

The Relationship between Student Burnout and Aggression on College Campuses

Sarvar Oreizi-Esfahani & Dr. Tracy Tomlinson

University of Maryland, College Park

### Abstract

With the increase of aggression on college campuses, it has become necessary to explore the factors that may lead to such behaviors. Burnout, a condition characterized by exhaustion, cynicism, and inefficacy which results from prolonged exposure to emotional and interpersonal stressors have also become increasingly common within the student population (Maslach, Schaufeli & Leiter, 2001). This investigation aims to explore the potential relationship that exists between the burnout syndrome and aggressive tendencies in college students. To do this, a study was conducted assessing the correlational relationship between levels of burnout and aggression (both direct and indirect) among college students. Results indicate a significant positive correlation between burnout and aggression. These findings indicate that burnout may be a potential factor for increasing college aggression and demonstrate why it is important to actively work to reduce student burnout.

### **The Relationship between Student Burnout and Aggression on College Campuses**

Aggression, defined as “any behavior that [intentionally] harms an individual who is motivated to avoid such harm,” has become a major concern on college campuses (Friedman, 2015, p. 33-34). Many variations of aggression, from its mildest form, passive-aggression, to its most extreme expression, violence, have been witnessed in college student behavior (Friedman, 2015). Violence, in particular, has become a major threat in many universities. From 2014-2015 10.8% of college students considered seriously hurting another person (*Center for Collegiate Mental Health*, 2016). Within the past couple of years, there has also been a steady increase in the counts of violent crimes reported to campus police across the United States (*Crime in the United States*, 2011). Seeing escalations in aggressive conduct is alarming, and motivates one to think about the underlying factors that may be causing such behaviors.

Many studies have identified possible causal factors that may be pushing these students to engage in these behaviors. These elements include stress (Chen & Spector, 1992), perceptions of the school environment (Espelage, Polanin & Low, 2014) and drinking behaviors (Berkowitz & Perkins, 2010). Others have also found outcomes which indicate that aggression may be driven by individuals who have low self-esteem (D'zurilla, Chang & Sanna, 2003), negative problem-solving orientations (D'zurilla, Chang & Sanna, 2003 ), behaviorally-uninhibited temperament (Kimonis, Frick, Boris, Smyke, Cornell, Farrell & Zeanah, 2006), callous-unemotional features (Kimonis, Frick, Boris, Smyke, Cornell, Farrell & Zeanah, 2006), social anxiety (Storch, Bagner, Geffken, Baumeister & 2004 ), loneliness (Storch, Bagner, Geffken, Baumeister & 2004), and depressive symptoms (Storch, Bagner, Geffken, Baumeister & 2004 ). In addition, within the past 25 years, many perpetrators of aggression have been found to possess conduct and emotional problems as well as an increased rate of hyperactivity (Collishaw,

Maughan, Goodman & Pickles, 2004). Seeing this, it seems clear that the cause of aggression is multi-faceted as there are many factors that already appear to have an impact on aggression, though one likely factor that is notably absent in most research discussions is burnout.

Given the reported rise in violence on college campuses (*Crime in the United States*, 2011), it seems imperative to assess what may be motivating college students to be more aggressive. In this demanding educational context, burnout seems a likely contributor. Although few studies have been conducted with regards to the prevalence of burnout on college campuses, one investigation by Jacobs and Dodd (2003) found that undergraduate students suffered from moderate-to-high levels of burnout. Burnout is the “physical or mental collapse caused by overwork or stress” and, is a distinct psychological condition, harboring its own unique set of symptoms and diagnostic criteria (“Burnout| Definition of Burnout in English by Oxford Dictionaries”, 2017, p.1). The indications of burnout include, but are not limited to; “a predominance of dysphoric symptoms such as mental or emotional exhaustion, fatigue, depression [and] decreased effectiveness and work performance” (Maslach, Schaufeli & Leiter, 2001, p.404). Recent research currently categorizes burnout as job-related neurasthenia, a condition characterized by fatigue, anxiety, headaches, heart palpitations, high blood pressure, neuralgia, and a depressed mood (Maslach, Schaufeli & Leiter, 2001; Beard, 1869).

The burnout literature suggests that this condition comes to be as a result of several variables. Several of these elements include, having a high work overload, feeling that one does not have control over his/her environment, receiving insufficient rewards, lacking a sense of community, working in an environment that lacks fairness, and experiencing conflicting values (Maslach and Leiter, 2008). Many of these variables appear particularly likely to be experienced by college students and so one might predict a high level of burnout in this population.

Specifically, students are especially in danger of developing burnout if they experience “unsatisfactory aspects of the learning environment and a feeling [that their] efforts are meaningless or irrelevant” (Jennings, 2009, p. 253). Thus, it seems likely that college students may be experiencing many of the factors that increase the likelihood of burnout, which may then lead to displays of aggression.

