

Associations of Physical Activity, Mindfulness, & Resilience Practices with Perceived
Quality of Life Among Female College Veterans

by

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ABSTRACT

Female college veterans face a host of struggles both personally and academically. Research that focuses primarily on female veterans' wellness needs as they transition into civilian life is limited and this population is woefully understudied in comparison to male veterans. The purpose of this study was to describe and explore some of the wellness needs of female college veterans making the transition from military service to college/civilian life. Twelve hundred and thirty female veterans from a University Veterans Center were sent a recruitment email where 125 successfully completed a life satisfaction (Frisch, 1994), physical activity (Craig et al., 2003), resilience (Connor & Davidson, 2003), and a five-facet mindfulness (Baer et al., 2008) questionnaire. The means for this population were: Quality of life (M= 37.8), Resilience (M= 70.5), Physical Activity MET minutes (M= 4,605), and Five-facet mindfulness (M= Observing 3.50, Describing = 3.38, Acting with Awareness M= 3.02, Non-Judging of Inner Experience M= 2.98, Non-reactivity to Inner Experience M= 3.06). *Resilience* was significantly ($p < 0.01$) and positively correlated to all five domains of mindfulness (range $r = 0.332 - 0.534$) and was negatively associated with *Quality of Life* (QOL) ($r = -0.204$). *Vigorous Activity* minutes and *Total Met Minutes* were both positively associated with QOL ($r = 0.300$ and $r = 0.199$ respectively). This population of female veterans self-reported to have very low/low life satisfaction, low resilience, and high physical activity levels. The behaviors and traits reported in these female college veterans provide important information for developing resources and potential interventions in the future.

DEDICATION

I would like to dedicate this study to my family and friends who have supported me throughout this journey in completing this study. I also would like to dedicate this study to all the women veterans that I will serve in the future. This study would not have been possible without them and their service to the United States of America. Last but not least, I would like to dedicate this study to my heavenly father for guiding me every step of the way.

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CONCEPTUAL/OPERATIONAL DEFINITION OF TERMS

- Acting with awareness- One of the 5 factors of mindfulness, attending to one's present moment activity, rather than being on "autopilot", or behaving automatically, while attention is focused elsewhere. (Baer et al., 2006)
- Describing- One of the 5 factors of dispositional mindfulness, includes the ability to express in words one's experiences (Baer et al., 2006).
- Dispositional Mindfulness- a conceptualizations of mindfulness as a stable characteristic or an inherent trait (Brown et al. 2007; Kabat-Zinn 1990),
- Mindfulness- Paying attention, on purpose, in the present moment, and non-judgmentally (Kabat-Zinn,1990).
- Non-judging of inner experience- One of the 5 factors of dispositional mindfulness, involves accepting and not evaluating thoughts and emotions (e.g., as "good" or "bad") (Baer et al., 2006).
- Non-reactivity to inner experiences- One of the 5 factors of dispositional mindfulness, ability to detach from thoughts and emotions, allowing them to come and go without getting involved or carried away by them (Baer et al., 2006).
- Observing- One of the 5 factors of dispositional mindfulness, refers to attending or noticing internal and external experienced (e.g., sounds, emotions, thoughts, bodily sensations, smells) (Baer et al., 2006).
- Physical activity- Any bodily movement produced by the contraction of skeletal muscle that increases energy expenditure above a basal level. Physical activity generally

refers to the subset of physical activity that enhances health. ("Physical Activity | CDC", 2019)

- Quality of Life –An individual’s subjective evaluation of the degree to which his or her most important needs, goals, and wishes have been fulfilled. (Frisch et al., 1992).
- Resilience- An ability and a process that allows an individual to develop positive adaptation despite challenges and adversities (Reyes et al., 2018). A capacity to recover quickly from difficulties (Oxford Dictionary).
- Transition- A change in assumptions about oneself and the world (caused by event or non-event) that entails behavioral and relationship changes (Schlosserg, 1981).
- Veteran- an individual who served in the active military, naval or air service and was discharged or released under conditions other than dishonorable. (Szymendera, 2016).

INTRODUCTION

The number of female veterans in the United States has substantially increased over the last decade with an expected rise at an average rate of about 18,000 women per year in the next 10 years (Women Veterans Report, 2015). In 2015, women comprised 9.4 percent of the total veteran population in the United States (Women Veterans Report, 2015). Female military personnel transitioning from active to veteran status face challenges that are uniquely different than that of their male counterparts, especially those who return to school (Wang et al., 2016). The struggles that these female veterans face as they transition out of active duty encompasses both their personal health and wellbeing and their academic lives (Wang et al., 2016).

Research that focuses primarily on understanding the factors that may impact a female veteran's health, wellness and quality of life (QOL) or affect her ability to thrive after deployment is limited and this population is woefully understudied in comparison to male veterans (Demers, 2013). Since QOL is defined as one's subjective evaluation of the degree to which her most important needs, goals, and wishes have been fulfilled (Frisch et al., 1992), then by assessing QOL in this population, is critical for developing future programs to address female veterans mental and physical wellness needs.

Experienced clinicians who work with Veterans on PTSD (post-traumatic stress disorder), have suggested that a shift in care needs to be made in Veterans health care, towards assisting Veterans with dealing with the overall adjustment and reintegration to post deployment stress and examining their adjustment from a total health care continuum instead of taking a purely psychiatric approach (Roehr, 2007). Thus, the

importance of exploring and understanding Veteran's wellness needs is clearly recognized.

Post deployment stress is known to lead to difficulties with emotionally reconnecting with family and friends, difficulty managing strong emotions such as hyperarousal and anxiety and difficulty sleeping. Along with having physical injuries, cognitive impairments, traumatic brain injury and/or emotional disturbances due to post-traumatic stress disorder, women veterans may also have experienced the added distress of military sexual trauma (Women Warriors, 2011). Additionally, female veterans in particular, may face personal struggles post-deployment as they attempt to fulfill their role and responsibilities in marriage and motherhood once they return home (Suter et al., 2006). Often women veterans find it challenging to re-integrate into traditional female roles as they have embodied atypical identities while in the military (Suter et al., 2006). Female soldiers in *active duty* encounter an 8.8 percent annual divorce rate which is more than 2.5 times the national average (Williamson & Mulhall, 2009). Furthermore, female veterans are more likely than males to be unemployed and to experience divorce (Kleykamp, 2013; National Center for Veterans Analysis and Statistics, 2013).

The majority of soldiers join the military immediately after completing high school and thus, after their service, many veterans take advantage of the GI (Government Issue) bill and enroll in a higher education degree program. The G.I. Educational Bill is an attractive incentive for veterans as it provides them with the ability to pursue higher-education with tuition and fees being paid by the U.S. government (Vets.gov, 2018). Even with this financial support, veterans who are first year university students, often have more trouble than the "typical freshman" (Ureno, 2015) in balancing academics

with the rest of their life (Cole & Kim, 2013). This is because they enter the university with issues that are unique to their veteran status. Across the board, resources for female veterans and programming specific to help them with this transition are limited. Overall, these limitations may hinder a positive transition to college and civilian life which may exacerbate the overall stress these women are under leading to more advanced psychological disturbances and behaviors (Voelker, 2012). Veterans often struggle with managing several conflicting identities that undermine them while in the academic setting stemming from a) their military training and skill sets; b) being ‘older’ than their ‘typical-age’ student classmates, and c) keeping up with their grades and staying enrolled in school while dealing with many competing responsibilities (such as mother, daughter, wife, caretaker, patient) (Darcy & Powers, 2013; McCaslin et al., 2013; Messina, 2015; Ureno, 2015). A survey completed to describe college retention in veterans noted that in the veteran population, 37 percent of part-time students and 16 percent of full-time students dropped out within nine months of enrollment (Walton-Radford et al., 2009). Additionally, veterans report that they struggle with the dissimilarities between the military style of technical learning and hierarchical organizational structures they experienced in their military training compared to the less structured ‘student-centered’ academic learning environment (Messina, 2015). Lastly, compared to their non-veteran classmates, veterans have more demands on their time and attention as they are more likely to be married, have children (15 percent are single parents), and work full-time or part-time. In fact, “veteran status” alone has been found to be negatively associated with grade-point average (Durdella & Kim, 2012). In sum, these competing commitments and

identities clearly impact academic performance and degree completion (e.g., Choy, 2002; Johnson, 2009).

As noted previously, the bulk of the research that has examined the transition of veterans from active military service into college/civilian life, has been on male veterans (Demers, 2013; Ahearn et al., 2015). While these studies on male veterans are important for highlighting the need for appropriate resources and support for this population, the recent rise in the number of female veterans going through this transition, requires bringing their unique perspective into the light as well. In an effort to improve the transition of female veterans into civilian and academic life, it is necessary to understand and assess their needs in order to develop programs to help them manage stressors and improve their quality of life.

The research literature is clear that certain behaviors and attitudes, such as increasing physical activity levels, having higher levels of dispositional mindfulness, and having greater resilience may be beneficial as coping strategies to help manage stress and improve one's academic performance and overall quality of life (Wang et al., 2016, Zimmaro et al., 2016; Li, 2008). Low levels of life satisfaction have been shown to predict poor scholastic performance and work (Frisch et al, 2005; Judge & Watanabe, 1993), substance abuse (Valois et al., 2001), peer relationship problems (Gilman & Huebner, 2000), and poor health (Diener & Chan, 2011). Williston & Roemer (2017), examined predictors of well-being and academic engagement in a group of primarily male student service members and veteran college students. In this mostly male cohort, a bi-directional meditational relationship between post-deployment social support and emotion regulation predicting quality of life and academic engagement, was found.

Researchers suggest that this interplay between social support and emotional regulation skills may promote a greater quality of life. It is currently unknown if these same relationships exist in female veteran students.

In sum, Williston & Roemer's findings regarding quality of life predictors in a mostly male active service and veteran student population, reinforces the critical need to further explore and examine other potential correlates of quality of life such as physical activity, resilience, and levels of dispositional mindfulness in female college veterans. This understanding is necessary to help form the foundation for developing effective programs and resources to enhance and improve academic engagement and foster a positive and healthy transition of female veterans back into civilian life.

STUDY PURPOSE & HYPOTHESES

To date, there is limited research available that primarily focuses on female veterans with regard to their overall quality of life as they transition back into college/civilian life. Therefore, the purpose of this study was to explore the relationships of several self-reported behaviors and wellness factors such as, physical activity, dispositional mindfulness and resilience, with quality of life, in female college veterans making the transition from service to college/civilian life.

Research Questions

1. What is the correlation between quality of life and physical activity in female veterans?

Hypothesis:

- There will be a positive correlation between quality of life and physical activity in female veterans.

2. What is the correlation between quality of life and mindfulness expressed as the five facets; observing, describing, acting with awareness, non-judging of inner experience, and non-reactivity to inner experience in female veterans?

Hypothesis:

- There will be a positive correlation between quality of life and mindfulness in female veterans.
- There will be a positive correlation between quality of life and mindfulness (observing) in female veterans.
- There will be a positive correlation between quality of life and mindfulness (describing) in female veterans.

- There will be a positive correlation between quality of life and mindfulness (acting with awareness) in female veterans.
- There will be a positive correlation between quality of life and mindfulness (non-judging of inner experience) in female veterans.
- There will be a positive correlation between quality of life and mindfulness (non-reactivity to inner experience) in female veterans.

3. What is the correlation between quality of life and resilience in female veterans?

Hypothesis:

- There will be a positive correlation between quality of life and resilience in female veterans.

METHODS

Research Design

This was an observational study of the correlation between several self-reported health related behaviors and wellness factors with quality of life in female veterans making the transition from military service to college/civilian life. Names of female college veterans were provided by the university veteran's office and were asked to participate in the study via email. Respondents chose to participate by selecting an electronic link provided in the email. The link directed respondents to a set of questionnaires to assess eligibility and informed consent. This study was approved by the Institutional Review Board at Arizona State University. (Appendix B).

Study Participants

Inclusion criteria for the study were: 1) females, with previous military experience and identified as a veteran¹; 2) active college students that were currently a full – time or part – time bachelor degree seeking at a large University in the South-west United States of America; 3) between the ages of 20 – 40 years old, and 4) be able to read and understand English. Exclusion criteria were women who were still active military, were not ASU students or who lived outside the United States of America.

