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A Comparison of the Motive to Aggress Across Military and Nonmilitary Samples

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ABSTRACT

The present study examines whether a relationship exists between trait level aggression and one's propensity to join the military. Archival data from the Conditional Reasoning Test for Aggression (CRT-A) from a prestigious military academy (United States West Point Military Academy), an elite military training program (United States Army Ranger School), nonmilitary universities, and nonmilitary samples of job incumbents were compiled. These data were analyzed to determine group mean differences with respect to scores on the CRT-A. It was hypothesized that participants from the military populations would have higher levels of aggression than would participants from nonmilitary populations, as measured through their predicted endorsement of a greater number of aggressive responses on the CRT-A. It was also hypothesized that among the military sample, military incumbents would possess the highest level of aggression and therefore would endorse a greater number of aggressive responses. It was ultimately found that military incumbents did indeed possess the highest level of aggression when compared against all other groups. However, it was also found that when both military samples were compared against both nonmilitary samples, the nonmilitary samples possessed higher levels of aggression. This unexpected finding could hold important implications for the future of military psychology research.

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Chapter 1

Introduction

Past research has indicated that there are documented differences between military and nonmilitary samples in behavioral manifestations of aggression. There are two different phenomena that could explain these differences. The first is that differences in behavioral aggression result from situational influences that stem from the external environment. Past research has determined that exposure to combat-related stressors has been associated with increases in negative behavioral outcomes (i.e. aggression) (Gallaway, Fink, Millikan, & Bell, 2012). Additionally, Even-tzur and Hadar (2017) summarized that strict training regimens combined with role-conflicts encountered as a soldier (e.g. hierarchical status differences, unyielding adherence to authority, and other task-generated stressors) could result in increased hostility. While there does exist evidence to support how situational exposure may explain some of the differences in behavioral aggression observed across military and non-military samples, this will not be the focus of the current paper.

A second explanation for differences in behavioral aggression is anchored in person X situation models. This explanation proposes that variation in the individuals who are attracted to working in military rather than nonmilitary settings differ in their personality characteristics. For instance, prospective soldiers may have elevated levels of personality traits related to aggression (e.g., implicit motive to aggress; James & LeBreton, 2010) and thus may simply be attracted to military contexts where they are able to pursue behavior consistent with these traits (e.g., engage in acts of controlled/directed aggression). Thus, it may be that individuals who pursue jobs

within the military have a stronger latent motive for aggression and see the military as a viable (and socially acceptable) outlet for satisfying that motive. This second theory will be the focus of the current paper.

My primary hypothesis is that those who desire to join the military possess greater levels of trait level aggression. If my primary hypothesis is correct, then I would see higher levels of dispositional aggression in the military sample. My second hypothesis is that out of all groups examined in both military and nonmilitary samples, I will see highest aggression scores among incumbent soldiers undergoing elite special forces training. An analysis of variance test (ANOVA) could be used to evaluate the equivalence of group means.

The current paper is structured as follows. First, I examine past literature and provide highlights of the current research on this topic. I provide a brief theoretical account for why we might expect to see group mean differences in aggression across military and nonmilitary samples. This discussion is anchored around theories of Person-Environment Fit and the Attraction-Selection-Attrition model of recruitment and selection. Next, I describe the methods and measures used in the current study. Following, I present results from the CRT-A and group mean comparison calculations. Finally, I compare my findings to my hypotheses.

Chapter 2

Literature Review

Attraction-Selection-Attrition Theory

Attraction-Selection-Attrition Theory, also referred to as ASA Theory, was first referenced in the 1980s, but remains in heavy use today in the field of Industrial/Organizational Psychology. Schneider (1987) first proposed this theory as the phenomena by which an organization's culture is rooted in the personalities of its employees. According to this theory, people are attracted to, selected by, and remain in an organization that they are suited to (Schneider, 1987). First, individuals are *attracted* to organizations that share their values (Schneider, 1987; Schneider, Goldstein, & Smith, 1995; Ployhart, Weekley, & Baughman, 2006). Second, organizations *select* individuals for hire if they possess the qualities compatible with those of the organization (Schneider, 1987). Consequently, employees will *attrit from*, or leave, an organization if they feel that they do not fit in well (Schneider, 1987). As this cycle continues, the characteristics of an organization become even more deeply intertwined with those of its employees (Schneider et al., 1995). The stronger the match between an individual's expectations of work at an organization and the reality of organizational life, the higher their satisfaction with the job (Schneider, 1987).