There are many reasons why it seems plausible that burnout may lead to the development of aggression. First, it has been found that burned-out individuals display physiological symptoms such as irritability, heart palpitations and high blood pressure as well as psychological conditions such as resentment, apathy and the urge to distance oneself from society (Everly, Girdin & Dusek, 1996). It has also been established that the former set of symptoms are highly correlated with the fight or flight reactions that are experienced by individuals when they feel threatened (Cannon, 1929). Furthermore, the latter conditions have been associated with the development of antisocial tendencies (Coie & Dodge, 1998). Taking these factors into consideration, it is commonly known that college students are often forced to regularly be present in social situations, especially with dorm living and class requirements. Therefore, knowing that students might be burned out, such constant exposure to undesirable situations may feel threatening to such an extent that they may begin to display aggressive actions, mainly driven by impulses of wishing to withdraw but being unable to do so. It seems that the symptoms of burnout as experienced on a college campus may be encouraging the initiation of aggressive behavior in individuals.

Furthermore, it has been observed that aggression can be categorized into two categories; Reactive Aggression and Proactive Aggression (Liu, 2004). Given that burnout causes individuals to feel helpless and trapped (Lee & Ashforth, 1993), it seems likely that college

students may react to these sensations by expressing themselves through aggressive behaviors (both direct and indirect). Seeing this, one can deduce that rebelling against this painful state of psychological imprisonment through acts of reactive aggression will allow people with burnout to feel in control of their situation and not so powerless. Moreover, it has been established that burnout causes individuals to feel chronic mental and physical fatigue (Everly, Girdin & Dusek, 1996). This, in turn, could lead to a decrease in behavioral regulation as well as impulse control. Given that, a person who is burned-out might not be able to resist behaving aggressively as they are not really in complete control of governing their aggressive desires. Finally, Queiros, Kaiseler, and Leitai Da Silva (2013) found that burnout is associated with higher levels of aggression among police officers, setting the precedence for the potential existence of this relationship in other populations. Given that college students are likely experiencing burnout, perhaps this is another possible factor in the development of the aggression that is found in college campuses.

### **Methods and Materials**

#### **Participants and Procedures**

Fifty undergraduate students, above the age of 18, were recruited from the University of Maryland in exchange for extra credit. Due to incomplete responses and failure to accurately respond to all attention check questions, 17 individuals were excluded from the sample. Of the 33 students who remained, 21% were male and 78% were female and were, on average, 20 years old. There were 60% White, 21% African American, 15% Asian, and 3% Other respondents. 61% of participants indicated that they were currently employed. The average GPA was 3.35 with students studying about 12.5 hours per week (it must be noted that these values only reflect time that is spent on schoolwork during the summer semester).

#### **Measures**

In order to measure burnout and aggression, pre-existing as well as self-constructed scales were utilized. The Maslach Burnout Survey- Student Edition was used to assess student burnout (Maslach, Jackson & Leiter, 1997; Yavuz, G., & Dogan, N. (2014)). This 15-item questionnaire has long been a gold standard for measuring burnout in different settings and populations. Students were asked to rate their agreement with statements that were designed to assess the three major dimensions of burnout among the student population; emotional exhaustion, cynicism, and reduced academic efficacy. Their level of agreement with each statement was evaluated using a 5-point Likert scale ranging from 'never' to 'always'. Questions that assess academic efficacy were also reverse-coded.

Since there were no pre-established scales to measure the different nuances of subtle direct and indirect aggressive social interactions that take place among student populations, a combination of different tools was selected. The Buss-Perry Aggression Scale (Diamond, 2006) and the Indirect Aggression Scale (Forrest, Eatough & Shevlin, 2004) allowed us to capture the student's overall tendency for aggression. The Buss-Perry Aggression Scale is a 29-item questionnaire that assesses physical aggression, verbal aggression, hostility and anger. Participants were asked to rate how characteristic each statement was of them, rating this on a scale between 0 and 7; 0 representing 'Highly uncharacteristic of me' and 7 representing 'Highly characteristic of me.' Similarly, the Indirect Aggression questionnaire which measures indirect aggression via a 24-item questionnaire asked participants to rate how likely they would be to engage in a series of potentially aggressive behaviors on a scale of 1 to 5 with 1 being 'Never' and 5 being 'Regularly'.

We also constructed and administered a new measure of subtle aggressive tendencies most commonly seen among students. This tool asked students to answer questions about

something that is a little more personally relevant; final exams. Students were asked to imagine that it is finals week and that they are overwhelmed with exams. They are then asked to rate their likeliness to show a series of 42 potential reactions (fumble with my hands, have limited eye contact with my friend, etc.) while tutoring a friend who is having difficulty understanding a particular topic. Two dimensions, intent and negative body language, were evaluated. This rating was again done using a Likert scale ranging from 1 to 7 with 1 representing the response 'extremely unlikely' and 7 representing the response 'Extremely likely.'

### **Methods**

Data collection was conducted through a series of questionnaires that were compiled in an online survey using Qualtrics ("Qualtrics," 2017). Once participants provided informed consent, they were able to complete the survey online at their convenience on their personal computers.

### **Results**

All statistical analyses indicated significant positive relationships between burnout and all of the different measures of aggression. The relationships were found to be statistically significant between burnout and the Indirect Aggression measure,  $r(33) = 0.483$ ,  $p < 0.05$  (see Table 1), the Buss-Perry Aggression measure,  $r(33) = 0.449$ ,  $p < 0.05$  (see Table 1), and our self-constructed measure of Subtle Social Aggression,  $r(33) = 0.325$ ,  $p < 0.05$  (see Table 1). These analyses support the claim that aggressive behaviors (both direct and indirect) can be predicted by burnout among the student population.

