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College students are at risk for adverse mental and physical health. Physical activity (PA) can reduce risks and promote positive mental health; however, less than half (49.9%) of college students meet the American College of Sports Medicine (2017) recommendations for PA. The purpose of this study was to implement and evaluate an evidence-based PA program (#ubwell) designed in collaboration with university counseling services to enhance mood states and promote continued PA in college students. The program was held for 5 weeks. Students ($n = 21$) completed pre and post measures of perceived health, PA participation, intrinsic motivation, and mood states, and a post program evaluation. Additionally, participants recorded Feeling Scale and Felt Arousal Scale ratings before, during (mid-way) and after each weekly PA session. Results showed intrinsic motivation significantly increased from pre to post ($p = .02$). Participants experienced increases in positive feelings and energy levels across all PA sessions. However, pre and post measures of perceived health, PA participation, and mood states did not differ. Confounding factors such as participant illness, campus mourning (i.e., deaths of two students the week before), and mid-term/final exams may have influenced results. Possibly, PA provided a coping strategy during those stressful times that maintained mood and PA participation levels. Additional research with larger samples and longer programs may provide greater insight into the benefits of PA programs for mental health and wellness.

THE EFFECTS OF A PHYSICAL ACTIVITY PROGRAM
ON MOOD STATES IN COLLEGE STUDENTS

by

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CHAPTER I

PROJECT OVERVIEW

College students are experiencing mental health concerns such as anxiety (21.9%) and depression (18.1%) (American College Health Association, 2017), which can lead to acute physical symptoms and ultimately, chronic disease. This is not surprising due to the multitude of stressors they experience as they transition into young adulthood. Life changes such as leaving home, gaining independence, making new friends, earning good grades, managing finances, and navigating health habits (Bray & Born, 2004) can result in repeated experiences of emotions such as worry, fear, and anger. Such worries and concerns can be the source of negative mood states such as sadness, tension, and/or anxiety (Ekkekakis, 2012). Without actively pursuing healthy coping strategies, persistent negative mood states will translate into chronic anxiety and depression, acute physiological symptoms, and ultimately, chronic illness (Michopoulos, 2019; National Institute of Mental Health, n.d.).

Physical activity (PA) is an optimal coping strategy as it provides both mental and physical benefits. Specifically, PA mimics the effects of antidepressants by stimulating the “feel good” neurotransmitters (i.e., dopamine, norepinephrine, serotonin) (Blumenthal et al., 2007) and enhances psychological processes (i.e., self-efficacy, self-confidence, and self-esteem). Additionally, PA provides physical benefits by reducing acute (e.g., muscle tension) and chronic (e.g., heart disease) physiological symptoms and

illnesses. However, despite these known benefits, 51.1% of college students are not engaging in moderate to vigorous PA (ACHA, 2017) and report barriers such as lack of time, motivation, and energy. Consequently, there is a critical need to develop PA programs for this population that promote positive mood experiences to help students overcome PA barriers which will improve mental and physical health.

Meeting this need has long-term benefits for individuals and society. Most of the U.S. population is either currently enrolled in (i.e., 50% of young adults ages 18 – 21) or attended/graduated from higher education institutions (i.e., 47.7% ages 24 and up) (United States Census Bureau, 2017b, 2017a). As this is a significant segment of the U.S. population, medical costs associated with mental health care will continue to rise. For example, the current burden of anxiety and depression costs the U.S. an estimated \$252.5 billion annually (Anxiety and Depression Association of America, 2016) and is predicted to be the leading burden in 2020 (Mammen & Faulkner, 2013).

Background and Rationale

According to Haas and colleagues (2017), “how we feel is crucial for mental and physical health” (p. 588). Given that 40% of college students report that anxiety or depression adversely impacts their daily lives (ACHA, 2017), their mental and physical health is compromised. Not surprisingly, the multitude of stressors and resulting negative mood states can contribute to or exacerbate mental illnesses such as anxiety and depression (Melnyk et al., 2013). Anxiety is excessive worry about typical, every day concerns (e.g., grades, relationships, finances), and while it is normal to feel anxious about life occurrences, persistent anxieties can morph into physical ailments and/or

disease (NIMH, n.d.). Those who suffer from anxiety may also suffer from depression. Depression is a state of persistent sadness, hopelessness, irritability, guilt, and restlessness. Both adversely impact overall health, sleep, concentration, appetite, and possibly, life itself (i.e., suicide) (NIMH, n.d.).