Person-Environment Fit

As the name suggests, person-environment (PE) fit broadly refers to how well a person 'fits' into an environment. The concept of fit refers to the similarity between an employee and his or her organization, as well as the ability for each to satisfy the other's needs (Kristof-Brown, Zimmerman, & Johnson, 2005). PE fit in a workplace setting describes an employee's perception that he or she belongs within the general atmosphere of their workplace (Kristof-Brown et al., 2005).

While person-environment fit is the broad term describing the phenomena as a whole, there do exist subgroups of fit that can be used to understand different levels of how well an employee fits into their work environment. A summarization of these subgroups described by Kristof-Brown and colleagues (2005) and Hoffman and Woehr (2006) can be found as Table 1 in Appendix B. Of these subgroups, person-organization (PO) fit is most applicable to the current paper. PO fit posits that an individual's attitudes can be influenced by how greatly they perceive the match between their organization's characteristics and their own (Hoffman & Woehr, 2006). Sub-components of PO fit include value congruence, goal congruence, needs-supplies fit, and demands-abilities fit (Hoffman & Woehr, 2006). Value and goal congruence refer to an alignment between an employee and their organization's *values* and *goals*, respectively (Hoffman & Woehr, 2006). Needs-supplies fit exists when job tasks match the interests of the employee (Kristof-Brown et al., 2005). Demands-abilities fit exists when the employee's skills meet the requirements of the job (Kristof-Brown et al., 2005).

Kristof-Brown and colleagues (2005) conducted a polynomial regression test in order to assess the different types of PE fit. From this test, researchers determined various implications of

employees who possess (strong) PO fit. Perhaps most notably from these results, was the finding that PO fit had strong positive correlation with organizational attraction; thus, employees who felt that their own values, goals, and characteristics would match well to those of an organization were more attracted to working at that organization. Furthermore, PO fit had strong positive correlations with job satisfaction and organizational commitment; suggesting that a stronger sense of fit is related to higher job satisfaction. Finally, PO fit had weak negative relationships with turnover and organizational withdrawal; therefore, employees who felt they fit with their organization were less likely to leave (Kristof-Brown et al., 2005).

Past research conducted in regard to PO fit and how it relates to other areas of a job is generally consistent in major takeaways, but varies in degree of magnitude. Studies have determined that the perceived fit of an individual's characteristics to those of their organization predict job satisfaction, commitment, and performance (Schneider et al., 1995; Hoffman & Woehr, 2006). Past research has also determined a strong relationship between PO fit and both organizational-level outcomes and individual task performance (Hoffman & Woehr, 2006). This finding suggests that stronger perceptions of fit with one's organization benefits both the individual and the organization as a whole. Additionally, past research has consistently found a negative relationship between PO fit and turnover, although the degree of this relationship varies from study to study (Hoffman & Woehr, 2006). Thus, there do exist differences across research findings, as perhaps expected in such a relatively new category of research.

Motive to Aggress

The following section has been drawn from research developed by James and LeBreton (2010). Tests of conditional reasoning can be utilized to assess whether a person possesses certain underlying implicit motives; such as a propensity toward performing acts of aggression. Conditional reasoning is based on the assumption that people with a strong desire to engage in socially undesirable behavior will develop biased ways of reasoning in order to rationalize the behavior. For example, an aggressive person may not even be aware of their motive to harm others because there is often rationalization at play that even the person himself cannot detect. This subconscious rationalization creates the illusion that their aggressive behavior is sensible and therefore justified. The biases with which a person may subconsciously justify their irrational behaviors are known as *justification mechanisms*. There are various justification mechanisms that aid in masking aggressive tendencies of the person who possesses such trait characteristics. A complete list of these justification biases can be found in Table 2 of Appendix B. Of the six justification mechanisms used to rationalize aggression, *potency bias* is most relevant to the current paper. Potency bias rationalizes acts of aggression as acts of bravery which then can be used to overcome feelings of social dominance and to gain respect from others (James & LeBreton, 2010).