Recruitment

Following IRB approval (Appendix B) and after receiving a letter of support (Appendix C) from the University Veteran's Center, it was determined that approximately 12,30 women veterans were listed in the Veteran's Center data base. The

¹ Veteran status was defined as a person who served in the active military, naval or air service and was discharged or released under conditions other than dishonorable (Szymendera, 2016);

administrators at the Veterans Center agreed to pre-screen the database to create an email distribution list and then send emails describing the study and asking women to participate. In addition, flyers (Appendix N & O) describing the study were posted at all four University Veteran's Centers. Furthermore, veterans, organizations and clubs were also contacted to help advertise the study by posting. Finally, word of mouth referrals was also used to recruit potential participants.

During the month of September, 4 weeks in the fall semester (2018) the University Veteran's Center sent an email (Appendix E) describing the study to 1230 women listed in their database. These were sent in one wave with an additional reminder email sent out to the wave of 1230 women listed in their database. Interested respondents were asked to complete the eligibility questionnaire and were provided informed consent prior to being directed to the study questionnaire.

Measures

Demographics

Participants completed a demographic information questionnaire (Appendix G) that elicited basic information such as age, race, employment status, marital status, number of children, education, and income.

Questionnaires/Scales

A total of four questionnaires/survey instruments were converted into an online format from a paper and pencil format through Qualtrics, an online survey development tool that allows one to build and distribute surveys). These surveys included: 1) The Quality of Life inventory, Frisch, 1994; 2) The International Physical Activity Questionnaire - Short Form, Craig et al., 2003; 3) The Connor-Davidson Resilience

Scale, Connor & Davidson, 2003; and 4) The Five Facet Mindfulness Questionnaire, Baer et al., 2008.

Quality of Life

The Quality of Life Inventory (QOLI) (Frisch, 1994), (APPENDIX K) is a self-report 17- item scale that indicates a person's overall satisfaction with life. It produces a score known as The Weighted Satisfaction Profile that provides a description of person's overall happiness by identifying specific areas of satisfaction and dissatisfaction that make up the overall QOLI score. Weighted satisfaction ratings for each area in the Satisfaction Profile range from negative six (-6, Extremely Dissatisfied) to positive six, (+6, Extremely Satisfied). According to the researchers (Frisch,1994), areas of life with positive satisfaction ratings indicate areas of fulfillment and strength for a person. In contrast, areas with negative satisfaction ratings indicate areas in need of improvement. The higher the negative rating, the more dissatisfied the person is in that area. They indicate that ratings of -4 and -6 may be of the greatest concern and urgency in a person's life. Because overall satisfaction is determined by a person's satisfaction in specific areas, it is suggested that by boosting satisfaction in some areas may also boost his or her overall sense of meaning, purpose, or satisfaction (Frisch,1994). It is important to note that the QOLI is specific to those areas that the individual indicates are the most highly valued areas to them. For example, it excludes areas of life from the overall satisfaction equation if the person indicated that they are "Not Important". Whereas, the QOLI gives greater weight to areas of life that the individual rated "Extremely Important" than to those he or she rated "Important". The QOLI is used in populations such as those who receive medical and psychological treatment. The QOLI has been used successfully in

non-health related settings such as college counseling centers and organizational development programs within businesses.

Physical Activity

The International Physical Activity Questionnaire (IPAQ)- Short Form (Craig et al., 2003) (APPENDIX M) is a self-report physical activity measure. IPAQ assesses physical activity based upon three specific types of activities. The specific types of activity that are assessed are walking, moderate-intensity activities (defined as activities that take hard physical effort and make you breathe much harder than normal) and vigorous-intensity activities (defined as activities that take moderate physical effort and that make you breath somewhat harder than normal). Although the IPAQ was originally developed as an instrument to help monitor physical activity estimates cross-nationally such as those in Australia, Brazil, Canada, Japan, Netherlands, Sweden, it has also been highly used to assess PA in in a variety of populations in the USA including Veterans and those in the military.

Resilience

The Connor-Davidson Resilience Scale (CD-RISC; Connor & Davidson, 2003) (APPENDIX I) is a 25-item scale that measures the ability to cope with adversity. Respondent's rate items on a scale from 0 (not true at all) to 4 (true nearly all the time). According to the authors (Connor & Davidson, 2003), the psychometric properties of the CD-RISC is supported by internal consistency, test-retest reliability, and convergent and divergent validity. The CD-RISC has been used in various ages and countries and specifically has been used with students and military personnel.

Mindfulness

The Five Facet Mindfulness Questionnaire (FFMQ; Baer et al., 2008) (APPENDIX L) assesses one's mindfulness disposition, tendencies or internal characteristics. Respondents rate 39 Likert items comprising five mindfulness domains²: *i) Non-Reactivity to Internal Experience, ii) Observing Internal Experience, iii) Acting with Awareness, iv) Describing Internal Experience, and v) Non-Judgment of Experience.* Participant responses range from 1 (never or very rarely true) to 5 (very often or always true). Higher scores on the FFMQ reflect greater levels of dispositional mindfulness. The FFMQ is becoming widely used in general psychological research and in mindfulness based cognitive therapy and mindfulness based stress reduction interventions as an assessment tool (Baer et. al., 2006). The FFMQ has been used in various high stress occupations such as in students, teachers, or those who experience depression and anxiety (Baer et al., 2006; Bohlmeije et al., 2011; Curtiss & Klemanski,2014).

Statistical Analyses

Descriptive statistics were used to describe participant basic characteristics. In addition, mean data for each of the primary outcome variables were computed. Relationships between variables were first evaluated with a scatterplot and then Spearman correlation coefficients were calculated to evaluate relationships between nonparametric /ordinal variables. All data were analyzed by Statistical Package for Social Sciences (SPSS) VERSION 24.0 (Armonk, NY).

² Each of these domains are defined previously on page vii.

RESULTS

Participant Enrollment

Email recruitment letters were sent in two waves to 1,230 women obtained from the University Veterans' Center database. Email recruitment and enrollment was open for three weeks early in the fall semester. A total of 227 (18.5 percent of the emails sent) female college veterans responded to the recruitment request by completing the online eligibility questionnaire, of which 77% (n=176) were deemed eligible. Of the 176 women who were eligible to participate, 125 participants completed at least 70% of the questionnaire, which was considered the minimum completion percentage needed to be included in data analysis.

Of those who were ineligible, the most common reasons were 1) currently active duty and/or released under dishonorable conditions 42% (n=22), 2) not currently a full-time or part-time undergraduate Arizona State University student 32% (n=17), and 3) eligibility questions were not completely answered 26% (n=14).

Participant Demographics

Table 1 describes participant demographics. Of the 125 participants who were included in data analyses all were women with a mean age of 30.1 ± 4.6 years. As noted in the table, participants were able to choose their racial/ethnic identity from a wide selection. The majority of participants described their ethnic/racial background as 'White' (54.4%). The majority of the participants were married or had a domestic partnership (51%) and had no children (57%). The top three military branches represented in this population were Air Force, Army and Navy with 29%, 28%, and 27% respectively. Fifty-three (42%) women reported to have served in the military between

four to six years and 42% reported that they were discharged between the years of 2016-2018. The majority of these women veterans did not attend this University directly after military discharge (62%), however most (54%) transferred in some college credit. Finally, the majority of these women veterans reported that they also worked while attending college (68%).

Basic descriptive statistics (mean, standard deviation, and range) for each of the study variables (i.e., Quality of Life, Resilience, Mindfulness and Physical Activity) are presented in **Table 2**.

Table 3 indicates the number of women classified in each QOL category (High, Average, Low/Very Low) based on the Quality of Life Inventory (QOLI) (Frisch, 1994).

Table 1 - Participant Demographics	Total (n=125)
Age, years (M ± SD)	30.1 ± 4.6
Race	
White	68 (54.4%)
Hispanic or Latino	26 (20.8%)
Mixed	14 (11.2%)
Black or African American	10 (8.0%)
Native American or American Indian	4 (3.2%)
Asian/Pacific Islander	3 (2.4%)
Marital Status	
Married or Domestic Partnership	64 (51.2%)
Single	34 (27.2%)
Divorced	25 (20.0%)
Separated	2 (1.6%)
Widowed	0 (0%)
Children	
No	71 (56.8%)
Yes	54 (43.2%)
Military Branch	
Air Force	36 (28.8%)
Army	35 (28.0%)
Navy	34 (27.2%)
Marines	17 (13.6%)
Coast Guard	3 (2.4%)
How many years of service?	
13+ years	8 (6.4%)
10 -12 years	9 (7.2%)
7 – 9 years	33 (26.4%)
4 – 6 years	53 (42.4%)
1 -3 years	21 (16.8%)
No response	1 (0.8%)
Discharged year (M ± SD)	2013 ± 3.9
2016 - 2018	53 (42.4%)
2013 - 2015	28 (22.4%)
2010 - 2012	16 (12.8%)
2007 - 2009	14 (11.2%)
2004 - 2006	2 (1.6%)
2002 - 2003	4 (3.2%)
Attend ASU directly after service	
No	78 (61.9%)
Yes	48 (38.1%)
Post-service educational experience	
Some online courses	38 (32.5%)
Some college credit, no degree	42 (35.9%)
Associate degree	29 (24.8%)
Trade/Technical/Vocational training	8 (6.8%)

Table 2 – Quality of Life, Resilience, Mindfulness and Physical Activity N=125			
	Mean	SD	Range (low-high)
Quality of Life (percentile)	37.8	31.8	1 - 99
Resilience	70.5	14.7	38 - 100
FFMQ - Observing	3.50	.64	1.75 - 4.88
FFMQ - Describing	3.38	.84	1.25 - 6.63
FFMQ – Acting with Awareness	3.02	.85	1.00 – 5.63
FFMQ – Non-Judging of Inner Experience	2.98	1.01	1.00 – 5.00
FFMQ – Non-reactivity to Inner Experience	3.06	.62	1.43 – 4.86
Physical Activity MET minutes	4,605	4,913	66 – 30,396

Notes.
Quality of Life –An individual’s subjective evaluation of the degree to which his or her most important needs, goals, and wishes have been fulfilled. (Frisch et al., 1992).
Resilience= the capacity to recover quickly from difficulties (Oxford Dictionary).
FFMQ-Five Facet Mindfulness Questionnaire- (Baer et al.,2006).
- Observing: refers to attending or noticing internal and external experiences (e.g., sounds, emotions, thoughts, bodily sensations smells) (Baer et al.,2006).
- Describing: includes the ability to express in words one’s experiences (Baer et al.,2006).
- Acting with Awareness: attending to one’s present moment activity, rather than being on “autopilot”, or behaving automatically, while attention is focused elsewhere (Baer et al.,2006).
- Non-Judging of Inner Experience: involves accepting and not evaluating thoughts and emotions, allowing them to come and go without getting involved or carried away by them (Baer et al.,2006).
- Non-Reactivity to Inner Experience: ability to detach from thoughts and emotions, allowing them to come and go without getting involved or carried away by them (Baer et al.,2006).
Physical Activity MET minutes: A MET is the ratio of the rate of energy expended during an activity to the rate of energy expended at rest (Ainsworth et al., 1993).

Table 3 – Quality of Life	N = 125
	N (%)
High	22 (18%)
Average	50 (40%)
Low/Very Low	53 (42%)

Notes.
Quality of Life Categories:
- High = 81st to 99th percentile
- Average = 21st to 80th percentile
- Low/Very Low = 1st to 20th percentile

The responses from the QOLI calculates an overall raw score, a weighted satisfaction score, a T score; and a percentile score. The weighted satisfaction score reveals the 16 areas of satisfaction and dissatisfaction that contributes to an individual's overall score. The weighted satisfaction score translates into three different classifications which reflect (High = 81ST to 99th percentile, Average =21st to 80th percentile, or Low/Very Low :1st to 20th percentile) overall satisfaction with life (Frisch, 1994). As indicated in **Table 3**, out of the 125 participants in this study, 42% were classified to have very low and low QOL. Forty percent were classified to have an average QOL, with only 18% classified as High QOL.

Table 4 provides the breakdown for the resilience score. The women in this study had an overall mean resilience score of 70.5 which places them in the lowest quartile for resilience (lowest 25%).