Similarly, negative mood and negative affect states of displeasure, tension, and tiredness (Ekkekakis, 2012) can contribute to anxiety and depression (Haas et al., 2017). Affect is a broad, primitive feeling state that requires minimal thought and integrates overall emotions and mood. Emotions are temporary reactions to a person, object or event, past or present (e.g., anger, love) (Ekkekakis, 2012). Mood states last longer than emotions, have a root cause, and may be experienced directly or remotely from the root cause (Ekkekakis, 2012). For example, a person can wake up in a bad mood due to a negative experience they had the day before. Affect and mood states can be described as bad or good and can be consciously elicited or altered. For example, while negative mood (e.g., sadness) and affect (e.g., tension) can contribute to poor mental health, positive mood and affect can improve mental health by invoking a state of happiness, pleasure, relaxation, and/or energy (Ekkekakis, 2012). As mood states are integrated with affect, and affect can be elicited or altered, interventions that can promote positive mood states should be encouraged and pursued. Possible interventions include medications, counseling, and physical activity.

Interventions

The most common mental health interventions are medications and counseling services. Medications include anti-anxiety drugs (e.g., Klonopin, Valium, Ativan) and/or

antidepressants (e.g., Zoloft, Lexapro, Paxil) that work by releasing neurotransmitters (i.e., serotonin, norepinephrine, dopamine), which change the brain's chemistry, improving mood and energy levels. As a result, anxious students feel relaxed and calmer, and depressed students feel happier and energized. However, medications do not work for everyone, can cause unfavorable side effects (e.g., gastrointestinal distress), and can be just as effective as a placebo (Blumenthal et al., 2007; Blumenthal, Smith, & Hoffman, 2012).

Counseling psychology clinicians help people function in their daily lives by focusing on emotional, mental, and physical health through individual, group, or family therapy (American Psychological Association, n.d.). Counseling services are typically available on college campuses at minimal or no charge. However, depending on the size of the institution, only 7-23% of college students seek out these services (Reetz et al., 2016). This may be due to the stigma of therapy itself; some students may not want to go to therapy for fear of being labeled as “crazy” or “psycho” (Wu et al., 2017).

Physical activity (PA) is another viable option. PA is a broad term for any skeletal movement conducted above resting levels and is beneficial for both mental and physical health. PA improves mood, provides positive affect experiences, increases positive feelings such as pleasure and happiness, releases anxieties, and alleviates depression without side effects or exorbitant costs (Blumenthal et al., 2012; Craft & Perna, 2004). In the long-term, students who regularly participate in PA will be more resilient to stress, happier, and less anxious/depressed (Balish, Conacher, & Dithurbide, 2016; Blumenthal et al., 2007, 2012). Research suggests several mechanisms behind these benefits. First,

PA can be as effective as antidepressant medications (Blumenthal et al., 2007). Engaging in PA promotes robust action of dopamine, norepinephrine, and serotonin (i.e., neurotransmitters), resulting in “feeling good” and ultimately, experiencing positive mood states. Second, PA increases psychological processes such as self-efficacy, self-confidence, and self-esteem thereby improving overall mood (Haas et al., 2017). Finally, PA improves sleep, strengthens the body’s cardiorespiratory system, strengthens immunity, and reduces risk of chronic disease (U.S. Department of Health and Human Services, 2018).

Despite its known benefits, PA is underutilized as a coping strategy to promote mental health (Ekkekakis & Murri, 2017; Weir, 2011). Less than half (49.9%) of college students meet ACSM (2017) moderate-vigorous aerobic exercise recommendations (ACHA, 2017). This is not due to lack of resources. Typically, college campuses provide recreation and/or fitness centers at minimal or no cost (as such fees are included in overall tuition and fees). Despite having these resources, students are not active, reporting barriers such as lack of motivation, energy, and time (Goldstein, Xie, Hawkins, & Hughes, 2015). Therefore, to encourage continuous PA behavior, intervention programs are needed to help students overcome barriers, increase exercise adherence, and promote positive mood states.