It is also important to note that although each measure of aggression aimed to assess a different type of aggression, the findings indicated that these measures were all significantly positively correlated thus signifying that they may all be tapping into similar aggression



constructs. The Indirect Aggression measure and the Subtle Social Aggression questionnaire were the most correlated,  $r(33) = 0.621$ ,  $p < 0.001$  (See Table 1). The relationship between the Buss-Perry Aggression Questionnaire and the Subtle Social Aggression questionnaire was also strong,  $r(33) = 0.595$ ,  $p < 0.001$  (See Table 1), and, as expected, the correlation between the Indirect Aggression Questionnaire and the Buss-Perry Aggression measure displayed the least overlap as compared to the others,  $r(33) = 0.562$ ,  $p < 0.001$  (See Table 1). As can be observed, the newly introduced Subtle Social Aggression scale was significantly positively correlated with both the Indirect Aggression Scale and the Buss-Perry Aggression Scale, indicating that it has reasonable validity as a measure of aggression. It should be noted, however, that among the other measures, the Subtle Social Aggression measure displayed the lowest correlation with burnout scores and therefore is not an ideal option to be used in this scenario. In addition, the length of the survey might pose an issue whenever time constraints are present.

When looking at how well burnout was able to explain the variability in the different aggression measures, burnout predicted most of the variability in the Indirect Aggression measure, predicting about 23% of the variance in this aggression measure. Burnout accounted for 21 % of the variance in the Buss-Perry Aggression Scale and 10% of the variance in scores while the Subtle Social Aggression Scale.

### **Discussion**

The correlation between burnout and aggression was found to be significant in our findings, indicating that there is a positive relationship between a student's burnout level and his/her likeliness to display aggressive tendencies. Although there have not been many studies that have explored the relationship between these two variables, the findings of the ones that have been done do support the current results (Queiros, Kaiseler & Leitai Da Silva, 2013). As

was previously discussed, there are many reasons why burnout might eventually lead to the development of aggression among some individuals. For one, burnout encourages symptoms that are very similar to those displayed by individuals who engage in aggressive conduct. This may be due to the fact that burned out individuals experience a rush of physiological changes which are motivated by a fight-or-flight response to stressful situations. Their psychological state is also geared towards anti-social tendencies thus allowing them to be more motivated to behave aggressively towards another person. This, therefore, makes burned-out students more prone to behave in an aggressive manner. In addition, aggression may be manifesting as a form of reactionary mechanism for burned-out people, allowing them to battle their sense of not being in control by displaying acts of aggression. Lastly, because burnout causes individuals to be mentally and physically fatigued, it may be that those suffering from this condition simply do not have the inhibitory resources to control their aggressive reactions to different stimuli.

This study demonstrated that an interesting relationship exists between student burnout and aggression on college campuses. Aggression, especially on college campuses, is a very detrimental behavior that inhibits healthy interactions from taking place between two individuals. It also supposedly decreases productivity in learning and other functions in a person's life by creating conflict, emotional turmoil, wasted time, etc. Although there are many factors that could play a part in triggering aggressive behaviors in students, burnout seems to potentially be an important predictor as it explains 10 to 23% of the variance in the aggression measured studied. Seeing this, it becomes important to look for ways to decrease burnout among college students. We should begin to actively look for effective treatments for this condition as it may, if left uncontrolled, be damaging to a persons quality of life. In addition, more time, energy, and resources should be allocated to further understanding the mediating and moderating variables

that influence burnout and its relationship with aggression. Several important aspects that should be explored in the future are behavioral inhibition, impulsivity, and coping strategies. It would be interesting to see whether individuals who have high levels of inhibition and low levels of impulsivity would display aggression when burned out. Unfortunately, not much attention has been paid to the deleterious condition of burnout, particularly its existence and prevalence on college campuses. As we begin to see the potential harm that can result from this condition, it is important that we begin to better understand this phenomenon so that we may be successful in finding efficient ways to battle it.

Burnout, distinguished by the three elements of exhaustion, depersonalization, and a sense of low personal accomplishment, often leads to decreased effectiveness at work (Shanfelt et al, 2002). Although this condition is many times seen as synonymous with other conditions such as anxiety or depression, burnout is, in fact, different (Shirom & Ezrachi, 2003). Anxiety, for example, causes an abnormal increase in arousal while burnout does the opposite, stifling a person's drive to want to do anything (Maslach, Schaufeli & Leiter, 2001). Even more interestingly, while depression continues to persist, regardless of a person's environment, burnout disappears once the stimulating factors have been removed (Iacovides, Fountoulakis, Kaprinis & Kaprinis, 2003). This has clear implications for the prevention of burnout as it would indicate that we need to remove the 'stimulating factors.' A first step in this direction would be to establish what are the stimulating factors for college students in the development of burnout. Then interventions may be able to be created for the factors that are treatable or preventable.

It is also important to note that while burnout is a distinct condition, prolonged burnout may eventually lead to the development of anxiety and/or depression (Ahola et al., 2005;

Schaufeli, Bakker, Hoogduin, Schaap & Kladler, 2001). Making it more imperative to treat burnout.