The Conditional Reasoning Test for Aggression (CRT-A) can be used to measure a person's underlying levels of aggression. Responses to CRT-A test items are dependent on the personality of the respondent. The response options from which the respondent can choose are meant to trigger the same defensive thinking that aggressive people use to rationalize harming others. The test consists of twenty-five items, each with four response options. The four response

options of each CRT-A item include one answer that would seem reasonable for a person who possesses an aggressive justification bias, one answer that would appeal to someone who does not utilize an aggressive justification bias, and two other answer choices that would be completely illogical for any person to deem a plausible answer. These latter two options are included to enhance the face-validity of the CRT-A as a test of inductive reasoning skills rather than a measure of personality. A sample item from the CRT-A is included as Figure 1 of Appendix A. For this sample item, choice *b* represents the aggressive response, choice *c* is the nonaggressive response, and choices *a* and *d* are both illogical choices.

A respondent is given a score of "+1" for every item for which they endorse the aggressive response option. A total score is calculated and will fall between zero and twenty-two (three questions of the twenty-five are standard logic-based reasoning questions used to mask the test as a standard reasoning test rather than a personality test, and are omitted in the aggression score). Depending on a person's score upon completion, they may possess an underlying aggressive personality. A high score (typically anything above a score of eight) indicates that (a) justification mechanisms influence the respondents' answer selection and therefore that (b) the respondent possesses an implicit motive to aggress (James & LeBreton, 2010).

Military Application

Personality theory has been studied in past research through various facets of military application. Jackson, Thoemmes, Jonkmann, Ludtke, and Trautwein (2012) found that the personality traits of their study participants played a role in their decision whether to enter the

military. In their study, Jackson and colleagues (2012) found that people lower in agreeableness during high school were more likely to enter the military after graduation.

Other research has studied the types of personalities that tend to make up the military population. Klee and Renner (2016) collected data from a population of over two hundred German soldiers, consisting of both male and female soldiers, of various ranks, and of various degrees of deployment exposure. Klee and Renner (2016) found that of their participants, a significant amount of young men lower on agreeableness chose to participate in military service rather than alternative civilian service.

Danaeefard, Boustani, Khaefelahi, and Delkhah (2018) studied whether a relationship exists between a person's personality and their degree of psychological ownership toward their organization within the Iranian public sector. This line of research would plausibly include the military population and is included in this paper to highlight the research claim that employees who work in the public sector may have fewer mechanisms to increase their feelings of psychological ownership toward their organization. In this study, agreeableness was found to be positively associated with PO fit in a public organization (Danaeefard et al., 2018).

Given that low levels of agreeableness have been linked to high levels of aggression and antagonism (Shiverdecker & LeBreton, 2019), I hypothesize that there will be significant group differences after comparing CRT-A scores across military and nonmilitary samples, with higher aggression scores existing within the military samples.

Chapter 3

Methodology

The purpose of the current study was to assess whether individuals attracted to the military are more likely to have elevated trait levels of aggression compared to nonmilitary samples. In order to test this hypothesis, I compare scores of CRT-A tests across samples of military and nonmilitary participants.

Sample

The military sample consisted of military students of the United States West Point Military Academy (N=1,257) and military job incumbents of the United States Army Ranger School (N=431). The nonmilitary sample consisted of nonmilitary populations of students from a local university (N=5,978) and job incumbents (N=1,011) pulled from various employment backgrounds (e.g., customer service representatives; individuals working for a temporary staffing agency). Thus, N=8,677 participants were included in the study as a whole. After data cleaning and the screening of illogical answers (per the recommendations of James & LeBreton, 2012), the number of participants was reduced to N = 8,438; a reduction of less than three percent. Of these 8,438 participants, 1,647 come from the military group and 6,791 come from the nonmilitary group.