PA Programming

Framed around evidence-based practices and theories, PA programs can be designed to promote positive mood experiences. For example, the ACSM (2017) guidelines specify the recommended frequency, intensity, time, and type of activities

needed to improve the fitness components (i.e., cardiorespiratory fitness, muscular fitness, flexibility) (Garber et al., 2011). However, to improve mood states, it is unclear how effective these guidelines are. For example, it is suggested that engaging in at least two days per week of PA improves mood in college students (Annesi, Porter, Hill, & Goldfine, 2017); however, others suggest that positive mood is invoked by PA of longer duration and/or higher intensity (Mata et al., 2012). Additionally, as lack of time, energy, and motivation are common PA barriers college students face (Goldstein et al., 2015), it is plausible that students perceive the guidelines as overwhelming and unattainable. Further, students who are depressed or anxious may already be sedentary and may not be motivated to be physically active (Craft & Perna, 2004). While frequency, intensity, and duration guidelines of various activities to improve fitness components are clear, prescribing activities in the same fashion to promote positive mood states and affect is subjective and difficult to quantify. Due to these limitations, it may be more feasible to recommend PA that students feel are enjoyable and fun (Ekkekakis, Hargreaves, & Parfitt, 2013).

Another consideration is how to monitor intensity during activity. Engaging in PA that is effective, safe, pleasant, enjoyable, and fun and enhances positive mood is more likely to be continued repeatedly (Ekkekakis, Hargreaves, & Parfitt, 2013; Ladwig, Hartman, & Ekkekakis, 2017; Williams et al., 2016). Using the Feeling Scale (FS) (Hardy & Rejeski, 1989) to describe how one is feeling might be a better approach to measure PA experiences (Ekkekakis, Parfitt, & Petruzzello, 2011; Rose & Parfitt, 2008). Using this scale, students can rate how they are feeling before, during, and after PA from

very bad (-5) to neutral (0) to very good (+5). While concerns might be raised as to whether engaging in PA that simply “feels good” is sufficient for physical health gains, research shows that enjoyable PA that “feels good” can meet these challenges. For example, Elsangedy and colleagues (2018) found that participants who rated how they were feeling as “fairly bad” (-1) to “good” (+3) on the FS did meet ACSM guidelines for muscular fitness, achieving 55% - 85% of their 1 RM. Energy/arousal levels can also affect mood states. The Felt Arousal Scale (FAS) (Svebak & Murgatroyd, 1985) measures arousal on a continuum from high arousal (e.g., anxiety, anger, excitement) to low arousal (e.g., boredom, calmness, relaxation). Using such scales to monitor how a student is feeling during PA can not only elicit positive mood states, but also repeated engagement in activities the student enjoys.

Finally, to promote positive PA experiences, an evidence-based motivational theory should serve as the PA program framework (Ekkekakis et al., 2013). One example is the Self-Determination Theory (SDT) (Ryan & Deci, 2008). Research shows that SDT is an effective framework for fostering PA motivation and behavioral change (Kinnafick, Thøgersen-Ntoumani, & Duda, 2014; Ryan & Deci, 2008; Ryan, Patrick, Deci, & Williams, 2008; Silva et al., 2008). SDT purports that humans seek to be challenged and active in order to stimulate growth and reach their fullest physical and mental health potential (Ryan & Deci, 2008). One SDT sub-theory is the basic psychological needs theory which states that when the essential needs of autonomy, competence, and relatedness are met, then students will be more intrinsically motivated to engage in a particular behavior (e.g., PA). Autonomy is the freedom to make choices, which can be

accomplished through providing multiple options and opportunities for students to self-select activities that interest them (Kim, Cardinal, & Yun, 2015). When students can choose their own physical activities, they feel a sense of ownership and empowerment. Competence occurs when students experience mastery (Ryan, Patrick Deci, & Williams, 2008) in performing physical activities. As a result, they experience increased levels of confidence and self-efficacy. Competence can be facilitated with PA skill development through self-selected activities/intensities as well as individualized instruction and feedback (Kim et al., 2015). Relatedness is the feeling of belonging. When connecting with other people through PA, students feel a sense of belonging and being cared about as an individual. A strategy for promoting relatedness in PA is providing a team atmosphere (e.g., group therapy) and opportunities for socialization in the activity setting (Kim et al., 2015).