Lastly, this design faced certain limitations that might have influenced the results. One such limitation may be that the students who took part in the study were largely high performing, female, psychology majors. Perhaps burnout or aggression is more prominent in individuals who share these characteristics and have decided to pursue a career in the helping fields. In addition to this, because females are more likely to display indirect aggression (Lagerspetz, Björkqvist & Peltonen, 1988), the large proportion of females will most likely skew the data and convey the wrong impression about the type of aggression that is more commonly displayed among the overall student population. This might explain why burnout was most highly correlated to the indirect social aggression measure. To address this shortcoming, future studies should ensure that a large and diverse population of participants are recruited. Furthermore, seeing that the measures of direct and indirect aggression were so highly correlated, it did not seem that they were measuring two independent constructs. In the future, one might consider using more distinct measures in order to assess these two variables. This will allow us to gain a better understanding of the forms of aggression that might result from burnout and make distinctions between the type of aggression measures. Additionally, although this study provided valuable information about relationship that exists between student burnout and aggression, it is still not clear whether burnout causes aggression. In order to gain a better understanding of the impacts of burnout, future studies could utilize quasi-experimental designs to better test whether burnout directly causes aggressive behavior. This information could prove to be very valuable for college campuses as well as other professions such as those in the medical field, because the

development of aggression in burned-out workers will certainly lead to grave consequences for all parties involved in the interaction.

Looking to the future, it seems that the problem of burnout will continue to persist in college campuses as well as in other environments with high worker demands and expectations. Knowing this, researchers should allocate more resources to further understand this syndrome and propose preventative strategies as well as effective treatment options for those who may be at risk to develop burnout or are suffering from it. This will ensure that students are able to take full advantage of their learning experience, all the while maintaining and nurturing a healthy mind and body.

## References

- Ahola, K., Honkonen, T., Isometsä, E., Kalimo, R., Nykyri, E., Aromaa, A., & Lönnqvist, J. (2005). The relationship between job-related burnout and depressive disorders—results from the Finnish Health 2000 Study. *Journal of affective disorders*, 88(1), 55-62. <http://dx.doi.org/10.1016/j.jad.2005.06.004>
- Beard, G (1869). "Neurasthenia, or nervous exhaustion". *The Boston Medical and Surgical Journal*: 217–221.
- Berkowitz, A., Perkins, W., (2010). Problem drinking among college students: a review of recent research. *Journal of American College Health*, 35(1), 21-28. <https://dx.doi.org/10.1080/07448481.1986.9938960>
- Burnout | Definition of Burnout in English by Oxford Dictionaries*. (2017). Oxford Dictionaries | English. Retrieved 8 September 2017, from <https://en.oxforddictionaries.com/definition/burnout>
- Cannon, W. B. (1929). Bodily changes in pain, hunger, fear and rage.
- Center for Collegiate Mental Health. (2016, January). *2015 Annual Report* (Publication No. STA 15-108).
- Chen, P., Spector, P. (1992). Relationships of work stressors with aggression, withdrawal, theft and substance use: An exploratory study. *Journal of Occupational and Organizational Psychology*, 65(3), 177-184. <http://dx.doi.org/10.1111/j.2044-8325.1992.tb00495.x>
- Coie, J. D., & Dodge, K. A. (1998). Aggression and antisocial behavior. In W. Damon & N. Eisenberg (Ed.), *Handbook of child psychology: Social, emotional, and personality development* (pp. 779-862). Hoboken, NJ: John Wiley.
- Collishaw, S., Maughan, B., Goodman, R., & Pickles, A. (2004). Time trends in adolescent

- mental health. *Journal of Child Psychology and Psychiatry*, 45(8), 1350-1362.  
<http://dx.doi.org/10.1111/j.1469-7610.2004.00335.x>
- Crime in the United States*. (2011). Federal Bureau of Investigation. Retrieved 5 September 2017, <http://www.fbi.gov/about-us/cjis/ucr/crime-in-the-u.s./2011/crime-in-the-u.s.-2011/tables/table-9/view>.
- Diamond, P. M., & Magaletta, P. R. (2006). The Short-Form Buss-Perry Aggression Questionnaire (BPAQ-SF) a validation study with federal offenders. *Assessment*, 13(3), 227-240.
- D'zurilla, T., Chang, E., & Sanna, L. (2003). Self-esteem and social problem solving as predictors of aggression in college students. *Journal of Social and Clinical Psychology*: 22, 424-440. <https://doi.org/10.1521/jscp.22.4.424.22897>
- Espelage, D. L., Polanin, J. R., & Low, S. K. (2014). Teacher and staff perceptions of school environment as predictors of student aggression, victimization, and willingness to intervene in bullying situations. *School Psychology Quarterly*, 29(3), 287-305.  
<http://dx.doi.org/10.1037/spq0000072>
- Everly, A., Girdin, G., & Dusek, D. S. (1996). *Controlling Stress and Tension*.
- Forrest, S., Eatough, V., & Shevlin, M. (2005). Measuring adult indirect aggression: The development and psychometric assessment of the indirect aggression scales. *Aggressive Behavior*, 31(1), 84-97.
- Friedman, H. (2015). *Encyclopedia of mental health* (2nd ed., pp. 33-34). Riverside: Academic Press.
- Iacovides, A., Fountoulakis, K., Kaprinis, S., & Kaprinis, G. (2003). The relationship between