Table 5 provides the breakdown for the physical activity score. The majority of the women in this study (56%) were classified as women who engaged in regular vigorous PA and with 30% engaging in moderate PA. The women in this study are considered highly active individuals.

Table 4 - Resilience	Percentile	N (%)
		N= 125
Quartile 1	0 - 73	74 (59.2%)
Quartile 2	74 - 82	29 (23.2%)
Quartile 3	83 - 90	13 (10.4%)
Quartile 4	91 - 100	9 (7.2%)

Table 5– Physical Activity (PA) - (MET minutes/week or minutes)	N = 125
	N (%)
Vigorous Physical Activity	70 (56%)
Moderate Physical Activity	37 (30%)
Low Physical Activity	18 (14%)
<p>Notes. <u>Vigorous PA</u>- Three days achieving a minimum total PA of at least 1500 MET minutes a week <u>or</u> 7 days of any combination of walking, moderate intensity or vigorous intensity activities achieving a minimum total PA of at least 3000 MET minutes a week <u>Moderate PA</u>- Three or more days of vigorous activity and/or walking of at least 30 minutes per day <u>or</u> 5 or more days of moderate PA and/or walking at least 30 minutes per day <u>or</u> 5 or more days of any combination of walking, moderate intensity or vigorous intensity activities achieving a minimum total PA of at least 600 MET minutes a week. <u>Low PA</u>- Not meeting any of the criteria for either moderate or vigorous levels of PA</p>	

	1	2	3	4	5	6	7	8	9	10	11
1. Age											
2. FFMQ-Observing	-.003										
3. FFMQ-Describing	.024	.108									
4. FFMQ-Acting with Awareness	.024	.039	.293**								
5. FFMQ-Non-Judging of Inner Experience	.083	-.142	.273**	.547**							
6. FFMQ-Non-Reactivity to Inner Experiences	-.035	.222*	.113	.320**	.389**						
7. QOLI Percentile	.041	-.003	.013	-.147	-.172	-.225*					
8. Resilience (CD-RISC)	.112	.383**	.332**	.410**	.366**	.534**	-.204*				
9. PA Total MET Minutes	.146	.112	-.077	-.043	-.223*	-.171	.199*	-.076			
10. Vigorous Total min/week	.083	.137	-.127	-.070	-.272**	-.151	.300**	-.068	.744**		
11. Moderate Total min/week	.079	.072	-.029	-.074	-.183*	-.129	.172	.018	.721**	.585**	
12. Walking Total min/week	.115	-.006	.013	.023	-.113	-.060	.123	-.026	.738**	.274**	.373**

Note. *Correlation is significant at the 0.05 level (2-tailed). **Correlation is significant at the 0.01 level (2-tailed). N=125

Table 6 provides the Spearman Rho correlations between each of the study variables. The significant correlations of concern in this study have been highlighted in yellow. As can be seen from the table, *Resilience* was significantly ($p < 0.01$) and positively correlated to all five domains of mindfulness (range $r = 0.332 - 0.534$) and was negatively associated with *Quality of Life* (QOL) ($r = -0.204$). Also, one of the FFMQ factors (i.e., ‘*Non-Reactivity to Internal Experience*’) was significantly negatively correlated to QOL ($r = -0.225$). Several, but not all, of the FFMQ factors were significantly positively correlated with each other. For example: ‘*Non-Reactivity to*

Internal Experience’ was positively correlated with ‘*Observing Internal Experiences*’ ($r=0.222$); ‘*Acting with Awareness*’ ($r = 0.320$) and ‘*Non-Judgment of Experience*’ ($r = 0.389$). Whereas, ‘*Describing Internal Experience*’ was correlated negatively to, ‘*Acting with Awareness*’ ($r=-0.293$); but positively to ‘*Non-Judgment of Experience*’ ($r=0.389$). Lastly ‘*Non-Judgment of Experience*’ was positively correlated to ‘*Acting with Awareness*’ ($r= 0.547$).

Only two outcome variables were correlated to the Physical Activity variables in this study. Physical activity reported as ‘*Vigorous Activity*’ minutes, ‘*Moderate Activity*’ minutes or *Total Met Minutes* were all significantly negatively associated with ‘*Non-Judgment of Experience*’ ($r= -0.223$, -0.272 , and -0.183 respectively) and *Vigorous Activity* minutes and *Total Met Minutes* were both positively associated with QOL ($r= 0.300$ and $r= 0.199$ respectively). As would be expected, the various PA variables Total Met Minutes Vigorous Activity, Moderate Activity, Walking Activity Minutes were all correlated with each other (range $r= 0.274 - 0.744$).

DISCUSSION

The purpose of this study was to explore some of the wellness needs of female college veterans making the transition from military service to college/civilian life. The main objectives of this study were to evaluate the correlations between quality of life, physical activity, mindfulness, and resilience in female veterans. Assessing the quality of life of female college veterans and determining the relationships between their self-reported levels of physical activity, mindfulness, and resilience practices, should help the development of future programs, resources and activities that they can utilize to improve their well-being and their overall success as a student.

The results of this study indicated that forty two percent of the participants self-reported to have very low/low QOL. No previous studies reporting QOL in non-clinical or women veterans could be found. The QOLI is commonly used in the scope of clinical psychology practice usually in those with anxiety and depression. As previously noted (Table 3), the QOLI questionnaire used in this study has a range of values from 1-99 and these scores are translated into three different classifications based on percentile. According to Frisch (1994), positive QOLI scores identifies areas of life the person considers as fulfilling and a strength for them, whereas, negative scores, indicate areas the person judges as weaker and in need of improvement. Importantly, the QOLI is weighted to be specific to areas that the individual indicates as highly valued. In other words, the QOLI gives greater weight to areas of life that the individual rated “Extremely Important” than to those rated “Important”. The QOLI has demonstrated to have good reliability and validity. In a population of Veteran patients who attended a Department of Veteran Affairs alcoholic rehabilitation program the internal consistency and 1 – month

test-retest reliability was high with all values being greater than 0.75 (Frisch et al., 1992). With the QOLI being consistent and reliable, the findings from this study may be deemed particularly revealing. Based on the QOL scores reported, it is clear that many of the women in this study found areas of their life to be unsatisfactory. Forty-two percent of the women had scores categorizing them as low or very low. This finding is sobering but is consistent with the literature that indicates that women veterans often have a difficult life upon returning into civilian life (Choy, 2002). It is known that women veterans face multiple challenges such as difficulty with finances, relationships, and health, since they transition from the service into civilian life. In addition, since they are also students this adds an additional challenge. Based on these findings, there is little question that women veterans are in need of resources and /or help with behavioral strategies to help them improve their QOL.

One of the behavioral strategies that is known to contribute to all aspects of QOL is physical activity (PA) (Gill et al., 2013). This is true across a wide range of clinical, aging, student and well populations (Gillison et al., 2009; Gopinath et al., 2015; Puciato et al., 2017; Joseph et al., 2014; Pavlova et al., 2017; Pucci et al., 2012). The present study found that QOL was significantly and positively correlated with increased PA. This was true if PA was estimated by total MET minutes or by the amount of vigorous activity reported. These results are supported by convincing evidence from a large randomized controlled trial, by Martin et al., (2009) who showed, that in postmenopausal women, exercise improved physical and mental QOL in a dose-dependent fashion. Importantly, in these women these improvements in QOL were independent of changes in fitness and weight.

Interestingly, in the present study, 86% of the participants reported their activity levels to be in the moderate (30%) or vigorous (56%) category. This is a surprising finding. In fact, in the average population, only 20% of men and 19% of women are recognized as meeting the physical activity guidelines for Americans ("HHS Releases Physical Activity Guidelines for Americans, 2nd edition", 2019). Thus, similar to the findings by Martin et al. that exercise improves QOL in a dose-dependent fashion, vigorous exercise was correlated to QOL increases in these veteran women. Finally, Gillison (2009) noted that in non-clinical populations, in contrast to clinical or older individuals, higher QOL was specifically linked to exercising independently rather than in groups. Although the exercise setting (i.e., individual or group) was not elicited in the current study, it was clear that overall the women in this study were more physically active as a group than the “average” college woman, and that QOL was significantly higher in those who reported doing higher intensity exercise. These findings have important implications with regard to planning exercise interventions for female veterans. While it is possible that in this group of veteran women PA levels may need to be quite high to influence QOL, it is also possible that increasing PA levels may have minimal impact on QOL given that nearly 86% of the women in this study are already meeting the moderate to vigorous PA recommendations.

As noted previously, mindfulness is considered the ability to pay attention, in the present moment, with intention, non-judgmentally (Kabat – Zinn, 1990). Dispositional mindfulness is a conceptualization of mindfulness as a stable characteristic or an inherent trait. Based upon the abundant literature on the benefits of mindfulness practice it could be suspected that mindfulness factors would positively influence how one would report

their overall life satisfaction. Observational studies of dispositional mindfulness as measured by Hanley & Garland (2014) found that higher levels of dispositional mindfulness were associated with positive reappraisal across five different populations: general sample of American adults, contemplative practitioners, college students, outpatients with chronic pain, and alcohol dependent inpatients. In the general sample of American adults all five factors of mindfulness are correlated to positive reappraisal with non-reacting and observing having the strongest relationship. Positive reappraisal is the likelihood of creating meaning or redefining a stressor in some beneficial way. Positive reappraisal aids in how one views their QOL. In the group of contemplative practitioners and chronic pain outpatients, non-reactivity and describing were correlated to positive reappraisal whereas in alcohol dependent inpatients, describing was the only factor that was correlated to positive appraisal. Most importantly, in the sample of college students, non-reactivity and observing were significantly correlated with positive reappraisal, however describing, acting with awareness, and non-judgment were not significantly correlated to positive reappraisal. These findings from Handley and Garland may be particularly relevant to understanding the outcomes from the current study. First, Handley and Garland (2014) indicate that college students have the ability to practice mindfulness. Thus, it is likely that as college students these women veterans would be equally able to practice mindfulness if given the opportunity. Second, Handley and Garland (2014) noted that non-reactivity was positively associated with positive reappraisal in the college students, whereas in the current study, non-reactivity was found to have a negative correlation to QOL. This may indicate that in contrast to other college students, women Veterans may be more reactive or hypervigilant to their situation and

surroundings due to their instilled military culture and training. This might manifest as being uncomfortable with emotions and perhaps sensing internal feelings as unpleasant rather than positive. These results imply that perhaps these women veterans would benefit from mindfulness interventions aimed at helping them regulate their awareness and reactivity.

Clearly, mindfulness practices and having certain mindfulness traits have been shown to be related to positive appraisal and beneficial outcomes. The universal efficacy of mindfulness practice to improve positive appraisal, that has been shown across a variety of populations, suggest that offering mindfulness practices to college women veterans, may be a critical component of programs aimed to improve QOL in college women veterans.

Resilience is defined as an ability and a process that allows an individual to develop positive adaptation despite challenges and adversities (Reyes et al., 2018). Mindfulness and resilience have been shown to be positively correlated (Zahra & Riaz, 2018; Zubair et al., 2018; Benada & Chowdhry, 2017). Findings in the current study are consistent with these outcomes. Specifically, resilience was found to be significantly and positively correlated to all five domains of mindfulness. Thus, increases in mindfulness were associated with increased resilience. Further, Zahra & Riaz (2018), found that mindfulness and resilience both had a negative relationship with perceived stress in university students. Thus, when mindfulness or resilience was low, stress was high. These findings are of interest for the current study because the investigation was in college students and the same resilience and mindfulness scales were used in both studies (i.e., CD-RISC and FFMQ). Also, because almost sixty percent of the participant's

resilience scores fell into the 1st quartile in this study, over half of the participants self-reported that they have very low or low resilience ability. The average total resilience score in a general US population is 80.7 using the CD-RISC 25 (Davidson JRT). Thus, the mean value of 70 ± 14 that was reported in this study is clearly lower than that seen in US adults. Additionally, a student population was shown to also have more resilience than the women veterans in this study. For example, Debb et al. (2018) found that students who attended a historically black college or university had a resilience score of 81.44. Thus, when comparing the results of the current study to the results by Debb et al. (2018) it is clear that female college veterans report lower resilience than the U.S. average and lower than academically “at-risk” college students who attended a historically black college. Perhaps these low scores indicate a unique characteristic of college women veterans. For example, the female veterans are not only transitioning into an academic setting, but also back into civilian life. Thus, they must adapt and fill many new identities and roles as they transition from active service to military veteran, to student, to mother, to wife, etc. The low resilience values demonstrated by the women in this study may indicate that they are at a loss for how to help themselves. It seems that these women are appealing for assistance with knowledge, with resources and with interventions that can aid their coping and resilience through this transition.