Purpose and Aims

PA improves mood states, reduces symptoms of anxiety and depression, and therefore, improves mental and physical health. Evidence-based PA programs that encourage students to engage in fun, enjoyable, and affective physical activities, overcome PA barriers, and promote positive mood states are needed. Therefore, the purpose of this study was to implement and evaluate an evidence-based physical activity program (#ubwell) designed in collaboration with university counseling services to enhance mood states and promote continued physical activity in college students. This was accomplished through the following specific aims:

Specific Aim #1: Determine the effects of a PA program (#ubwell) on college students' mood states, PA motivation, and PA participation.

Specific Aim #2: Evaluate the #ubwell program based on participant feedback.

Participants were expected to experience increased intrinsic motivation, positive feelings and energy levels during PA, and greater positive mood states. Additionally, participant feedback was collected to provide insights into the program's effectiveness, factors that worked well, and factors that could be improved.

Methods

A pilot study was conducted in Spring 2018 and refined to implement in Fall 2018. Following IRB approval, students were recruited via e-mail (Appendix A) to participate in a 5-week PA program (#ubwell).

Participants

Students at a public university in the southeastern United States were recruited to participate ($n = 21$) in the study. As group therapy is typically limited to 5 – 15 people (APA, 2019), two sessions were offered: first half of the fall semester ($n = 10$) and second half of the fall semester ($n = 11$). To incentivize participation in the program and encourage continued physical activities, participants received a Fitness Class Pass, valued at \$25. Upon receipt of the initial interest registration (Appendix B), the Principal Investigator (PI) contacted interested students to meet and discuss the study, review (and sign) the informed consent (Appendix C) and complete the Physical Activity Readiness Questionnaire (PAR-Q+). “Low risk” individuals were permitted to participate and were asked to schedule the counseling intake session and complete the Counseling Center

informed consents (Appendix C). To minimize the risk of adverse physical occurrences in the program, students screened as “low risk” for both physical and mental health concerns (i.e., no threat of harming themselves or others) were deemed eligible to participate. If students were screened as “moderate” risk for physical health and a doctor’s clearance was obtained, they were permitted to participate in the study.

Measures

General health, PA participation, intrinsic motivation and mood states were assessed in an online survey administered using Qualtrics® pre- and post- program. The pre- and post-program survey also included demographics (age, ethnicity/race, gender, year in school). Feeling states and arousal levels were assessed before, during (mid-way) and after each weekly group PA session. A post-program evaluation containing both rating and open-ended questions was also administered.

Mental and Physical Health Ratings. Although specific mental health concern identifications were deemed confidential between the Counseling Clinician and participant and not part of this study, participants did provide pre and post overall mental and physical health ratings. Participants rated their mental and physical health as “excellent,” “somewhat good,” “average,” “somewhat poor,” or “poor (Appendix D).

Godin-Leisure Time Exercise Questionnaire. This assessment measures leisure time exercise behavior patterns and can be compared to baseline levels (Godin & Shepard, 1985; Godin, 2011) (Appendix D). This is accomplished by reporting the number of times per week the person engaged in 15 minutes or more of mild, moderate, and/or strenuous activity. The number of times per week for each type of activity was

multiplied by their corresponding MET value: mild, 3 (e.g., 7/week X 3 = 21); moderate, 5 (e.g., 2/week X 5 = 10); and strenuous, 9 (e.g., 2/week X 9 = 18). Then, the mild, moderate, and strenuous MET values were summed to determine the Godin score (measured in arbitrary units) (e.g., 21 + 10 + 18 = 49 units) (Godin, 2011). For overall health benefits, Godin (2011) recommends computing a health contribution score using the moderate and strenuous units. Based on these calculations, we can determine if the person is active (≥ 24 units), moderately active (14 – 23 units), or insufficiently active (< 14 units) (Godin, 2011).