Measures

The Conditional Reasoning Test for Aggression (CRT-A) consists of twenty-five inductive reasoning problems. Three items are standard logical-reasoning problems to set up the test taker's perception that the test is of reasoning skills rather than as a test of personality. These three traditional reasoning items are not included in the total calculated aggression score for the test. The remaining twenty-two items involve the use of justification biases for aggression and are scored to generate a total aggression score for the test. Each item contains a prompt and four response options. One of the response options is based on a justification bias which have all been highlighted in Table 2 in the Appendix B. Selection of this response indicates a propensity toward an underlying motive to aggress. One response is representative of a non-aggressive response. Two response options are illogical and are used as a mechanism to weed out respondents who are likely guessing on responses rather than truly completing the test. The test is scored in the standard way, assigning a value of +1 to each selection of an aggressive response, and a value of 0 to each selection of a non-aggressive or illogical response. A total summed score is calculated following completion of the test (see James & LeBreton, 2010, for a more detailed summary of scoring design).

Procedure

Archival data comprised of students and current job incumbents among military and nonmilitary populations were collected and evaluated. Scores from the CRT-A were analyzed to assess for group mean differences.

Chapter 4

Results

An ANOVA was run as a general test of whether groups are equivalent or different. These data are represented in Table 3 of Appendix B. Using an Omnibus test, I found statistically significant differences in group means, $F(3, 8434)= 114.7$, $p<0.001$, eta-square = 0.039. The eta-square value can be interpreted as the proportion of variance in total aggression that is attributed to group membership. An eta-square of this value (0.039) translates to mean that nearly 4% of a respondent's aggression score is dependent upon which group they fall into. This percentage represents a small to medium effect, suggesting that a small portion of respondents' aggression scores is associated with group membership.

Next, a 4x5 Tibble Table was created to display the descriptive statistics of each group. These descriptive statistics include number of participants per group, group means, standard deviation, and variation of the scores of each group. This table is represented as Table 4 in Appendix B. The highest mean of aggression scores was found to exist in the military working group (Army Rangers). This finding is consistent with my second hypothesis, that the sample of military incumbents undergoing special forces training would possess the highest levels of trait aggression.

Next, I ran a TukeyHSD test to compare all of the individual group means to each other. The data from this test is represented in Table 5 of Appendix B. Group differences were determined by subtracting the mean of one group from that of the other. The largest difference was found to exist between military workers and military students. Here, military workers were found to on average endorse two more aggressive responses than military students. This finding

is consistent with my second hypothesis that of the groups, military workers possess the highest levels of aggression. The adjusted p-value of this test was used to show whether significance exists within mean differences. Since all adjusted p-values were less than 0.05, all group differences were statistically significant.

To further explore the nature of the significance overall effect, I retested my hypotheses using planned comparison contrasts. The data generated from the test of contrasts is included as Table 6 of Appendix B. An interesting finding here was in regard to the estimate for military vs. nonmilitary groups as a whole. These distinctions included military incumbents and students as well as nonmilitary incumbents and students. The -1.058 estimate for the rangers_vs_everyone measure was not surprising. This score supports my second hypothesis that the military working (Army Ranger) group would score [nearly a full point] higher on aggression (AGG) score than all other groups. The estimate of 0.736 for the military_vs_nonmilitary measure was surprising and counters my primary hypotheses. This finding indicates that when nonmilitary incumbents and students were combined and compared against military incumbents and students, the nonmilitary group had on average higher aggression scores than the military group. While this is technically a statistically significant finding, it should be reiterated that the nonmilitary sample was much larger than the military sample. Thus, when nonmilitary students and incumbents were grouped together against military students and incumbents, the size imbalance likely diluted the effects of the military working sample.

Finally, a 2x5 Tibble Table was generated to show group means of nonmilitary (*0*) and military (*1*) groups, with combined students and incumbents of each group. These data are represented in Table 7 of Appendix B. As aforementioned, the nonmilitary group mean is higher than the military group mean. Again, this could be due to the vast difference in group sizes.