- job stress, burnout and clinical depression. *Journal of Affective Disorders*, 75(3), 209-221.  
[http://dx.doi.org/10.1016/s0165-0327\(02\)00101-5](http://dx.doi.org/10.1016/s0165-0327(02)00101-5)
- Jacobs, S., & Dodd, D. (2003). Student Burnout as a Function of Personality, Social Support, and Workload. *Journal of College Student Development*, 44(3), 291-303.  
<http://dx.doi.org/10.1353/csd.2003.0028>
- Jennings, M. (2009). Medical student burnout: interdisciplinary exploration and analysis. *Journal of Medical Humanities*, 30(4), 253.
- Kimonis, E. R., Frick, P. J., Boris, N. W., Smyke, A. T., Cornell, A. H., Farrell, J. M., & Zeanah, C. H. (2006). Callous-unemotional features, behavioral inhibition, and parenting: independent predictors of aggression in a high-risk preschool sample. *Journal of Child and Family Studies*, 15(6), 741-752.
- Lagerspetz, K., Björkqvist, K., & Peltonen, T. (1988). Is indirect aggression typical of females? gender differences in aggressiveness in 11- to 12-year-old children. *Aggressive Behavior*, 14(6), 403-414. [http://dx.doi.org/10.1002/1098-2337\(1988\)14:6<403::aid-ab2480140602>3.0.co;2-d](http://dx.doi.org/10.1002/1098-2337(1988)14:6<403::aid-ab2480140602>3.0.co;2-d)
- Lee, R., & Ashforth, B. (1993). A further examination of managerial burnout: Toward an integrated model. *Journal of Organizational Behavior*, 14(1), 3-20.  
<http://dx.doi.org/10.1002/job.4030140103>
- Liu, J. (2004). Concept analysis: aggression. *Issues in Mental Health Nursing*, 25(7), 693-714.  
<http://dx.doi.org/10.1080/01612840490486755>
- Maslach, C., Jackson, S. E., & Leiter, M. P. (1997). Maslach burnout inventory. *Evaluating stress: A book of resources*, 3, 191-218.
- Maslach, C., & Leiter, M. (2008). *The Truth About Burnout*. Hoboken: John Wiley & Sons.



- Maslach, C., Schaufeli, W., & Leiter, M. (2001). Job Burnout. *Annual Review of Psychology*, 52(1), 397-422. <http://dx.doi.org/10.1146/annurev.psych.52.1.397>
- Qualtrics. (n.d.). Retrieved September 2, 2017, from <https://qualtrics.com>
- Queiros, C., Kaiseler, M., & Leitai Da Silva, A. (2013). Burnout as predictor of aggressivity among police officers. *European Journal of Policing Studies*, 1(2), 110-135.
- Schaufeli, W., Bakker, A., Hoogduin, K., Schaap, C., & Kladler, A. (2001). on the clinical validity of the maslach burnout inventory and the burnout measure. *Psychology & Health*, 16(5), 565-582. <http://dx.doi.org/10.1080/08870440108405527>
- Shirom, A., & Ezrachi, Y. (2003). On the Discriminant Validity of Burnout, Depression and Anxiety: A Re-examination of the Burnout Measure. *Anxiety, Stress & Coping*, 16(1), 83-97. <http://dx.doi.org/10.1080/1061580021000057059>
- Storch, E., Bagner, D., Geffken, G., & Baumeister, A. (2004). Association between overt and relational aggression and psychosocial adjustment in undergraduate college students. *Violence and Victims*, 19(6), 689-700.
- Yavuz, G., & Dogan, N. (2014). Maslach burnout inventory-student survey (MBI-SS): a validity study. *Procedia-Social and Behavioral Sciences*, 116, 2453-2457.

## Tables

Table 1

Multiple Correlation of the Relationship between and Burnout and the Aggression Measures

		Buss-Perry Aggression	Adult Indirect Aggression	Subtle Social Aggression	Maslach Burnout
Buss-Perry Aggression	Pearson's r		0.562	0.595	0.449
	p-value		<0.001	<0.001	0.004
Adult Indirect Aggression	Pearson's r			0.621	0.483
	p-values			<0.001	0.002
Subtle Social Aggression	Pearson's r				0.325
	p-value				0.032
Maslach Burnout	Pearson's r				
	p-value				

*Note:* This table displays the statistically significant relationship that exists between burnout and each aggression scale. In addition, from this table it can be observed that the aggression questionnaires are themselves highly correlated with one another.

Figures

The Relationship between the Maslach Burnout Score and the Adult Indirect Aggression Scores