Intrinsic Motivation Inventory (IMI). The IMI is a subjective self-reported measure of interest/enjoyment a person experiences while performing activities or tasks (McAuley, Duncan, & Tammen, 1989; R. Ryan, 1982). Participants rated their PA experiences on the enjoyment scale of the IMI Inventory which includes 7 items rated on a 1-5 scale. Sample items include: PA is fun and PA is interesting.

Profile of Mood States. The POMS^{2-Adult Short} is a 35-item transient mood states assessment and includes the sub-scales anger-hostility, confusion-bewilderment, depression-dejection, fatigue-inertia, tension-anxiety, vigor-activity, and friendliness. Respondents rated each item as to how they felt over the past week, on a 5-point scale with 0 for ‘not at all’ and 4 for ‘extremely.’ POMS² is an evidence-based assessment, with established reliability and validity that measures transient mood states such as tension, anxiety, depression, dejection, anger, activity, and confusion (Heuchert & McNair, 2014).

PA and Affect. Participants rated their affect state before, during (mid-way) and after each PA activity session using the FS (Hardy & Rejeski, 1989) and FAS (Svebak & Murgatroyd, 1985) (Appendix E).

Program Evaluation. Participants were asked to evaluate the program with both rating scales and open-ended questions. Evaluation items included: the extent to which the students felt autonomous, competent, and related to others; the extent to which the program met expectations; and suggestions for future programs (Appendix F).

Procedures

Weekly Meetings. The #ubwell program was implemented at a U.S. southeastern public university. Sessions were limited to 12 participants, and they met one time per week, 1.5 hours each time, for 5 weeks. Group therapy typically involves 1 meeting each week for 1-2 hours (APA, 2019) with a maximum of 5 – 15 people (APA, 2019; Reeves, 2008). Following best practices, the #ubwell program was designed according to these guidelines. As time is one potential barrier to PA (Goldstein, Xie, Hawkins, & Hughes, 2015), the 5-week time frame was chosen to minimize the time commitment and still allow for main topics and PA experiences. Each weekly meeting consisted of a focused topic and followed a discussion-activity-discussion format (Hurst, 2015; Reeves, 2008) (30 minutes for each, totaling 1.5 hours). (Appendix G)

Discussion Component. The Counseling Clinician led each session's discussion portion. Topics included: PA experiences, time management (Topp et al. 2011), self-talk (Oliver, Markland & Hardy, 2010), and body image (Silva et al., 2008). These topics were chosen due to their potential influence on PA participation. During the first 30

minutes of the meeting, students shared their thoughts, feelings, and experiences regarding these topics through guided discussions, feedback, and comments from the Counseling Clinician. The group discussion format provides a venue for individuals to be themselves without the pressure of social and cultural expectations (APA, 2019; Reeves, 2008), and the Counseling Clinician is a licensed professional trained to facilitate such discussions and diffuse any potential adverse emotional experiences. The Clinician also led a post-PA debrief session where students could discuss their PA experiences they just had, including positive feelings or adverse challenges. They also discussed what physical activities they could do in the week ahead, what possible obstacles may arise, and how to overcome those obstacles.

PA Component. During the next 30 minutes, the PI led the physical activities. Topics included affect and using the FS and FAS (Ekkekakis, Parfitt & Petruzzello, 2011). Activities included walk (or run), resistance training, yoga, HiiT/Pilates (ACSM, 2017); and mode of choice (determined by anonymous majority vote which was kickbox & core for both groups).

Data Analyses

Descriptive statistics were calculated for all measures. Baseline and post-program Godin leisure time PA, IMI, and POMS² comparisons were made using paired t-tests. To determine changes in both FS and FAS ratings before, during/mid-way and after sessions, repeated measures ANOVAs were performed. The post-program evaluation ratings were analyzed descriptively (i.e., frequencies/means) and open-ended responses summarized by grouping similar responses.

Results

Participants ($n = 21$; age, $M = 19.8$ yr ± 1.33) attended the weekly #ubwell sessions, participated in physical activities, and completed pre-, during-, and post-assessments. Participants were 81% female ($n = 17$) and 19% male ($n = 4$). Their ethnic backgrounds included white/Caucasian ($n = 17$), African American ($n = 2$), mixed/white/African ($n = 1$), and Hispanic ($n = 1$). Participants reported their year in school as Freshman ($n = 7$) Sophomore ($n = 2$), Junior ($n = 5$), or Senior ($n = 7$).