Chapter 5

Discussion

Summary

The purpose of this study was to examine whether a relationship exists between trait level aggression and one's propensity to join the military. Despite the literature supporting how the military may influence a person's aggressive tendencies, there does not currently exist a vast array of literature regarding whether a higher motive to aggress leads a person to *join* the military. This research question inspired the current paper.

My primary hypothesis that people who desire to join the military possess greater levels of trait level aggression was not supported. If my primary hypothesis had been supported, then I would have seen higher levels of dispositional aggression in the military sample when compared against the nonmilitary sample. Rather, I found that nonmilitary students and incumbents as a combined group possessed a higher mean aggression score than did the military groups. My second hypothesis that I would see highest aggression scores among military workers was supported. The military working group possessed the highest average aggression scores out of all four groups.

Limitations

One limitation of the current study was the lack of data from the military population prior to any interaction with the military environment. As noted in the introduction, exposure to military stressors has been found to impact one's motive to aggress. Ideally, I would have been

able to compare aggression scores of the military population before *and* after they joined the military. This could have allowed for stronger implications of whether those who join the military truly do have a greater subconscious motive to aggress. Thus, it is possible that the observed higher aggression scores among military workers could have been influenced by situational factors. Past studies comparing military recruits with a control group have determined that military recruits were less agreeable after completing their training (Jackson et al., 2012). Novaco and Robinson (1984) found training regimens, role strain, and interpersonal conflict within an authoritarian organizational structure to result in increased levels of hostility. Soldiers are trained to be highly disciplined, to respect authority, and maintain high standards of performance and achievement (Novaco & Robinson, 1984). Military recruits are forced to adhere to strict rules and authority, and are given tough punishment if they do not follow orders (Jackson et al., 2012). In other words, there is a lot of pressure placed on soldiers at all times. Thus, personality changes are not only possible, but may even be expected in such an intense environment. Additionally, Gallaway et al. (2012) found deployment-related stressors to be significantly associated with negative behavioral outcomes among veterans (e.g. a higher number of overtly aggressive actions). Gallaway et al. (2012) also found that the number of physical overt aggressive actions were highest among deployed soldiers reporting the highest levels of combat intensity. Future research could investigate how one's motive to aggress (as measured through scoring on the CRT-A) changes throughout training.

Another potential limitation of the current study is that the military student data came from West Point. As one of the most highly selective and elite universities in the U.S., West Point recruiters actively screen applicants for "red flags" including substance use and abuse, interpersonal deviance, theft, lying, stealing, etc. Thus, the extremely low scores on the CRT-A

for this sample may be attributed, at least in part, to West Point recruiting efforts to select dispositionally aggressive individuals *out* of recruitment. Future work might examine whether military student data collected via ROTC programs at public universities (i.e., where most of the current CRT-A student data has been collected) are consistent with the data from West Point.

Another potential limitation to the current study is that we examined group mean differences without first testing whether items were equivalent across military and nonmilitary samples. *Measurement equivalence* between different versions of the same inventory exists if individuals from different samples (e.g., military vs. non-military) with identical true scores on the motive to aggress, also have equal probabilities of endorsing the aggressive response option (Galic, Scherer, & LeBreton, 2014). Items that depart from the measurement equivalence principle show differential item functioning (DIF). The presence of DIF indicates that there is a discrepancy in the interpretation of the test items between the populations completing the inventory. Results that show DIF make cross-population comparisons that are based on them uncertain (Galic et al., 2014). For example, Galic and colleagues (2014) examined the measurement equivalence of the CRT-A using U.S. and Croatian samples. Data were collected from a sample of undergraduate students in the U.S. and Croatia (Galic et al., 2014). Croatian researchers translated the English version of the CRT-A into Croatian and adjusted for cultural references included in the items (Galic et al., 2014). Data were analyzed using R (Galic et al., 2014). Results of this study indicated that DIF was pervasive on the CRT-A items across the two samples (Galic et al., 2014). Based on these results, it was not appropriate to make direct mean comparisons across groups or to use the cut scores developed using samples from the U.S. on samples collected in Croatia (Galic et al., 2014). Therefore, it could be beneficial to first test for

DIF across CRT-A items prior to analyzing mean differences across military and non-military groups.