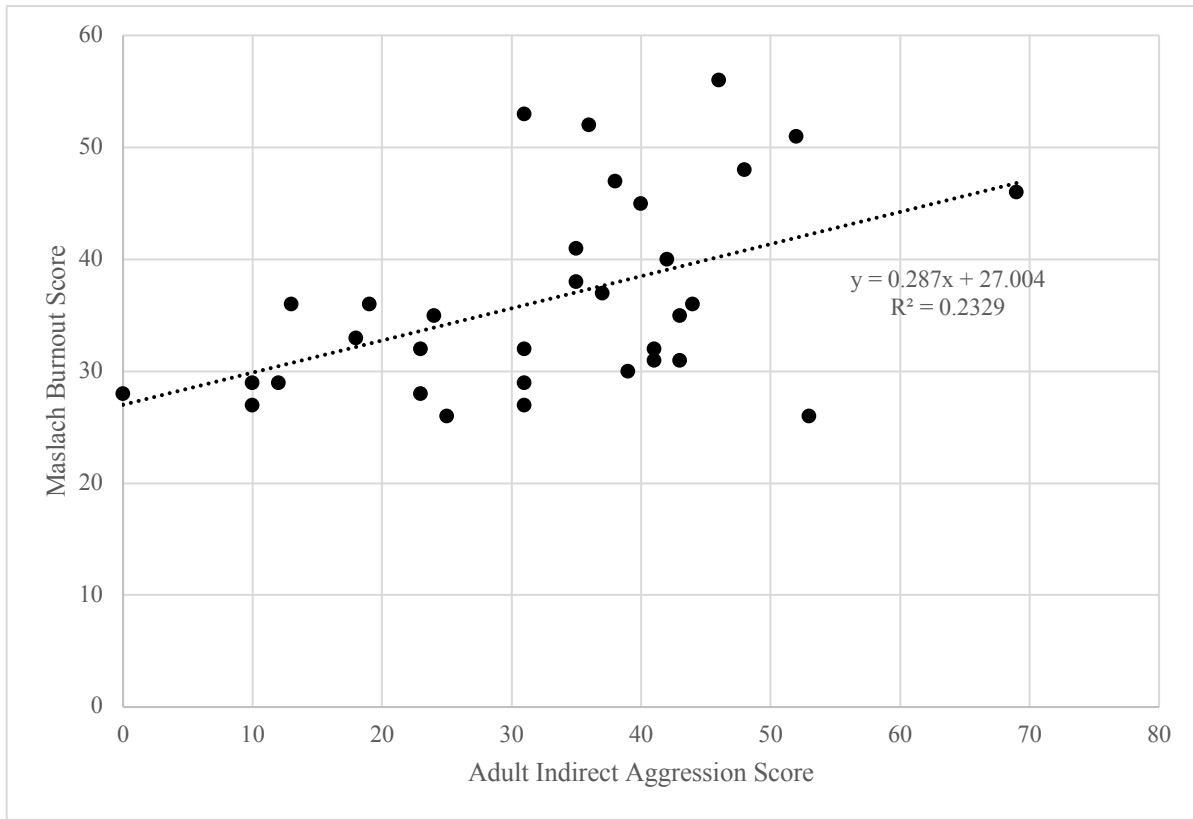


Figure 1. This figure demonstrates the positive relationship that exists between the Maslach Burnout scores and the Adult Indirect Aggression scores (Indirect Aggression).

The Relationship between the Maslach Burnout scores and the Buss-Perry Aggression score