FS and FAS Results

Results of the repeated measures ANOVA revealed increases in positive feelings and energy levels across all PA sessions pre to during and from during to post. Pairwise comparisons showed significant FS increases (see Table 1) across all sessions. Results also showed significant FAS increases (Table 2) for walk/run, yoga, and kickbox/core. Resistance and HiiT training FAS levels did not significantly increase (Table 2).

Table 1. Feeling Scale (FS) Pre-Mid-Post Comparisons for Each PA Mode.

<u>Mode</u>	<u>n</u>	<u>Pre M \pmSD</u>	<u>Mid M \pmSD</u>	<u>Post M \pmSD</u>	<u>F</u>	<u>p</u>
Walk/Run	19	1.00 ^a \pm 2.26	2.53 ^b \pm 1.39	3.42 ^c \pm 1.07	13.66	.001*
Resistance	12	1.31 ^a \pm 2.14	2.23 ^{ab} \pm .93	2.92 ^{bc} \pm 1.50	6.49	.01*
Flexibility/Yoga	11	-.09 ^a \pm 2.30	3.00 ^b \pm 1.48	3.91 ^b \pm 1.04	35.47	.001*
HiiT	8	.88 ^a \pm 3.09	1.25 ^a \pm 3.41	3.13 ^a \pm 1.55	5.80	.02*
Kickbox & Core	9	.78 ^a \pm 2.17	2.22 ^{ab} \pm 2.33	3.44 ^b \pm 1.59	8.57	.003*

* $p < .05$, Means with different letters (a,b,c) are significantly different.

Table 2. Felt Arousal Scale (FAS) Pre-Mid-Post Comparisons for Each PA Mode

<u>Mode</u>	<u>n</u>	<u>Pre M ±SD</u>	<u>During M ±SD</u>	<u>Post M ±SD</u>	<u>F</u>	<u>p</u>
Walk/Run	19	3.00 ^a ± 1.33	3.79 ^{ab} ± 1.18	4.42 ^b ± .96	14.02	.001*
Resistance	12	2.83 ^a ± 1.03	3.50 ^a ± 1.09	3.75 ^a ± 1.22	2.34	.12
Flexibility/Yoga	11	1.64 ^a ± .67	3.45 ^b ± 1.04	3.91 ^b ± 1.04	65.62	.001*
HiiT	8	3.00 ^a ± 1.31	3.75 ^a ± 1.39	4.00 ^a ± 1.20	2.12	.16
Kickbox & Core	9	2.56 ^a ± .88	4.33 ^b ± 1.32	4.22 ^b ± 1.20	13.20	.001*

**p* < .01, Means with different letters (a,b,c) are significantly different.

Perceived Health, Godin Leisure Time PA, and Intrinsic Motivation Results

Pre and post mental and physical health ratings did not significantly change. Leisure time PA (Godin) increased, but the results were not significant. Moderate to vigorous PA (MVPA, Godin) did not significantly change. Intrinsic motivation significantly increased (Table 3).

Table 3. Health, Godin Leisure Time PA, and IMI Pre-Post Comparisons

<u>Measure</u>	<u>Pre M ±SD</u>	<u>Post M ±SD</u>	<u>t</u>	<u>p</u>
Mental Health Rating	2.15 ± 1.14	2.20 ± 1.10	.19	.85
Physical Health Rating	2.65 ± .99	2.40 ± .88	1.31	.20
Godin Leisure Time PA	59.95 ± 21.8	62.45 ± 24.11	.30	.76
MVPA	42.45 ± 18.97	42.26 ± 16.29	.03	.98
IMI	34.35 ± 8.43	38.60 ± 5.93	2.60	.02*

**p* < .05, *n* = 20

Profile of Mood States² (POMS²) Results

Mood States did not significantly differ from pre to post (Table 4).