While the current study did not include a full DIF analysis prior to examining group mean differences, we did undertake a preliminary test to determine whether the items used on the CRT-A convey equivalent meaning across military and nonmilitary populations. We conducted this test following the procedures recommended by Tay, Meade, and Cao (2015) and Meade (2019). Based on this preliminary test, we determined that eight CRT-A items showed statistically significant DIF (but this is not surprising given the large sample size). An examination of the practical significance of this observed DIF suggested small to trivial effects on overall scale scores. Given the trivial degree of the practical significance, we decided to proceed with tests of the primary hypothesis; however, future research may need to further explore the invariance of the CRT-A across military and nonmilitary samples.

Implications

These research findings contribute to the field of I/O Psychology and can be related both to military and nonmilitary organizations. The idea for this thesis originated from ASA Theory and the concept of PO fit. Certain types of personalities are attracted to certain workplaces. Based on the current study, it may not actually be the case that all individuals drawn to the military are inherently more aggressive. Rather, based on the finding that working members of the military (Army Rangers) produced the highest scores on the CRT-A, situational aspects of military life may have placed an influential role on their implicated motive to aggress.

There could also be implications related to risky behavior after completing a military tour. A substantial proportion of all active duty Army and Naval service personnel have committed at least one criminal or aggressive act in the past year (Hourani, Williams, Lattimore, Trudeau, & Van Dorn, 2017). Furthermore, there has been a surge in the number of veterans in the criminal justice system, linked to symptoms of posttraumatic stress disorder (e.g. hyper-aggression) (Hourani et al., 2017). Morland, Love, Mackintosh, Greene, and Rosen (2012) note that engaging in combat requires some degree of hostility in order to keep a soldier alive. While this aggression may be useful in a combat setting, that generally does not hold true in the general civilian population. According to Morland and colleagues (2012), aggressive individuals are more likely to misattribute malicious intent and may overreact to even minor incidents (i.e. they may develop a hostile attribution bias). Veterans who have relied so heavily on acts of violence to keep them alive while in combat may carry this into their civilian life. Therefore, a greater understanding of aggression and how to help veterans manage aggressive tendencies could prove helpful in the improvement of their quality of civilian life. Understanding aggression could also be useful in an organizational setting to allow for more successful hiring and retention of employees from the veteran population.

Another application of the current paper to future research lies within the discussion of PTSD. Past research has looked into soldiers' trait level of aggression and their propensity to develop PTSD. Interestingly, PTSD is no longer associated with aggressive behavior once adjusting for military variables; suggesting that the behavior is somewhat justified based on combat trauma endured (Hourani et al., 2017). Morland and colleagues (2012) determined a link between high levels of anger associated with combat exposure and the development of PTSD. Veterans of Vietnam who now have PTSD were found to have committed an average of twenty

acts of violence in the past year compared to less than one act committed by a combat veteran without PTSD (Jakupcak et al., 2007). In another study, veterans with PTSD were approximately seven times more likely to have committed an act of aggression than were veterans without PTSD (Jakupcak et al., 2007). Perhaps these metrics could be reduced with appropriate proactive testing and monitoring of aggression scores on tests such as the CRT-A. Previous research has found that even minor cases of PTSD have been associated with physical and mental health impairment, as well as limitations in occupational functioning (Jakupcak et al., 2007). Building greater understanding of the interaction of PTSD and aggression can help to combat these issues and increase the mental health of our nation's heroes.

Appendix A

Figures

Box 1. Conditional Reasoning Problem

A large number of business partnerships break up. One reason for the large number of breakups is that dissolving a partnership is quick and easy. If the partners can agree on how to split the assets of the partnership fairly, then they can break up simply by filling out the appropriate forms. They do not need to engage lawyers.