Prior research has suggested that resilience is positively related to life satisfaction or QOL. While it was hypothesized that QOL and resilience would be positively correlated in this study, in fact the results of this study do not support this hypothesis. The reasons for this are not entirely clear but most likely are due to the characteristics of the female veteran population in this study as well as characteristics of the QOL scale used in

this study. Previous research has shown that in traumatized individuals, those who had more resilience had greater coping mechanisms which led to an improved QOL (Wu 2011). However, in the present study the women who reported lower resilience scores, actually had higher QOL. While unexpected, this inverse relationship may be considered appropriate when considering the population. The female veterans in this study, did not report having suffered trauma. Also, as previously noted, the scores for both resilience and QOL were fairly low. Thus, the women in general, recognized their life as being generally unsatisfactory. However, perhaps because they are veterans and have had to deal with many hardships previously, the women could have recognized their challenging life situation not as a true hardship that needs high level of resilience skills to overcome, but just a “normal” way of life. In this way, lower QOL scores would have no influence on resilience ability. Perhaps resilience is an innate survival skill or ability that one can “tap” if needed, but is not overtly recognized as a means to improve one’s overall life condition or QOL. In other words, a person who has had to survive life and death situations in the military may find the day to day problematic issues of being a college student as a lower tier “threat” requiring less vigilance and less resilience. Finally, the inverse relationship may simply be a function of the overall low resilience levels that these women expressed. It could be that the relationship found was a spurious finding and that there is no “real” relationship between the two factors. It is not possible to understand these interesting findings with this type of observational study. However, it would be important to understand how resilience is conceptualized in this veteran population. These provocative findings clearly indicate that more research is needed to understand the association between QOL and resilience in female veterans.

Limitations

There are several important limitations to the current study. This study was an observational study which required participants to reflect on and recall their previous physical activity, resilience, and mindfulness experiences, thus introducing both self-report and retrospective reporting bias. In addition, the study was completed anonymously online and thus it is impossible to ascertain how thoughtful, honest and truthful the answers were. Also, the length of the surveys (a full 30 minutes) may have been a deterrent to some reducing the sample size. In fact, for some of the women there may be statistical limitations because of the number of variables in the correlation matrix and the non-independent nature of some of the variables. This may be specifically true with using the FFMQ. Given the unexpected lack of association between mindfulness and QOL, it is possible that a single construct trait mindfulness measure such as the MAAS may have been a more appropriate measure (Brown & Ryan, 2003). A single index of dispositional mindfulness would have reduced the multicollinearity between the FFMQ variables. While the FFMQ has been validated as a trait mindfulness measure, recent work suggests that there may be limitations in using this scale in a population of non-meditators (Van Dam et al., 2009). Non-meditators scored lower than meditators (Baer et al., 2006) on the FFMQ which can be due to a lack of understanding of the items that are based upon one's experience. Additionally, practice variables in the FFMQ are known to be influenced by one's experience and frequency of practice of meditation (Soler et al., 2014). Thus, in hindsight, a single trait mindfulness scale may be more appropriate to use in non-meditators who do not have a mindfulness practice. Once mindfulness training

programs are conducted in women veterans' then the FFMQ would be the preferred tool to use.

CONCLUSION

The findings from this study have described the levels of physical activity, mindfulness, resilience and quality of life in a sample of women college veterans. Overall, this population indicated low levels of resilience and quality of life and high levels of physical activity. Identifying the associations between these factors in this population provides the first steps toward understanding some of the needs and problems facing women veterans transitioning from the service to civilian and the university life. It was hypothesized that each of these variables (PA, mindfulness and resilience) would be positively associated with QOL. Only one of these hypothesized results were supported. In this study, QOL was significantly and positively correlated with increased PA. However, the mindfulness factor of non-reactivity was found to have a negative correlation to QOL and resilience was also negatively correlated with QOL. The results of this study indicate that women college veterans have clear needs to improve their QOL and resilience. Future studies should focus on examining ways to improve these factors through interventions on mindfulness, physical activity or stress reduction programming.

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APPENDIX A
REVIEW OF LITERATURE

APPENDIX A - REVIEW OF LITERATURE

Female veterans face a host of struggles as they transition from military service to civilian and college life. Exploring positive coping strategies and behaviors; such as physical activity, levels of dispositional mindfulness, and levels of resilience and their associations with quality of life is an important step toward developing effective programs and resources to foster a positive and healthy transition back into civilian life for female veterans.

The following review will address the salient research concerning the following six topic areas: Quality of life (QOL) and Physical Activity (PA), QOL and Mindfulness, QOL and Resilience; as well as, Veterans and PA, Veterans and Mindfulness, and Veterans and Resilience.

Quality of Life and Physical Activity

Quality of life (QOL) is defined as an individual's subjective evaluation of the degree to which his or her most important needs, goals and wishes have been fulfilled (Frisch et al., 1992). A variety of instruments have been used across a diversity of populations to assess QOL including: Pediatric Quality of Life Inventory –PedsQL (Gopinath et al. ,2015); World Health Organization Quality of Life -WHOQOL-BREF (WHOQOL Group.,1998); 5-item Satisfaction with Life Scale –SWLS (Diener et. al, 1985); and SF-36 (Brazier et. al, 2002).

The PedsQL is a 23-item questionnaire for children aged 2 to 18 years that include 4 sub scales: 1) physical, 2) emotional, 3) social and 4) school functioning. Mean scores are based on a 5-point scale with scores varying from 0 – 100, with higher scores representing better QOL. The WHOQoL questionnaire is comprised of 26 questions and

primarily assesses QOL in four domains: 1) physical, 2) psychological, 3) environmental and 4) social. WHOQoL scores vary from 0 -100 (lowest-highest) for each domain. The SWLS measures global cognitive judgments regarding one's life. Life satisfaction statements were provided giving the respondent the ability to respond using a Likert scale ranging from 1 to 7 (lowest – highest). Finally, the SF-36 evaluates health related QOL consisting of 36 questions that encompasses eight subscales: 1) Physical Functioning, 2) Role Limitation due to Physical Problems, 3) General Health Perception, 4) Vitality, 5) Bodily pain, 6) Social Functioning, 7) Role Limitations due to Emotional Problems, and 8) Mental Health.

Physical activity (PA), defined as any bodily movement produced by the contraction of skeletal muscle that increases energy expenditure above a basal level, typically refers to the amount of PA that enhances health ("Physical Activity | CDC", 2019). PA on the other hand, has typically been assessed using either the International Physical Activity Questionnaire - IPAQ- (Short or Long Form) (Craig et al., 2003) or the Goldin Leisure Time Exercise Questionnaire (GOLDIN) (Godin & Shepard, 1985).

The International Physical Activity Questionnaire –assesses physical activity in an individual's routine physical activity for a regular 7-day week. Physical activity levels (vigorous, moderate, and low) are determined based upon energy expenditure in MET minutes. MET minutes are determined for vigorous, moderate and time spent sitting across the following domains: leisure time, work related PA, commute related PA, domestic, and gardening. Vigorous PA is determined if an individual meets one of the following criteria's: three or more days of vigorous activity of at least $EE \geq 1,500$ MET·min/week or seven or more days of any combination of activities of three intensity

ranges of at least $EE \geq 3,000$ MET·min/week. Moderate PA was determined if an individual engaged in three or more days of vigorous activity of at least twenty minutes/day, five or more days of moderate- or low-intensity activity of at least thirty minutes/day, or five or more days of any combination of low-, moderate-intensity or vigorous activity of at least $EE \geq 600$ MET·min/week. Lastly, Low PA was determined if no physical activity was reported or some activity reported but not enough to meet at least the Moderate PA criteria.

The GOLDIN Physical Activity Questionnaire examines the event, intensity, and duration of PA during a typical 7- day period using a 4-item scale. Various types of activity are recorded that include strenuous, moderate, and mild physical activity. Activity recorded are then converted into metabolic equivalents which are multiplied by the type of activity: 1) strenuous x 9, 2) moderate x 6 and 3) mild activity x 3. MET calculations are then added to get the total activity score.

QOL and PA have been shown to be significantly positively correlated to one another in several populations including; preadolescents, adolescents, students, general adults, and older age working adults (Gopinath et al., 2015; Puciato et al., 2017; Joseph et al., 2014; Pavlova et al., 2017; Pucci et al., 2012; & Puciato et al., 2017). The literature on the positive relationship between QOL and PA are fairly robust. For example, in a large population (n= 2,353) of U.S. preadolescents and adolescents, Gopinath et al. (2015) found that adolescents who spent more time in outdoor PA had higher QOL compared to their less active peers measured over a 5-year follow-up period using the Pediatric Quality of Life Inventory (PedsQL).

Additionally, this correlation was found to remain consistent in a student population. Pavlova et al. (2017), assessed the influence of leisure-time PA on QOL in 514 healthy Ukrainian students. Their results confirmed the positive effect of leisure-time PA on both mental and physical components of QOL in these young adults using the SF-36 questionnaire. Specifically, their research indicated that females with higher level of leisure time PA (IPAQ, long form) had higher QOL ($p < 0.01$) in four of the eight SF36 subscales (i.e., physical-role, general health, social activity, and role-emotional scales) (Pavlova et al., 2017). The strength of the associations between QOL and PA was strong in this group of Ukrainian college students and although the age group was similar to the students measured in the present study, it is unknown if these findings would be generalizable to female veterans in the United States.

Findings by Pucci et al. (2012), in Brazilian adults ($n = 1,461$) between the ages of 18 to 65 years old further support the correlation between PA and QOL in adults outside of the university context. They reported that leisure time PA (IPAQ-long form) to be significantly positively associated with QOL (WHOQoL). In men, walking for leisure was positively associated with social ($\beta = 1.5$; $P = 0.011$) and environmental ($\beta = 3.3$; $P = 0.015$) domains, and in women, walking was associated with physical ($\beta = 3.2$; $P = 0.04$), environmental ($\beta = 4.1$; $P = 0.011$) and psychological ($\beta = 3.2$; $P = 0.009$) domains. Interestingly, in this population, men reported higher QOL values than women in all QOL domains except for “the physical” domain for which the mean values were similar (56.2 vs. 56.8; $P = 0.257$). Although this research was cross-sectional and cannot be used to determine causality, these findings suggest that perhaps QOL values in women have room for improvement with increases in PA.

Further research in older working adults from Wroclaw, Poland PA (Puciato et al., 2017) has shown that PA is also an important determinant of QOL in older adults. In this study, over one thousand men and women completed the IPAQ-SF and the WHOQOL-BREF form. They found positive correlations between intensity of PA and those who reported higher means for general quality of life, perceived health status, and quality of life in the physical, psychological, social, and environmental domains. In fact, the highest QOL values were from respondents who engaged in higher levels of PA (3.8 ± 0.8 points).

As previously noted, women Veterans struggle with many issues that could negatively affect their QOL as they transition from military service to civilian life. It is clear that increasing PA may be of great benefit for increasing QOL in a diversity of populations (Joseph et al., 2014). Although it is likely that QOL and PA in women Veterans would be similarly related, there is no research to date that describes the relationship between QOL and PA in women Veterans.

Quality of Life and Mindfulness

Mindfulness is defined as paying attention, on purpose, in the present moment, and non-judgmentally (Kabat-Zinn, 1990) and is typically studied as either a “state” or momentary condition that can be enhanced with regular practices or as a “trait” or a stable characteristic that is considered an inherent human capacity. Trait mindfulness is also called dispositional mindfulness (Brown et al 2007; Kabat-Zinn, 1990).

Trait mindfulness has been related with higher levels of reported QOL scores (Brown & Ryan, 2003). In the student population, mindfulness has been shown to improve ability to let go of thoughts and decrease the frequency of negative thoughts.