Table 4. Profile of Mood States² (POMS²) Pre-Post Comparisons

<u>POMS Category</u>	<u>Pre $M \pm SD$</u>	<u>Post $M \pm SD$</u>	<u>t</u>	<u>p</u>
Anger-Hostility	8.45 ± 3.24	9.15 ± 3.30	0.300	0.77
Confusion-Bewilderment	11.00 ± 3.91	11.8 ± 3.69	-0.335	0.74
Depression-Dejection	8.40 ± 3.63	9.45 ± 1.10	-0.461	0.66
Fatigue-Inertia	14.80 ± 5.46	16.35 ± 4.98	-1.018	0.34
Tension-Anxiety	13.10 ± 4.10	14.05 ± 4.78	-0.133	0.90
Vigor-Activity	16.00 ± 4.09	15.25 ± 3.60	0.688	0.51

$n = 20$

Program Evaluations

On a 1-5 rating scale of “strongly disagree” to “strongly agree,” participants ($n = 18$) reported that the program provided a sense of autonomy, confidence, and relatedness (Table 5). Participants also reported that #ubwell met their expectations.

Open-ended responses reflected the factors that impacted participants’ competence and relatedness; intentions to be physically active after the program; enjoyment of the program; and thoughts about how the program could be improved (Appendix H). Participants reported factors such as group support/a nonjudgmental environment ($n = 4$), and variations/modifications ($n = 3$) contributed to their feeling successful and confident. Conversely, factors such as body image/previous athletic experience/illness ($n = 5$) and school stress/course work/upcoming exams ($n = 4$)

contributed to not feeling confident or successful. Participants also reported that factors such as openness ($n = 4$), relatability/common goals ($n = 6$), and diversity ($n = 3$) contributed to the friendliness and support of the group members.

Table 5. Program Evaluations: Autonomy, Confidence, Relatedness, Met Expectations

	<u>Autonomy</u>	<u>Confidence</u>	<u>Relatedness</u>	<u>Program Met Expectations</u>
Mean $M \pm SD$	4.44 \pm .78	4.22 \pm .88	4.72 \pm .75	4.11 \pm 1.02
Frequencies (n):				
1 - Strongly Disagree	0	0	0	0
2	0	1	1	2
3 - Agree	3	2	0	2
4	4	7	2	6
5 - Strongly Agree	11	8	15	8

Additionally, participants described their future PA participation plans, what they enjoyed most about the program, and how the program could be improved. Plans to be physically active included going to the gym ($n = 5$), exercise at home/take fitness classes ($n = 10$), or playing sports/trying new workouts ($n = 6$). Overall, factors about the program that participants enjoyed the most included learning new exercises/workouts ($n = 9$), doing yoga ($n = 5$) and connecting with other people ($n = 2$). Suggestions for future #ubwell offerings included offering the program earlier in the semester/extending the sessions ($n = 7$) and incorporating more intense/harder workouts/strength training ($n = 4$).

Discussion

The #ubwell program is an evidenced-based PA group therapy program developed to promote positive mood states in college students. The curriculum was framed with the SDT basic psychological needs theory (i.e., autonomy, competence, relatedness), ACSM guidelines, and counseling services/group therapy practices. The specific aims of this study were to a). determine the impact of #ubwell on college students' PA motivation, PA participation, and mood states and b). evaluate the #ubwell program based on participant feedback. Overall, the results of this study are promising.

#ubwell invoked a significant increase in PA motivation from pre to post. There are several plausible explanations for these results. As #ubwell was framed within the Self-Determination Theory, weekly PA sessions were designed to promote autonomy, confidence, and relatedness. Autonomy is the freedom to make choices. During each #ubwell PA session, participants were encouraged to be active at their own pace and intensity levels. Feelings of competence could be attributed to participants succeeding through PA skill development and practice (Kim et al., 2015). Additionally, engaging in PA with others promotes relatedness and connections with others. Participants felt supported and connected as evidenced by feedback from the program evaluations. They reported friendliness of the group was attributed to “openness,” “everyone was looking to improve themselves...,” and what they enjoyed most about the program was “meeting new people” and “learning what others were feeling towards exercise.” Such factors could contribute to increased intrinsic motivation to be physically active. Additionally,

increased positive feelings and energy levels during PA could also contribute to increased motivation (Conner et al., 2011).