Which of the following is the most reasonable conclusion based on the above?

a. The longer a partnership has existed, the less likely it is to break up.
b. If one's partner hires a lawyer, then he/she is not planning to play fair.
c. Partners might resolve their differences if breaking up was harder and took longer.
d. The younger partner is more likely to initiate the break up.

Figure 1: Sample CRT-A item. (James & LeBreton, 2010)

Appendix B

Tables

Table 1: Subgroups of PE Fit

Person-vocation fit	Occurs when a person's career meets their personal interests and needs
Person-job fit	Occurs when a person's characteristics are well-suited to those of the specific tasks they perform at work
Person-organization fit	Occurs when characteristics of organizations match with those of an individual, and that an individual's attitudes are then influenced by the sense of how their characteristics "fit" with their organization
Person-group/team fit	Occurs when an individual is interpersonally compatible with his or her work groups
Person-supervisor fit	Occurs when an individual is interpersonally compatible with his or her supervisor

Table 2: Justification Mechanisms for Aggression (James & LeBreton, 2010)

Bias	Description
Hostile attribution	A propensity to sense hostility and perhaps even danger in the behavior of others. The alarm and feelings of peril engendered by this heightened sensitivity to threat trigger a concern for self-protection. Apprehension about self-preservation enhances the rational appeal of self-defense, thus promoting the self-deceptive illusion that aggression is justified.
Potency	A proclivity to focus thoughts about social interactions on dominance versus submissiveness. The actions of others pass through a perceptual prism primed to distinguish strength, assertiveness, dominance, daring, fearlessness, and power from weakness, impotence, submissiveness, timidity, compliance, and cowardice. Fixations on dominance versus submissiveness promote rationalizations that aggression is an act of strength or bravery that gains respect from others. Failing to act aggressively shows weakness.
Retribution	A predilection to determine that retaliation is more rational than reconciliation. This bias is often stimulated by perceptions of wounded pride, challenged self-esteem, or disrespect. Aggression in response to the humiliation and anger of being demeaned is rationalized as justified restoration of honor and respect.
Victimization by powerful others	A bias to see inequity and exploitation in the actions of powerful others (e.g., parents, teachers, supervisors, the Internal Revenue Service). The ensuing perceptions of oppression and victimization stimulate feelings of anger and injustice. This sets the stage for rationalizing aggression as a legitimate strike against oppression and a justified correction of prejudice and injustice.
Derogation of target	An unconscious tendency to characterize those one wishes to make (or has made) targets of aggression as evil, immoral, or untrustworthy. To infer or associate such traits with a target makes the target more deserving of aggression.
Social discounting	A proclivity to frame social norms as repressive and restrictive of free will. Perceptions of societal restrictiveness promote feelings of reactance. These feelings furnish a foundation for justifying socially deviant behaviors such as aggression as ways to liberate oneself from repressive social customs and to exercise one's lawful right to freedom of expression.

Table 3: ANOVA, Omnibus Test

	Df	Sum Sq	Mean Sq	F value	Pr (>F)	etasq
groups	3	1727	575.7	114.7	<2e-16	0.039
Residuals	8434	42317	5.0			NA

Significance codes	0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 '' 1					

Table 4: 4x5 Tibble Table as Summary of Group Descriptive Statistics

	Groups <fct>	Count <int>	Mean <dbl>	Sd <dbl>	Var <dbl>
1	Mil.students	1220	3.21	2.46	6.07
2	Mil.workers	427	5.16	2.27	5.15
3	Non.students	5790	4.15	2.18	4.77
4	Non.workers	1001	3.49	2.26	5.10

Table 5: TukeyHSD Test

groups	diff	lwr	upr	p adj
mil.workers – mil.students	1.9549180	1.63128697	2.2785491	0.0000000
non.students – mil.students	0.9386520	0.75733561	1.1199684	0.0000000
non.workers – mil.students	0.2804941	0.03503758	0.5259506	0.0175299
non.students – mil.workers	-1.0162660	-1.30489137	-0.7276407	0.0000000
non.workers – mil.workers	-1.6744239	-2.00710676	-1.3417411	0.0000000
non.workers – non.students	-0.6581579	-0.85517676	-0.4611390	0.0000000