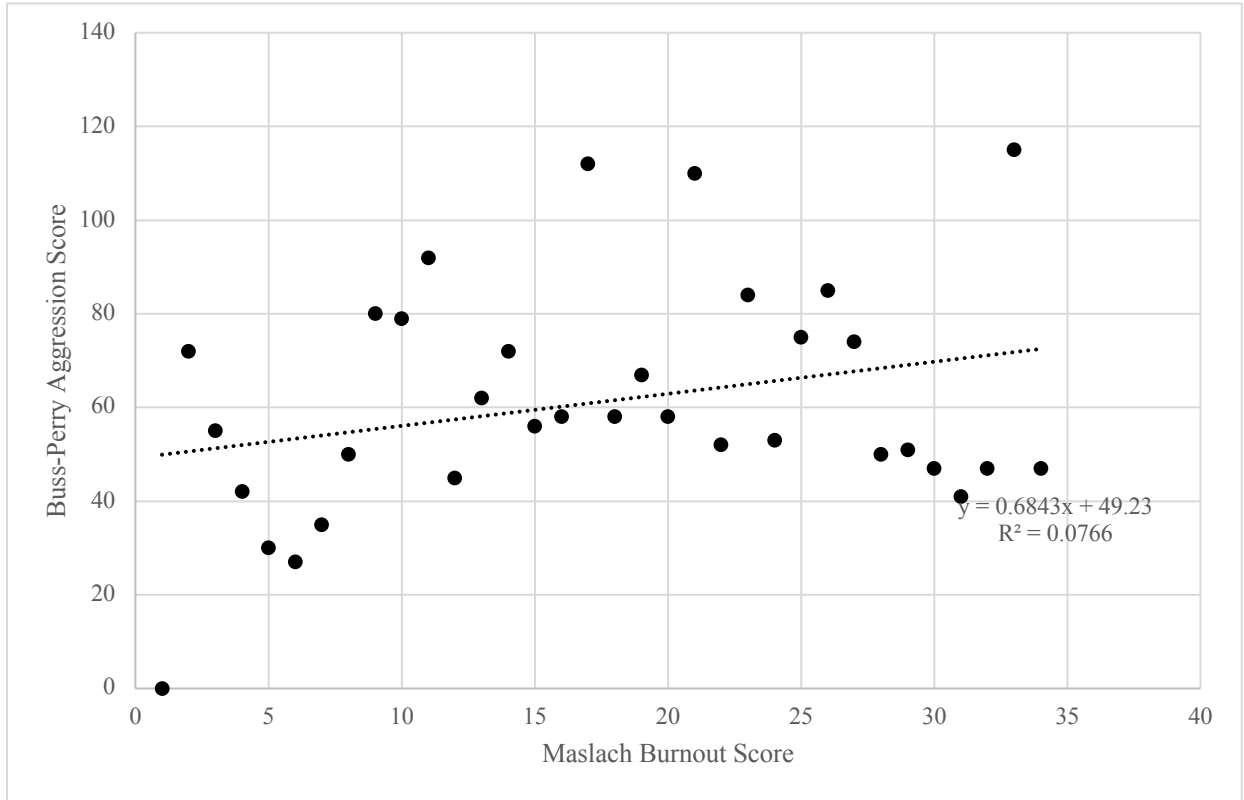


Figure 2. This figure demonstrates the positive relationship that exists between the Maslach Burnout scores and the Buss-Perry Aggression scores (Direct Aggression).

The Relationship between the Maslach Burnout Scores and the Subtle Social Aggression Score

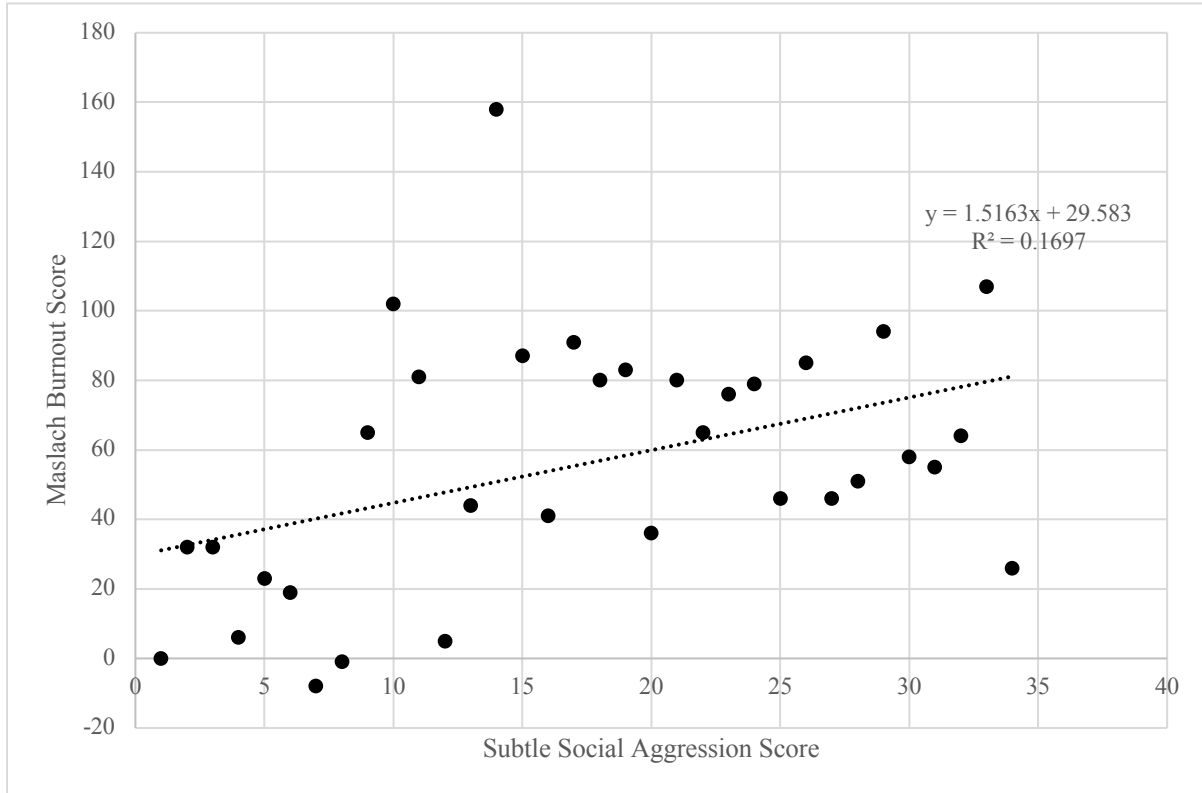


Figure 3. This figure demonstrates the positive relationship that exists between the Maslach Burnout scores and the Subtle Social Aggression scores (Indirect Aggression).