Additionally, mindfulness has been shown to correlate to enhanced performance and attention (Schmertz, Anderson, & Robins, 2009). The five facets of mindfulness are associated and contributed to how one views their QOL (Boden et al., 2015).

While not explicitly a mindfulness intervention, Gard et al. (2012), explored the effects of a yoga-based program, which sometimes share similar mechanisms as mindfulness interventions (Ross & Thomas, 2010) on QOL and mindfulness in young adults. In this quasi-experimental study 33 participants (24 females, 9 males) were in the yoga intervention and 43 participants in a non-randomized matched control group. The results of this study found that those who participated in the yoga- based activity program had an increase in QOL that was mediated by self-compassion and mindfulness. Thus, these results may indicate that *engaging in a physical activity based activity such as yoga may be able to increase one's ability to be more compassionate to one's self thereby increasing QOL.*

Schirda et al., 2015 also found that dispositional mindfulness measured by the FFMQ, was positively correlated with QOL measured by the WHOQoL-BREF, in 95 individuals with Multiple Sclerosis and this relationship was partially mediated by lower emotion dysregulation ($\beta = -4.46$, $SE = .386$, $p < .001$)- Higher levels of mindfulness are associated to lower perceived emotion dysregulation. In addition, emotion dysregulation and QOL were also negatively correlated ($\beta = -.021$, $SE = .009$, $p = .02$), such that lower emotion dysregulation was associated with better QOL. Emotion dysregulation was measured with the Difficulties in Emotion Regulation Scale (DERS; Gratz & Roemer, 2004) which is a 36-question questionnaire that measured an individual's self-reported

rating of the challenges one faced in regulating his or her emotions. Higher scores indicate a greater difficulty in emotion regulation.

These studies confirm the positive relationship between trait mindfulness and QOL. The results support the concept that perhaps improving dispositional mindfulness may be helpful for increasing QOL. Lastly, it is likely that QOL in women veterans may improve from an intervention program focused on increasing levels of trait mindfulness, however, there is no research to date that describes or confirms this relationship.

Quality of Life and Resilience

Resilience is defined as an ability and a process that allows an individual to develop positive adaptation despite challenges and adversities (Reyes et al., 2018). It is conceptualized as a toughness or a capacity to recover quickly from difficulties (Oxford Dictionary). Unfortunately, very little literature could be found that specifically focused on resilience and QOL. Most research on resilience describes how resilience predicts or explains how people deal with life traumas which may then improve QOL. For example, Wu (2011) studied 175 family members of survivors of man-made traumas and examined how various factors such as mental impairments, coping strategies, socio-demographics, resilience and hope mediated their self-reported values of QOL. The findings of this study indicated that QOL was strongly impacted by mental impairments such as post-traumatic stress disorder (PTSD) and depression. However, the study also indicated that one's coping mechanisms, levels of hope, and overall resilience mediated the effect of PTSD and depression on QOL. Thus, the study suggested that coping mechanisms, resilience and hope were important variables that mediate the negative affect of depression and PTSD on one's satisfaction with QOL (Wu, 2011).

According to Ungar (2013) resilience is extremely contextual and culturally dependent. He states that it is unlikely that a single measure of resilience will ever emerge that is appropriate across all contexts and at all levels of exposure to trauma. He suggests that nature “trumps” nurture, and that to effectively understand one’s resilience to stressful situations, requires that resilience be conceptualized not as an individual construct, but more in relationship to the quality of the environment. Further, he emphasizes that resilience has multiple individual, contextual, and cultural variations and looks both “the same and different” from within and between populations. Finally, recent work by Portnoy et al. (2018), in a study describing resilience and gender differences in military veterans, also emphasizes the need to describe resilience from a social-ecological framework underscoring its cultural complexity.

Physical Activity and Veterans

Both men and women veterans tend to gain weight around the time of military discharge and they tend to experience similar levels of obesity as non-Veterans (Koepsell et al., 2012; Littman et al., 2013). Because of this observation, PA behaviors are primarily studied in relationship to mitigating obesity in military veterans. Very little could be found describing normal or typical levels of PA in women veterans transitioning into civilian life. Washington et al. (2016), described PA in older women veterans. They examined the longitudinal trajectories of sedentary time and recreational PA in older women Veterans compared to Non-Veterans from the Women’s Health Initiative (WHI) study. Over 3700 women veterans and 141,800 non-veteran women were examined at three different time points (baseline, year 3, and year 6). The findings of this study indicated that sedentary time was the same at baseline for veteran and non-veteran

women (107.2 vs 105.9 hours/week, $p=0.42$), however at baseline, veterans had higher overall PA (13.2 vs 12.5 MET-hours/week, $p=0.3$) than non-veterans. While PA declined for both groups over time, the Veteran women experienced a greater decline in PA (change/visit year -0.19 vs -0.02 MET-hours/week, $p=.03$) as compared non-veteran cohort. This study indicates that women veterans may be at greater risk for health concerns with aging than their non-veteran counterparts simply because they may experience a greater decline in PA with age. Clearly, understanding PA behaviors in women veterans while they are young and first going through the transition into civilian life, may be critical for designing and implementing sustainable PA behavioral strategies to improve health and wellbeing in the long term.

Mindfulness and Veterans

Mindfulness practices have been shown to help improve physical, mental, and emotional well-being in veterans (Carmody & Baer, 2008). In a study by Kearney et al. (2012), veterans with a high prevalence of PTSD participated in a 17 month, Mindfulness Based Stress Reduction (MBSR) intervention that assessed mental health and QOL. MBSR teaches secular mindfulness to individuals who are dealing with pain, depression, anxiety, and stress. The study recruited 92 veterans (70 males, 22 females) to participate in a hospital based MBSR program for 8 weeks (2.5 hours/session once per week). Assessments were made at baseline and post intervention. Follow-up assessments were also done 4 months post intervention. At 6 months post-treatment, significant improvements were seen in PTSD symptoms ($d=-0.64$, $p<0.001$) and mindfulness ($d=0.78$, $p<0.001$). There were several limitations of this study that limit the generalizability and the true effectiveness of the intervention. These limitations include the fact that

there was no control arm resulting in changes regressing to the mean. In addition, changes could have been brought on simply because of being assigned into a group. Lastly, no homework data were collected to test compliance.

Pigeon et al. (2015), also explored the effects of a MBSR program in a PTSD veteran population. The mindfulness program consisted of 1.5-hour MBSR class sessions four times per week. Sixty-two veterans were randomized into either the intervention group or the control group. Assessments were taken at baseline, four weeks post treatment and eight weeks post treatment. The results indicated that 90% (n=17) of the participants felt that the program was effective and helped them with their problems. Eighty four percent of participants (n=16) reported feeling better after participating in the MBSR sessions. Limitations for this study include an attrition rate of 44% for veterans in the experiment group and that some of the research staff were not experienced with MBSR training. This inexperience could seriously limit their ability to effectively guide the participants in the mindfulness program.

In summary while the majority of the work that has examined mindfulness in the Veteran population encompasses those who are dealing with post-traumatic stress disorder, these results suggest that improving mindfulness in women veterans is recommended and may result in worthwhile positive outcomes.

Quality of Life and Veterans

Williston & Roemer (2017), conducted an examination of predictors of well-being, including academic engagement and quality of life in student service members and veteran college students (SSM/V). Eighty-seven SSM/V completed a questionnaire online that answered questions regarding their post-deployment social support,

psychological distress, academic engagement, emotion regulation skills, and demographics. QOL was assessed using the Quality of Life Inventory. They found that psychological distress was negatively correlated with QOL ($r = -0.55$), academic engagement ($r = -0.37$), and post-deployment social support ($r = -0.50$) (Williston & Roemer, 2017). Emotion regulation skills ($r = 0.67$) were negatively associated to QOL, post-deployment social support ($r = 0.58$), and academic engagement ($r = 0.48$) (Williston & Roemer, 2017). Post deployment social support was positively correlated with QOL ($r = 0.58$) and academic engagement ($r = 0.35$). Some limitations to this study include the fact that causal inference cannot be determined for social support and emotion regulation. Additionally, the intentionality with how participants answered cannot be determined and the study's measurements for construct of interest were simplified to ensure that the questionnaire was manageable to complete in under an hour.

The findings of this study suggest that ensuring that there are places on campus for student veterans to gain knowledge and seek help during transition is critical to a student veteran's success in integrating better both personally and academically.

Resilience and Veterans

Veterans have demonstrated resilience while in the military and also face a host of struggles as they transition back to civilian life. Resilience is a measure of stress coping ability (Connor and Davidson, 2003). Interestingly, military veterans consider transitioning to college the most difficult adjustment (Bowman, 2010; DiRamio et al., 2008). Henderson-White (2017) found that the driving factor to the ability for student veterans to complete their education is due to their ability to be resilient. In female

veterans, Iverson et al., (2016) found that resilience that was developed while in military service contributed to their resilience in their college education.

In the study by Reyes et al. (2018), they explored how student veterans constructed and enacted **resilience** in their academic and personal lives. Utilizing the constructivist grounded theory, they conducted interviews with twenty military students enrolled as undergraduate students at a U.S. university. The Connor-Davidson Resilience Scale-10 and the PTSD checklist for DSM 5 (PCL) questionnaire was completed prior to the interviews to assess resilience and PTSD symptoms. Integration was represented through how one self-reported and enacted resilience. The scores from the CD-RISC-10 displayed that participants resilience mean score was 31.85 (+-5.33) which is higher than the scores of who were non-veteran college undergraduates (Aloba et al., 2016; Lee et al., 2016; Montero-Marin et al., 2014). The majority of participants in this study reported limited PTSD symptoms from the PCL. Limitations of this study include participants only being recruited from one university and that the CD-RISC-10 and PCL was used as part of data analysis rather than using it to determine the factors related to a participant's level of resilience.

A recent systematic review (Cox et al, 2018) described resilience in regard to the transition from military to civilian life in the UK. In the realm of literature, resilience is not assigned a specific definition however it is a characteristic that can be modified with time, age, gender, life circumstances, context, and can also be a lifelong process of change and as an outcome of transition (Cox et. al., 2018). In this review, positive approaches are necessary to handling challenges faced post military discharge and is a driving force to the success of these military personnel experiencing a successful

transition. Cox et al. (2018), states that there is a prevalent need for more services to promote mechanisms that aid in the transitional effort of these military personnel.

Portnoy et al (2018) examined resilience, trauma exposure and protective factors among five hundred forty-four veterans who were deployed in service to the conflicts of Afghanistan and Iraq. A baseline survey and a one year follow up was completed with trauma being assessed by the Traumatic Life Questionnaire (Kubany et. al., 2000), The Connor-Davidson Resilience Scale (CD-RISC), Combat Exposure Scale (Keane et al., 1989), Deployment Risk and Resilience Inventory (King et al., 2006), and a Military sexual trauma screener. Comparing gender differences, females and males experienced different types of traumas. Women reported greater exposure to sexual abuse ($d= 0.76$), interpersonal violence ($d=0.31$) and MST (Cramer's $V = 0.54$) with men reporting that they experienced greater exposure to stranger violence, accidents/unexpected trauma, and combat exposure. Men's resilience scores were higher than women's ($B= .10$, $p = 0.032$), however was no longer significant when type of trauma was accounted ($B= 0.07$, $p= 0.197$). Resilience is essential and can be seen as a characteristic within the veteran population, however more research is necessary to assess resilience between genders specifically the resilience that is experienced with gender specific challenges as they transition from military to discharge. Resilience can be manifested with adaptation depending on the quality of the environment that surrounds an individual or through prosocial behaviors (Ungar, 2013). Further research is needed to understand the resilience that female veterans experience.

In conclusion, the research literature indicates that positive correlations between QOL and PA, mindfulness, and resilience exist across a wide swath of populations.

However, it is evident that there are gaps regarding findings specific to a female veteran population. Examining and understanding the relationships between these variables as they emerge from this specific population, will aid in the development of future programs designed to improve QOL.