Table 6: Contrasts

contrast	estimate	SE	df	t ratio	p-value
rangers_vs_everyone	-1.058	0.0779	8434	-13.578	<0.0001
mil_vs_non	0.736	0.1475	8434	4.990	<0.0001

Table 7: 2x5 Tibble Table

	military <int>	count <int>	mean <dbl>	sd <dbl>	var <dbl>
1	0	6791	4.05	2.21	4.87
2	1	1647	3.72	2.56	6.56

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Academic Vita of Dana Solomon

EDUCATION

The Pennsylvania State University **University Park, PA**
Bachelor of Science in Psychology, Business and the Liberal Arts Minor **May 2020**
Smeal College Business Fundamentals Certificate **May 2020**
Schreyer Honors College Scholar, Paterno Fellows Program

RELEVANT PROFESSIONAL EXPERIENCE

Digital Media Engagement Team for the Department of Veterans Affairs **Washington, DC**
Virtual Student Federal Service (VSFS) - Human Resources Intern **May 2020**

- Helped with recruitment and onboarding efforts for attracting new interns to the Digital Media Engagement Team
- Aided in the development of future internship procedures and policies
- Contributed to weekly discussions focused on resume building and career development for other interns

Sprout Insight **Cincinnati, OH**
Consumer Insights Intern **May 2019- July 2019**

- Played a central role in developing and conducting a consumer research project from idea conception to final detailed reporting for a newly emerging and fast-growing category and industry.
- Developed screening criteria and worked with vendors to ensure timely and accurate recruitment of high-quality research participants.
- Conducted foundational research of secondary data and industry report for the creation of an activity guide for an online discussion board platform.
- Moderated a 3-day online qualitative discussion board to facilitate communication with research participants, promoted high level of participant engagement during study duration, and encouraged excellent quality of participant responses.
- Thematically analyzed participant responses and prepared a detailed report deck of findings.
- Presented findings and implications to Sprout Insight executive team members to be used in company future.

Incyte Corporation **Wilmington, DE**
Human Resources Intern **June 2018 – July 2018**

- Gained exposure to various Human Resources functions including Benefits, Compensation, HRIS, HR Management, Recruitment, and Stock Administration
- Recommended edits and reformatting for core employee documentation including the employee handbook, user guides, and HR processes documentation.
- Conducted thorough research on trending wellness initiatives to generate ideas for potential company implementation.
- Presented wellness initiative research to HR Benefits team members, eliciting high level of interest for potential use in the company in the future.
- Assisted with HRIS project support and updated +390 job descriptions into online database.
- Researched employment law including FLSA, FMLA, and Equal Pay Act.
- Shadowed employment interviews in Global Medical Affairs, Immuno-Oncology Development, Drug Development, Biology, Chemistry, Sales, and Clinical Pharmacology.

OTHER PROFESSIONAL EXPERIENCE

YMCA Lenni Lenape Summer Camp **Kennett Square, PA**
Head Camp Counselor **May 2017 – August 2017**

- Directly supervised approximately 25 campers ages 8-10; indirectly supervised other campers ages 6-16.
- Planned, facilitated, and led daily group activity. Led instruction of assistant counselors.
- Utilized strong enthusiasm and leadership skills at all times to ensure a high level of camper engagement.

PROFESSIONAL AFFILIATIONS & ACTIVITIES

Penn State THON OPPerations Committee Member, *Lieutenant* **Fall 2019 – Spring 2020**
Penn State THON OPPerations Committee Member, *Administrative Assistant, Kids' Mail Liaison* **Fall 2018 – Spring 2019**
Penn State THON OPPerations Committee Member, *Education Liaison* **Fall 2017 – Spring 2018**
Penn State THON OPPerations Committee Member, *Kids' Mail Liaison* **Fall 2016 – Spring 2017**
Penn State Phi Eta Sigma Honor Society, *Member* **Joined Spring 2017**