The Relationship between the Maslach Burnout Scores and all Aggression Measures

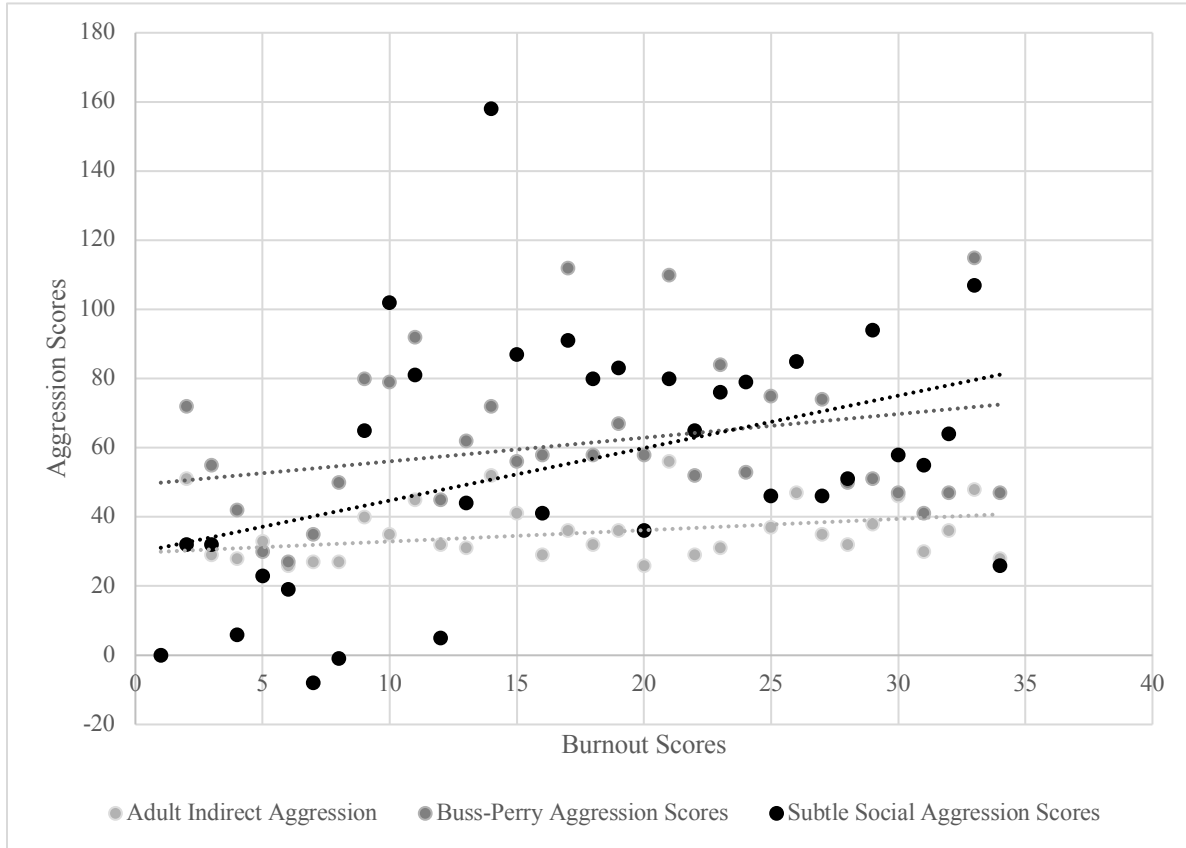


Figure 4. This graph demonstrates the positive relationship that exists between the Maslach burnout scores and each individual aggression scale.

## Appendix

**Participants are presented with the following scenario.**

Imagine that it is finals week and that you are very overwhelmed with exams. Your friend approached you and asks if you can spend some time helping him/her. You also know that your friend has been struggling with understanding concepts in his/her class for some time now. Despite all that you still need to get done for your own classes, you agree to do this. As you work with your friend, you realize that, despite your continuous attempts, he/she is still not understanding the concept(s).

On a scale of 1 to 7, how likely is it that you will show the following reactions? Please rate each statement honestly and accurately, but also quickly. You do not need to spend too much time thinking about your responses to each statement.

**The Following are the questions that are presented to the participant.**

1. Go into detail when explaining concepts.
2. Constantly blame/taunt my friend for not understanding.
3. Pay enough attention to the task at hand.
4. Rush the conversation.
5. Show no tolerance.
6. Delegate this responsibility to others by referring my friend to seek help from another person.
7. Stop trying to help.
8. Be genuine in my intention to help.
9. Be patient.
10. Feel frustrated.
11. Be friendly.
12. Behave in a hostile/non-receptive manner.
13. Use sarcastic comments.
14. Use rude words (such as cuss words) more than usual.
15. Use abusive comments such as "you're so dumb."
16. Have an annoyed tone of voice
17. Use short and cut statements
18. Raise my tone of voice when trying to explain the concepts.
19. Will not go into detail when explaining the concepts.
20. Be careful to avoid attacking my friend's intelligence.
21. Be very considerate about the way that my friend will feel about himself/herself.
22. Be considerate about the way that my friend will feel about himself/herself.
23. Poke fun at her comments, answers, and even, questions.
24. Have tensed muscles in my face and other body parts.
25. Fumble with my hands.
26. Cross my arms.
27. Laugh nervously.
28. Have limited eye contact with my friend.

29. Display disappointed/frustrated/antagonistic glares.
30. Roll my eyes in frustration/disgust.
31. Sigh more often.
32. Directly face my friend.
33. Frown.
34. Constantly glance at the time.
35. Sit at the edge of my seat, ready to leave.
36. Constantly divert my attention to doing something else.
37. Have pursed lips.
38. Have wandering eyes.
39. Have a fake smile/facial expression.
40. Start looking at and using my phone/tablet.
41. Start doodling more often.
42. Ignore my friend's questions or remarks.
43. Respond antagonistically to my friend's questions or remarks.

Items 1-22 assess the participant's aggressive intent and item 23-43 measure the participant's non-verbal aggressive cues. Questions 1, 3, 9, 11, 20, and 21 are also reverse coded. An overall score can be achieved by adding the numbers corresponding to their selection and subtract the number of the reverse-coded questions.