APPENDIX B
IRB APPROVAL LETTER

Type of Review:	Initial Study
Title:	Associations of Physical Activity, Mindfulness, & Resilience Practices with Perceived Quality of Life Among Female College Veterans
Investigator:	Pamela Swan
IRB ID:	STUDY00008473
Funding:	Name: ASU Downtown Center; EVPP
Grant Title:	
Grant ID:	
Documents Reviewed:	<ul style="list-style-type: none"> • FFMQ_full39.pdf, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions); • IRB application GYU ps1.docx, Category: IRB Protocol; • PTVC support for ASU Women Veterans Study.pdf, Category: Off-site authorizations (school permission, other IRB approvals, Tribal permission etc); • Funding Source-GYU.pdf, Category: Sponsor Attachment; • Questionnaires in Qualtrics, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions); • aCD-RISC-25 01-01-18.pdf, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions); • Life Satisfaction Q, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions); • QOLI Permission.pdf, Category: Off-site authorizations (school permission, other IRB approvals, Tribal permission etc); • ASU Womens Study with Tabs - Made with PosterMyWall.pdf, Category: Recruitment Materials; • Consentfnl2.pdf, Category: Consent Form; • Flyer #1.pdf, Category: Recruitment Materials; • Email Script 2(1).pdf, Category: Recruitment Materials; • Resilience_permission.pdf, Category: Off-site authorizations (school permission, other IRB approvals, Tribal permission etc); • IPAQ_English_self-admin_short.pdf, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions);

	<ul style="list-style-type: none">• Eligibility_Demographic Questions.pdf, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions);
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APPROVAL: EXEMPTION GRANTED

Pamela Swan
Exercise Science and Health Promotion
602/827-2281
PSwan@asu.edu

Dear Pamela Swan:

On 9/24/2018 the ASU IRB reviewed the following protocol:

The IRB determined that the protocol is considered exempt pursuant to Federal Regulations 45CFR46 (2) Tests, surveys, interviews, or observation on 9/24/2018.

In conducting this protocol you are required to follow the requirements listed in the INVESTIGATOR MANUAL (HRP-103).

Sincerely,
IRB Administrator
cc:Gladys Yu
Devi Davis-Strong
Ann Sebren

APPENDIX C

PAT TILLMAN CENTER APPROVAL LETTER

Review PTVC support for ASU Women Veterans Study

Steven Borden

Tue 7/24, 1:47 PM Gladys Yu; Pamela Swan; Michelle Lopusky

Dr Swan, Gladys,

Thank you very much for coming over to the center and discussing this upcoming study. The Pat Tillman Veterans Center looks forward to helping make the opportunity available for our women veterans to participate.

We currently have 1231 female veterans that are generally eligible for your research pool.

I also thought it would be worth sharing that in addition to the 1231: I removed 56 from the count because they are still on active duty. 44 were removed from the count because they are still serving in a reserve or guard status (these may still have gone through a transition from active duty to reserve status) and another 113 were removed due to age 41 or over (some of these may have recently transitioned even though they are older).

In any case, I look forward to further collaboration on this. I believe that Michelle and I can support without being involved enough that it matters, but we have both completed the appropriate CITI training.

Thanks,
Steve

APPENDIX D

STUDY QUESTIONNAIRE LINK

LINK to Study Questionnaires on Qualtrics

bit.ly/ASUFemaleVeterans

APPENDIX E
EMAIL SCRIPT

Email Script:

Subject: ASU Women Veteran's Study

Hello, my name is Gladys Yu.

I am a second year Master's degree student in Exercise and Wellness in the College of Health Solutions. I am conducting a research study to explore some of the wellness needs of female college veterans making the transition from service to college/civilian life.

As a female veteran, you most likely know that you face a host of struggles both personally and academically that are unique to your veteran status. However, research that focuses primarily on the needs of female veterans' is limited and this population is woefully understudied in comparison to male veterans. Our goal is to understand some of the practices and coping behaviors that are related to your quality of life in hopes of creating future programs to help our female veterans with their transition into college and civilian life.

This study will involve completing a set of study questionnaires that will take you **25 -30 minutes**. These questionnaires consist of assessments of: quality of life, levels of physical activity, mindfulness skills, and resilience practices. Your participation in this study is voluntary and your responses will be collected anonymously and no one's individual data will be identified.

Only women veterans who attend ASU and are 20 – 40 years old are eligible to participate in this study. There are no foreseeable risks for your participation. All of your responses will be collected anonymously. NOTE: at the end of the study you will have an *option to choose* to share your name and email with us so that you can be eligible for a random drawing for a \$25 gift card.

To access the consent form to begin the study please click on this link: bit.ly/ASUFemaleVeterans

If you have any questions concerning the research study, please contact Gladys Yu (gmyu1@asu.edu) or Dr. Pamela Swan (pswan@asu.edu). We thank you in advance for your time and consideration of participating in this study.

Most Sincerely,

Gladys M. Yu

APPENDIX F
STUDY INFORMATION AND CONSENT FORM

**Associations of Physical Activity, Mindfulness, & Resilience Practices with
Perceived Quality of Life Among Female College Veterans**

GREETINGS! You are invited to participate in a research study to explore some of the wellness needs of female college veterans making the transition from service to college/civilian life. This study is being conducted by Gladys Yu a Master's Degree Student under the direction of Dr. Pamela Swan, from the College of Health Solutions, at ASU. The information below explains the study purpose and procedures. You are under no obligation to participate in this study and your participation in this study is voluntary. If you choose not to participate, or to withdraw from the study at any time, there will be no penalty. Only women veterans who attend ASU and are 20 – 40 years old are eligible to participate in this study.

As a female college veteran, you most likely know that you face a host of struggles both personally and academically that are unique to being a female veteran. However, research that focuses primarily on the needs of female veterans' is limited and this population is woefully understudied in comparison to male veterans. Our goal is to understand some of the practices and coping behaviors that are related to your quality of life in hopes of creating future programs to help our female veterans with their transition into college and civilian life.

We are inviting your participation, which will involve completing a set of online study questionnaires that will take you **25 -30 minutes**. These questionnaires consist of demographic questions and assessments of: i) quality of life, ii) levels of physical activity, iii) mindfulness skills, and iv) resilience practices.

There are no foreseeable risks or discomforts to your participation. All data will be collected anonymously. You will be provided a code number that is not linked to any personal identifying information. There are no direct benefits to you for participating in this study, however, the results may provide help us understand what is needed to develop appropriate and effective programing that may be helpful to future female veterans and students.

All responses will be collected anonymously and no one's individual data will be identified. Data will be analyzed in aggregate form only. The results of this study may be used for Gladys' Thesis, as well as in reports, presentations, or publications. Note that you will have an option at the end of the study to choose to share your name and email with us so that you can be eligible for a random drawing for a \$25 gift card. If you choose to share your name with us, this information will be filed completely independently of any of the responses you submitted in the questionnaires.

If you have any questions concerning the research study, please contact Gladys Yu (gmyu1@asu.edu) or Dr. Swan (pswan@asu.edu). If you have any questions about your rights as a subject/participant in this research, or if you feel you have been placed at risk, you can contact the Chair of the Human Subjects Institutional Review Board, through the ASU Office of Research Integrity and Assurance, at (480) 965- 6788.

Please click continue to read the participation consent form.

<<CONTINUE>>

**Associations of Physical Activity, Mindfulness, & Resilience Practices with
Perceived Quality of Life Among Female College Veterans**

CONSENT FORM

- I have read and understood the Participant Information Sheet.
- I have been given the opportunity to ask questions and have had them answered to my satisfaction.
- I understand that my participation is voluntary and that I am free to withdraw at any time without giving a reason.
- I understand that all information collected is confidential and anonymous.
- I understand that the results of this study may be used in reports, presentations, or publications and that all data will be analyzed in aggregate form and no one's individual data will be identified.
- I understand that at the end of the study will have the opportunity to enroll in a drawing for a \$25 gift card.
- I agree to take part in this research study.

If you consent, please click the arrow to continue to the study questions.



APPENDIX G
ELIGIBILITY AND DEMOGRAPHIC QUESTIONS

Eligibility

1. What year were you born?
2. What is your gender
 - a. Male
 - b. Female
 - c. Prefer not to say
3. Do you have previous military experience and now identified as a veteran and released under honorable conditions?
 - a. Yes
 - b. No
4. Are you currently a full-time or part-time undergraduate Arizona State University student?
 - a. Yes
 - b. No
5. Are you able to read and understand in English?
 - a. Yes
 - b. No

Demographics

6. Please specify your ethnicity?
 - a. White
 - b. Hispanic or Latino
 - c. Black or African American
 - d. Native American or American Indian
 - e. Asian/Pacific Islander
 - f. Other: Fill in comment box
7. What is your marital status?
 - a. Single, never married
 - b. Married or domestic partnership
 - c. Widowed
 - d. Divorced
 - e. Separated
8. Do you have children?
 - a. Yes
 - b. No
9. What branch in the military did you serve in?

- a. Marines
- b. Navy
- c. Army
- d. Air Force
- e. Coast Guard

10. What were your years of service?

11. When were you discharged?

12. Did you attend Arizona State University directly after service?

- a. Yes
- b. No

13. Post-service, what has your educational experience encompass?

Select all that apply

- Some online courses
- Some college credit, no degree
- Associate degree
- Trade/technical/vocational training

14. Do you currently work while attending college?

- a. Yes
- b. No

APPENDIX H

CONNOR-DAVIDSON RESILIENCE SCALE – USE OF APPROVAL

Dear Gladys:

Thank you for your interest in the Connor-Davidson Resilience Scale (CD-RISC). We are pleased to grant permission for use of the CD-RISC in the project you have described under the following terms of agreement:

1. You agree (i) not to use the CD-RISC for any commercial purpose unless permission has been granted, or (ii) in research or other work performed for a third party, or (iii) provide the scale to a third party without permission. If other colleagues or off-site collaborators are involved with your project, their use of the scale is restricted to the project described, and the signatory of this agreement is responsible for ensuring that all other parties adhere to the terms of this agreement.
2. You may use the CD-RISC in written form, by telephone, or in secure electronic format whereby the scale is protected from unauthorized distribution or the possibility of modification. **In all presentations of the CD-RISC, including electronic versions, the full copyright and terms of use statement must appear with the scale. The scale should not appear in any form where it is accessible to the public and should be removed from electronic and other sites once the project has been completed.**
3. Further information on the CD-RISC can be found at the _____ website. The scale's content may not be modified, although in some circumstances the formatting may be adapted with permission of either Dr. Connor or Dr. Davidson. If you wish to create a non-English language translation or culturally modified version of the CD-RISC, please let us know and we will provide details of the standard procedures.
4. Three forms of the scale exist: the original 25 item version and two shorter versions of 10 and 2 items respectively. When using the CD-RISC 25, CD-RISC 10 or CD-RISC 2, whether in English or other language, please include the full copyright statement and use restrictions as it appears on the scale.
5. A student-rate fee of \$ 30 US is payable to Jonathan Davidson at 325 Carolina Meadows Villa, Chapel Hill, NC 27517, USA, either by PayPal (_____, account _____), cheque, bank wire transfer (in US \$\$), international money order or Western Union.
6. Complete and return this form via email to _____.
7. In any publication or report resulting from use of the CD-RISC, you do not publish or partially reproduce items from the CD-RISC without first securing permission from the authors.

If you agree to the terms of this agreement, please email a signed copy to the above email address. Upon receipt of the signed agreement and of payment, we will email a copy of the scale.

For questions regarding use of the CD-RISC, please contact Jonathan Davidson at _____ . We wish you well in pursuing your goals.

Sincerely yours,

Jonathan R. T. Davidson, M.D.
Kathryn M. Connor, M.D.

