05	
	Sex <sup>a</sup>	.23**	
	Extraversion	-.22**	
	Agreeableness	.08	
	Conscientiousness	-.05	
	Emotional Stability	-.39**	
	Openness to experience	-.06	
4	Cynical hostility	.12 <sup>b</sup>	.040**
	Age	.04	
	Sex <sup>a</sup>	.20**	
	Extraversion	-.15*	
	Agreeableness	.08	
	Conscientiousness	-.04	
	Emotional Stability	-.34**	
	Openness to experience	-.06	
	Satisfaction with personal relationships	-.13	
	Satisfaction with support from friends	.02	
	Loneliness	.15*	
	Total $R^2$		.367**

\* $p < .05$ , \*\* $p < .01$ ; <sup>a</sup> 0 = women, 1 = men; <sup>b</sup>  $p = .071$

**Tab 3.** Results of hierarchical multiple regression analyses in which cynical hostility, age, sex, Big Five personality traits, satisfaction with personal relationships, satisfaction with support from friends, and loneliness were regressed upon the scores on anxiety.

Step	Predictor	$\beta$	$\Delta R^2$
1	Cynical hostility	.22**	.043**
2	Cynical hostility	.24**	.031*
	Age	.09	
	Sex <sup>a</sup>	-.16*	
3	Cynical hostility	.08**	.341**
	Age	.13	
	Sex <sup>a</sup>	.06	
	Extraversion	-.19**	
	Agreeableness	.20**	
	Conscientiousness	-.03	
	Emotional Stability	-.61**	
	Openness to experience	.08	
4	Cynical hostility	.03	.05**
	Age	.12*	
	Sex <sup>a</sup>	.05	
	Extraversion	-.13*	
	Agreeableness	.19**	
	Conscientiousness	-.02	
	Emotional Stability	-.57**	
	Openness to experience	.09	
	Satisfaction with personal relationships	-.11	
	Satisfaction with support from friends	.08	
	Loneliness	.19**	
	Total $R^2$		.464**

\* $p < .05$ , \*\* $p < .01$ ; <sup>a</sup> 0 = women, 1 = men;

Social trust is also significant for economic reasons. Depression and anxiety are common psychological disorders that have a significant negative impact on health-related quality of life (including physical, emotional and social dysfunction), which increases mortality rate and leads to a massive medical, social, and economic costs (Creed et al. 2002). Both depressive symptoms and hostility are risk factors of incident coronary heart disease (CHD) and poor prognosis among CHD patients (Smith et al. 2004, Krantz & McCeny 2002), suggesting that shared physiological mechanisms are involved, such as exaggerated neuroendocrine responses to distress (Ströhle & Holsboer 2003). It should be governmental goal to build public trust which may prevent development of these disorders and diseases. Thus, interventions related to cultivating gratitude and forgiveness, hope therapy or mindfulness endorse communal motivations instead of focusing on individualistic ones, which are often related to cynical hostility. What is more, by building a conscious approach to mental health and development of knowledge about the mental functioning, social capital could be improved resulting in a dynamic scientific and technological development on the level of the country. For example, recent study showed that SES is related to specific learning related attitudes and behaviours suggesting that low SES may increase unhealthy compulsive learning among students highly engaged in studying and having high learning self-efficacy (Atroszko & Atroszko 2013). Raising awareness about possible adverse effects of dysfunctional beliefs and attitudes is especially relevant in the case of these which are seemingly adaptive for those who have them. This would be the case with beliefs and attitudes related to cynical distrust perceived as realistic cautiousness aiming at reasonably safe decision making or compulsive, dysfunctionally perfectionistic studying perceived as high engagement in learning with the aim of increased productivity.

As far as the Authors are aware, the present study is the first to investigate the relationship of cynical hostility with anxiety and depression among university students. What is more, Poland is one of the post-communist countries, so studies on first generation that do not remember previous system may contribute to the field of studies on cross-generational transfer of values and beliefs about human nature. Valid and reliable measures were used in the study. Regarding the limitations, the sample was fairly small and not representative which limits the possibility of generalizing conclusions to the whole population of students in Poland. Additionally, self-report measures were used which increases the risk of common method bias. Future studies should overcome these limitations. Specific mechanisms explaining the relationship of cynical hostility with anxiety and depressiveness should be investigated. Mediating effect of loneliness on these relationships should also be examined.

## 5. Literature

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