Agreed to by:

Gladys Yu Gladys Yu
Signature (printed)

July 13, 2018
Date

Graduate Student
Title

Arizona State University
Organization

APPENDIX I

CONNOR DAVIDSON RESILIENCE SCALE 25

Connor-Davidson Resilience Scale 25 (CD-RISC-25) ©

For each item, please mark an "x" in the box below that best indicates how much you agree with the following statements as they apply to you over the last month. If a particular situation has not occurred recently, answer according to how you think you would have felt.

	not true at all (0)	rarely true (1)	sometimes true (2)	often true (3)	true nearly all the time (4)
1. I am able to adapt when changes occur.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. I have at least one close and secure relationship that helps me when I am stressed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. When there are no clear solutions to my problems, sometimes fate or God can help.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. I can deal with whatever comes my way.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Past successes give me confidence in dealing with new challenges and difficulties.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. I try to see the humorous side of things when I am faced with problems.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Having to cope with stress can make me stronger.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. I tend to bounce back after illness, injury, or other hardships.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Good or bad, I believe that most things happen for a reason.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. I give my best effort no matter what the outcome may be.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. I believe I can achieve my goals, even if there are obstacles.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Even when things look hopeless, I don't give up.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. During times of stress/crisis, I know where to turn for help.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Under pressure, I stay focused and think clearly.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. I prefer to take the lead in solving problems rather than letting others make all the decisions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. I am not easily discouraged by failure.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. I think of myself as a strong person when dealing with life's challenges and difficulties.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. I can make unpopular or difficult decisions that affect other people, if it is necessary.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. I am able to handle unpleasant or painful feelings like sadness, fear, and anger.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. In dealing with life's problems, sometimes you have to act on a hunch without knowing why.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21. I have a strong sense of purpose in life.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22. I feel in control of my life.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23. I like challenges.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24. I work to attain my goals no matter what roadblocks I encounter along the way.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25. I take pride in my achievements.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Add up your score for each column 0 + ____ + ____ + ____ + ____

Add each of the column totals to obtain CD-RISC score = _____

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APPENDIX J

QUALITY OF LIFE – PEARSON APPROVAL OF USE LETTER



Rights & Permissions
Care of Pearson South Africa
4th Floor, Auto Atlantic
Corner Hertzog Boulevard &
Heerengracht
Cape Town, 8001
South Africa
+27 (0)21 532 6000

August 20, 2018
Gladys Yu
22008 Neptune Ave
Carson
CA 90745

Re: Quality of Life Inventory (QOLI)

Pearson Reference # **PC030**

Dear Gladys Yu,

Thank you for your request for permission to reproduce the QOLI from the Product for submission to your Institutional Review board (IRB) approval requirements.

We have no objection to the use of this material for the purpose as stated above subject to the following Terms and Conditions:

1. You have Pearson permission to reproduce one copy of the questionnaire form for review by your IRB.
2. The copy you submit should have a watermark stating "For IRB Review Only-Not for Administration". This permission expires August, 2019.
3. Please ensure the following copyright and trademark notice(s) are present:

Quality of Life Inventory). Copyright © 1993 NCS Pearson, Inc. Used with permission. All rights reserved.

QOLI® is a registered trademark of Michael B. Frisch, Ph.D.

Thank you for your interest in our materials. If you need additional assistance, please contact the Global Permissions Granting Team at USApermissions@pearson.com.

Sincerely,

Julia Alexander
Global Permissions Granting Analyst
Global Innovation & Services
ALWAYS LEARNING



APPENDIX K
QUALITY OF LIFE INVENTORY

QOLI Text

This part of the survey asks how satisfied you are with parts of your life such as your work and your health. It also asks how important these things are to your happiness. Special definitions are used for words like "money," "work," and "play." Keep these definitions in mind as you answer the questions. Answer every question, even if it does not seem to apply to you. It is your feelings and opinions that are important, so there are no right or wrong answers. Just give the answers that best describe you.

The survey asks you to describe how **important** certain parts of your life (such as work and health) are and how **satisfied** you are with them.

Important means how much this part of your life adds to your overall happiness. You can say how important something is by picking one of three choices: "Not Important", "Important", or "Extremely Important."

Satisfied means how well your needs, goals, and wishes are being met in this area of life. You can say how satisfied you are by picking one of six choices from "Very Dissatisfied" to "Very Satisfied."

For each question, select the answer that best describes you. (**Note that there are 16 different items such as; work, health, money, play, etc.**)

1. **HEALTH** is being physically fit, not sick, and without pain or disability.

How **important** is HEALTH to your happiness?

Not Important		Important		Extremely Important	
How satisfied are you with your HEALTH?					
Very Dissatisfied	Somewhat Dissatisfied	A Little Dissatisfied	A Little Satisfied	Somewhat Satisfied	Very Satisfied

HEALTH: List any problems that get in the way of your satisfaction in this area of life. Please take your time, be specific, and write *as much as you want* to help explain what reduces your satisfaction in this area of life.

(OPTIONAL) _____

2. **SELF-ESTEEM** means liking and respecting yourself in light of your strengths and weaknesses, successes and failures, and ability to handle problems.

How **important** is SELF-ESTEEM to your happiness?

Not Important		Important		Extremely Important	
How satisfied are you with your Self Esteem?					
Very Dissatisfied	Somewhat Dissatisfied	A Little Dissatisfied	A Little Satisfied	Somewhat Satisfied	Very Satisfied

Self Esteem: List any problems that get in the way of your satisfaction in this area of life. Please take your time, be specific, and write *as much as you want* to help explain what reduces your satisfaction in this area of life.

(OPTIONAL) _____

3. **Goals and Values** are your beliefs about what matters most in life and how you should live, both now and in the future. This includes your goals in life, what you think is right or wrong, and the purpose or meaning of life as you see it.

How **important** is Goals and Values to your happiness?

Not Important			Important			Extremely Important		
How satisfied are you with your Goals and Values?								
Very Dissatisfied			Somewhat Dissatisfied			A Little Dissatisfied		
A Little Satisfied			Somewhat Satisfied			Very Satisfied		

Goals and Values: List any problems that get in the way of your satisfaction in this area of life. Please take your time, be specific, and write *as much as you want* to help explain what reduces your satisfaction in this area of life.

(OPTIONAL) _____

4. **MONEY** is made up of three things. It is the money you earn, the things you own (like a car or furniture), and believing that you will have the money and things that you need in the future.

How **important** is MONEY to your happiness?

Not Important			Important			Extremely Important		
How satisfied are you with your MONEY?								
Very Dissatisfied			Somewhat Dissatisfied			A Little Dissatisfied		
A Little Satisfied			Somewhat Satisfied			Very Satisfied		

MONEY: List any problems that get in the way of your satisfaction in this area of life. Please take your time, be specific, and write *as much as you want* to help explain what reduces your satisfaction in this area of life.

(OPTIONAL) _____

5. **WORK** means your career or how you spend most of your time. You may work at a job, at home taking care of your family, or at school as a student. **WORK** includes your duties on the job, the money you earn (if any), and the people you work with. (If you are unemployed, retired, or can't work, you can still answer these questions).

How **important** is WORK to your happiness?

Not Important			Important			Extremely Important		
How satisfied are you with your Work?								
Very Dissatisfied			Somewhat Dissatisfied			A Little Dissatisfied		
A Little Satisfied			Somewhat Satisfied			Very Satisfied		

WORK: List any problems that get in the way of your satisfaction in this area of life. Please take your time, be specific, and write *as much as you want* to help explain what reduces your satisfaction in this area of life.

(OPTIONAL) _____

6. **PLAY** is what you do in your free time to relax, have fun, or improve yourself. This could include watching movies, visiting friends, or pursuing a hobby like sports or gardening.

How **important** is PLAY to your happiness?

Not Important			Important			Extremely Important		
---------------	--	--	-----------	--	--	---------------------	--	--

How **satisfied** are you with your PLAY?

Very Dissatisfied	Somewhat Dissatisfied	A Little Dissatisfied	A Little Satisfied	Somewhat Satisfied	Very Satisfied
----------------------	--------------------------	--------------------------	-----------------------	-----------------------	-------------------

PLAY: List any problems that get in the way of your satisfaction in this area of life. Please take your time, be specific, and write *as much as you want* to help explain what reduces your satisfaction in this area of life. (OPTIONAL) _____

7. **LEARNING** means gaining new skills or information about things that interest you. LEARNING can come from reading or taking classes on subjects like history, car repair, or using a computer.

How **important** is Learning to your happiness?

Not Important	Important			Extremely Important	
How satisfied are you with your Learning?					
Very Dissatisfied	Somewhat Dissatisfied	A Little Dissatisfied	A Little Satisfied	Somewhat Satisfied	Very Satisfied

LEARNING: List any problems that get in the way of your satisfaction in this area of life. Please take your time, be specific, and write *as much as you want* to help explain what reduces your satisfaction in this area of life. (OPTIONAL) _____

8. **CREATIVITY** is using your imagination to come up with new and clever ways to solve everyday problems or to pursue a hobby like painting, photography, or needlework. This can include decorating your home, playing the guitar, or finding a new way to solve a problem at work.

How **important** is Creativity to your happiness?

Not Important	Important			Extremely Important	
How satisfied are you with your Creativity?					
Very Dissatisfied	Somewhat Dissatisfied	A Little Dissatisfied	A Little Satisfied	Somewhat Satisfied	Very Satisfied

Creativity: List any problems that get in the way of your satisfaction in this area of life. Please take your time, be specific, and write *as much as you want* to help explain what reduces your satisfaction in this area of life. (OPTIONAL) _____

9. **HELPING** means helping others in need or helping to make your community a better place to live. HELPING can be done on your own or in a group like a church, a neighborhood association, or a political party. HELPING can include doing volunteer work at a school or giving money to a good cause. HELPING means helping people who are not your friends or relatives.

How **important** is HELPING to your happiness?

Not Important	Important			Extremely Important	
How satisfied are you with your HELPING?					
Very Dissatisfied	Somewhat Dissatisfied	A Little Dissatisfied	A Little Satisfied	Somewhat Satisfied	Very Satisfied

HELPING: List any problems that get in the way of your satisfaction in this area of life. Please take your time, be specific, and write *as much as you want* to help explain what reduces your satisfaction in this area of life.

(OPTIONAL) _____

10. LOVE is a very close romantic relationship with another person. LOVE usually includes sexual feelings and feeling loved, cared for, and understood. (If you do not have a LOVE relationship, you can still answer these questions.)

How **important** is LOVE to your happiness?

Not Important			Important			Extremely Important		
How satisfied are you with your LOVE?								
Very	Somewhat	A Little		A Little	Somewhat	Very		
Dissatisfied	Dissatisfied	Dissatisfied		Satisfied	Satisfied	Satisfied		

LOVE: List any problems that get in the way of your satisfaction in this area of life. Please take your time, be specific, and write *as much as you want* to help explain what reduces your satisfaction in this area of life. (OPTIONAL)

11. FRIENDS are people (not relatives) you know well and care about who have interests and opinions like yours. FRIENDS have fun together, talk about personal problems, and help each other out. (If you have no FRIENDS, you can still answer these questions.)

How **important** are FRIENDS to your happiness?

Not Important			Important			Extremely Important		
How satisfied are you with your Friends?								
Very	Somewhat	A Little		A Little	Somewhat	Very		
Dissatisfied	Dissatisfied	Dissatisfied		Satisfied	Satisfied	Satisfied		

Friends: List any problems that get in the way of your satisfaction in this area of life. Please take your time, be specific, and write *as much as you want* to help explain what reduces your satisfaction in this area of life.

(OPTIONAL) _____

12. CHILDREN means how you get along with your child (or children). Think of how you get along as you care for, visit, or play with your child. (If you do have CHILDREN, you can still answer these questions.)

How **important** are CHILDREN to your happiness? (If you have no CHILDREN, say how important having a child is to your happiness.)

Not Important			Important			Extremely Important		
How satisfied are you with your CHILDREN?								
Very	Somewhat	A Little		A Little	Somewhat	Very		
Dissatisfied	Dissatisfied	Dissatisfied		Satisfied	Satisfied	Satisfied		

Children: List any problems that get in the way of your satisfaction in this area of life. Please take your time, be specific, and write *as much as you want* to help explain what reduces your satisfaction in this area of life.

(OPTIONAL) _____

13. RELATIVES means how you get along with your parents, grandparents, brothers, sisters, aunts, uncles, and in-laws. Think about how you get along when you are doing things together like visiting, talking on the telephone, or helping each other out. (If you have no living RELATIVES, select (0 - Not Important) for this question.

How **important** are RELATIVES to your happiness?

Not Important			Important			Extremely Important			
How satisfied are you with your Relatives?									
Very		Somewhat		A Little		A Little		Very	
Dissatisfied		Dissatisfied		Dissatisfied		Satisfied		Satisfied	

Relatives: List any problems that get in the way of your satisfaction in this area of life. Please take your time, be specific, and write *as much as you want* to help explain what reduces your satisfaction in this area of life.

(OPTIONAL) _____

14. HOME is where you live. It is your house or apartment and the yard around it. Think about how nice it looks, how big it is, and your rent or house payment.

How **important** is HOME to your happiness?

Not Important			Important			Extremely Important			
How satisfied are you with your HOME?									
Very		Somewhat		A Little		A Little		Very	
Dissatisfied		Dissatisfied		Dissatisfied		Satisfied		Satisfied	

HOME: List any problems that get in the way of your satisfaction in this area of life. Please take your time, be specific, and write *as much as you want* to help explain what reduces your satisfaction in this area of life.

(OPTIONAL) _____

15. NEIGHBORHOOD is the area around your home. Think about how nice it looks, the amount of crime in the area, and how well you like the people.

How **important** is Neighborhood to your happiness?

Not Important			Important			Extremely Important			
How satisfied are you with your Neighborhood?									
Very		Somewhat		A Little		A Little		Very	
Dissatisfied		Dissatisfied		Dissatisfied		Satisfied		Satisfied	

Neighborhood: List any problems that get in the way of your satisfaction in this area of life. Please take your time, be specific, and write *as much as you want* to help explain what reduces your satisfaction in this area of life.

(OPTIONAL) _____

16. COMMUNITY is the whole city, town, or rural area where you live (it is not just your neighborhood). COMMUNITY includes how nice the area looks, the amount of crime, and how well you like the people. It also includes places to go for fun like parks, concerts, sporting events, and restaurants. You may also consider the cost of things you need to buy, the availability of jobs, the government, schools, taxes, and pollution.

How **important** is Community to your happiness?

Not Important

Important

Extremely Important

How **satisfied** are you with your Community?

Very
Dissatisfied

Somewhat
Dissatisfied

A Little
Dissatisfied

A Little
Satisfied

Somewhat
Satisfied

Very
Satisfied

Community: List any problems that get in the way of your satisfaction in this area of life. Please take your time, be specific, and write *as much as you want* to help explain what reduces your satisfaction in this area of life.

(OPTIONAL) _____

APPENDIX L

FIVE FACET MINDFULNESS QUESTIONNAIRE

Five Facet Mindfulness Questionnaire

Description:

This instrument is based on a factor analytic study of five independently developed mindfulness questionnaires. The analysis yielded five factors that appear to represent elements of mindfulness as it is currently conceptualized. The five facets are observing, describing, acting with awareness, non-judging of inner experience, and non-reactivity to inner experience. More information is available in:

Please rate each of the following statements using the scale provided. Write the number in the blank that best describes your own opinion of what is generally true for you.

1	2	3	4	5
never or very rarely true	rarely true	sometimes true	often true	very often or always true

- _____ 1. When I'm walking, I deliberately notice the sensations of my body moving.
 - _____ 2. I'm good at finding words to describe my feelings.
 - _____ 3. I criticize myself for having irrational or inappropriate emotions.
 - _____ 4. I perceive my feelings and emotions without having to react to them.
 - _____ 5. When I do things, my mind wanders off and I'm easily distracted.
 - _____ 6. When I take a shower or bath, I stay alert to the sensations of water on my body.
 - _____ 7. I can easily put my beliefs, opinions, and expectations into words.
 - _____ 8. I don't pay attention to what I'm doing because I'm daydreaming, worrying, or otherwise distracted.
 - _____ 9. I watch my feelings without getting lost in them.
 - _____ 10. I tell myself I shouldn't be feeling the way I'm feeling.
 - _____ 11. I notice how foods and drinks affect my thoughts, bodily sensations, and emotions.
 - _____ 12. It's hard for me to find the words to describe what I'm thinking.
 - _____ 13. I am easily distracted.
 - _____ 14. I believe some of my thoughts are abnormal or bad and I shouldn't think that way.
-

- _____ 15. I pay attention to sensations, such as the wind in my hair or sun on my face.
- _____ 16. I have trouble thinking of the right words to express how I feel about things
- _____ 17. I make judgments about whether my thoughts are good or bad.
- _____ 18. I find it difficult to stay focused on what's happening in the present.
- _____ 19. When I have distressing thoughts or images, I "step back" and am aware of the thought or image without getting taken over by it.
- _____ 20. I pay attention to sounds, such as clocks ticking, birds chirping, or cars passing.
- _____ 21. In difficult situations, I can pause without immediately reacting.
- _____ 22. When I have a sensation in my body, it's difficult for me to describe it because I can't find the right words.
- _____ 23. It seems I am "running on automatic" without much awareness of what I'm doing.
- _____ 24. When I have distressing thoughts or images, I feel calm soon after.
- _____ 25. I tell myself that I shouldn't be thinking the way I'm thinking.
- _____ 26. I notice the smells and aromas of things.
- _____ 27. Even when I'm feeling terribly upset, I can find a way to put it into words.
- _____ 28. I rush through activities without being really attentive to them.
- _____ 29. When I have distressing thoughts or images I am able just to notice them without reacting.
- _____ 30. I think some of my emotions are bad or inappropriate and I shouldn't feel them.
- _____ 31. I notice visual elements in art or nature, such as colors, shapes, textures, or patterns of light and shadow.
- _____ 32. My natural tendency is to put my experiences into words.
- _____ 33. When I have distressing thoughts or images, I just notice them and let them go.
- _____ 34. I do jobs or tasks automatically without being aware of what I'm doing.
- _____ 35. When I have distressing thoughts or images, I judge myself as good or bad, depending what the thought/image is about.
- _____ 36. I pay attention to how my emotions affect my thoughts and behavior.
- _____ 37. I can usually describe how I feel at the moment in considerable detail.
- _____ 38. I find myself doing things without paying attention.
- _____ 39. I disapprove of myself when I have irrational ideas.

Scoring Information:

Observe items:

1, 6, 11, 15, 20, 26, 31, 36

Describe items:

2, 7, 12R, 16R, 22R, 27, 32, 37

Act with Awareness items:

5R, 8R, 13R, 18R, 23R, 28R, 34R, 38R

Nonjudge items:

3R, 10R, 14R, 17R, 25R, 30R, 35R, 39R

Nonreact items:

4, 9, 19, 21, 24, 29, 33

Reference:

Baer, R. A., Smith, G. T., Hopkins, J., Krietemeyer, J., & Toney, L. (2006). Using self-report assessment methods to explore facets of mindfulness. *Assessment, 13*, 27-45.

APPENDIX M

INTERNATIONAL PHYSICAL ACTIVITY QUESTIONNAIRE – SHORT FORM

INTERNATIONAL PHYSICAL ACTIVITY QUESTIONNAIRES

IPAQ: SHORT LAST 7 DAYS SELF-ADMINISTERED FORMAT

FOR USE WITH YOUNG AND MIDDLE-AGED ADULTS

The International Physical Activity Questionnaires (IPAQ) comprises a set of 4 questionnaires. Long (5 activity domains asked independently) and short (4 generic items) versions for use by either telephone or self-administered methods are available. The purpose of the questionnaires is to provide common instruments that can be used to obtain internationally comparable data on health-related physical activity.

Background on IPAQ

The development of an international measure for physical activity commenced in Geneva in 1998 and was followed by extensive reliability and validity testing undertaken in 12 countries (14 sites) across 6 continents during 2000. The final results suggest that these measures have acceptable measurement properties for use in many settings and in different languages. IPAQ is suitable for use in regional, national and international monitoring and surveillance systems and for use in research projects and public health program planning and evaluation. International collaboration on IPAQ is on-going and an international prevalence study is under development.

Using IPAQ

Worldwide use of the IPAQ instruments for monitoring and research purposes is encouraged.

It is strongly recommended, to ensure data quality and comparability and to facilitate the development of an international database on health-related physical activity, that

- no changes be made to the order or wording of the questions as this will affect the psychometric properties of the instruments,
- if additional questions on physical activity are needed they should follow the IPAQ items,
- translations are undertaken using the prescribed back translation methods (see website)
- new translated versions of IPAQ be made available to others via the web site to avoid duplication of effort and different versions in the same language,
- a copy of IPAQ data from representative samples at national, state or regional level be provided to the IPAQ data storage center for future collaborative use (with permission) by those who contribute.

More Information

Two scientific publications presenting the methods and the pooled results from the IPAQ reliability and validity study are due out in 2002.

More detailed information on the IPAQ process, the research methods used in the development of the IPAQ instruments, the use of IPAQ, the published papers and abstracts and the on-going international collaboration is available on the IPAQ web-site.

www.ipaq.ki.se

This is the final SHORT LAST 7 DAYS SELF-ADMINISTERED version of IPAQ from the 2000/01 Reliability and Validity Study. Completed May 2001.

INTERNATIONAL PHYSICAL ACTIVITY QUESTIONNAIRE

We are interested in finding out about the kinds of physical activities that people do as part of their everyday lives. This is part of a large study being conducted in many countries around the world. Your answers will help us to understand how active we are compared with people in other countries.

The questions are about the time you spent being physically active in the last 7 days. They include questions about activities you do at work, as part of your house and yard work, to get from place to place, and in your spare time for recreation, exercise or sport.

Your answers are important.

Please answer each question even if you do not consider yourself to be an active person.

THANK YOU FOR PARTICIPATING.

In answering the following questions,

- ◆ **vigorous** physical activities refer to activities that take hard physical effort and make you breathe much harder than normal.
- ◆ **moderate** activities refer to activities that take moderate physical effort and make you breathe somewhat harder than normal.

- 1a. During the last 7 days, on how many days did you do **vigorous** physical activities like heavy lifting, digging, aerobics, or fast bicycling,?

Think about *only* those physical activities that you did for at least 10 minutes at a time.

_____ days per week ⇨

or

ê none

- 1b. How much time in total did you usually spend on one of those days doing vigorous physical activities?

_____ hours _____ minutes

- 2a. Again, think *only* about those physical activities that you did for at least 10 minutes at a time. During the last 7 days, on how many days did you do **moderate** physical activities like carrying light loads, bicycling at a regular pace, or doubles tennis? Do not include walking.

_____ days per week ⇨

or

ê none

- 2b. How much time in total did you usually spend on one of those days doing moderate physical activities?

_____ hours _____ minutes

- 3a. During the last 7 days, on how many days did you **walk** for at least 10 minutes at a time? This includes walking at work and at home, walking to travel from place to place, and any other walking that you did solely for recreation, sport, exercise or leisure.

_____ days per week ⇨

or

ê none

- 3b. How much time in total did you usually spend walking on one of those days?

_____ hours _____ minutes

The last question is about the time you spent **sitting** on weekdays while at work, at home, while doing course work and during leisure time. This includes time spent sitting at a desk, visiting friends, reading traveling on a bus or sitting or lying down to watch television.

4. During the last 7 days, how much time in total did you usually spend *sitting* on a week day?

_____ hours _____ minutes

This is the end of questionnaire, thank you for participating.

APPENDIX N

FLYER #1



Seeking College Female Veterans!

PARTICIPATE IN A QUESTIONNAIRE TO HELP US LEARN MORE ABOUT FEMALE COLLEGE VETERANS PERCEIVED QUALITY OF LIFE AND THE TRANSITION BACK INTO COLLEGE AND CIVILIAN LIFE

Eligibility



- Previous military experience and now identified as a veteran
- Undergraduate degree seeking ASU student
- Females 20 to 40 years old
- Able to read and understand English



To participate, visit bit.ly/ASUFemaleVeterans
For additional information, visit bit.ly/ASUVets



Women Veterans Study
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APPENDIX O

FLYER # 2



SEEKING COLLEGE FEMALE VETERANS



**PARTICIPATE IN A QUESTIONNAIRE TO HELP US LEARN
MORE ABOUT FEMALE COLLEGE VETERANS
PERCEIVED QUALITY OF LIFE AND THE TRANSITION
BACK INTO COLLEGE AND CIVILIAN LIFE**

Eligibility

- Previous military experience and now identified as a veteran
- Undergraduate degree seeking ASU student
- Females 20 to 40 years old
- Able to read and understand English

To participate, click the link below!

bit.ly/ASUFemaleVeterans

For additional information, visit bit.ly/ASUVets