A comparison of pre and post self-reported leisure time PA (i.e., Godin) showed a slight, non-significant increase in overall leisure time PA participation. However, pre and post MVPA was consistent. According to the Godin guidelines (2011), the participants were considered “active” both pre and post program. The positive PA experiences received in #ubwell could have motivated participants to maintain (rather than reduce) their PA levels at busy times of the semester. This program was offered in two sections – one from the beginning to mid-semester, and another from mid-semester to the end. Both sections ended at likely more stressful times for students (i.e., mid-term and final exams, respectively) with little time for PA. Possibly, through the participant’s increased motivation, they were able to at least continue their PA habits to cope during these stressful times.

However, results also suggest that the program developed the participants’ intrinsic motivation to continue being physically active after the program ended. In explaining how they will be active after the program, participants reported they will be active “at home without equipment,” “participate in sports,” “continue/keep going to the gym,” and “set time at least once a week to exercise.” This suggests that participants recognized the “feel good” effects of PA and want to continue engaging in positive PA experiences.

Despite the positive PA experiences, pre and post perceived health and mood states (POMS²) did not differ. Confounding factors such as participant illness and school

stress/course work/exams as well as campus mourning possibly influenced the results. The week before the Session I participants completed the POMS², two students from the campus community died tragically which adversely impacted all students, faculty, and staff and likely influenced participants' mood states. The Fall 2018 pilot study was not confounded by such factors, and participants reported a significant decrease in tension and fatigue, and other mood states reflected tendencies toward improvement. Session II ended the week before final exams when stress levels were high. For the current study, it is plausible that PA provided a coping strategy as participation increased while mood states remained stable and did not significantly deteriorate.

There are limitations to this study. The small sample size ($n = 21$), along with wide variability in the data potentially affected the ability to reach statistical significance. As each #ubwell session was limited to 12 participants to maintain the integrity of the group therapy dynamic, additional sessions would need to run either concurrently or consecutively. Additionally, the 5-week duration may not be sufficient time to make significant impact/changes on mood states. Finally, most of the participants were female ($n = 17$; males, $n = 4$), and the participants were already considered to be "active," according to Godin's standards (2011). Future PA program studies with larger, more diverse sample sizes, including less active individuals; additional meetings/longer duration; and multiple PA modes may provide greater insight into the benefits of the program and specific PA modes on mood states and as a result, mental health and physical health.

CHAPTER II

DISSEMINATION

This project will be disseminated in the form of the following report and a PowerPoint Presentation (PPT) (Appendix I). The report will be provided to the home University's Office of Counseling Services, Wellness Action Team for Captain's Health (W.A.T.C.H.), and Administration. The purpose of the report is to share the results of this project and to stimulate discussions on further PA programming and support for students' mental and physical health.

Supporting Students' Hearts and Minds

At our institution, "we care about minds *and* hearts" through providing "personal attention in...a student-centered environment where creativity and excellence can flourish...[and] preparing [students] to lead lives with meaning and purpose." One of the many ways we can support students is by promoting their own self-care and well-being through physical and mental health programming and education.

Students are experiencing mental health concerns such as anxiety (21.9%) and depression (18.1%) (American College Health Association, 2017), adversely impacting their mental and physical health. The stressors of the life changes students face (e.g., leaving home, gaining independence, making new friends, adjusting to more rigorous academic demands, managing finances, and navigating health habits) result in repeated experiences of emotions such as worry, fear, and anger. These negative emotions

translate into mood states of overall sadness, tension, and/or anxiety. Without actively pursuing healthy coping strategies, persistent negative mood states will translate into chronic anxiety and depression, acute physiological symptoms, and ultimately, chronic illness, and possibly, suicide (Michopoulos, 2019; National Institute of Mental Health, n.d.). The #ubwell program was created in response to these concerns.

#ubwell Program

#ubwell is an evidence-based, interdisciplinary program designed to promote positive PA experiences in a supportive group (counseling) environment. Research shows that PA promotes resiliency to stress, resulting in happiness, and reduced anxiety and/or depression (Balish, Conacher, & Dithurbide, 2016; Blumenthal et al., 2007, 2012). By also focusing on positive feelings while being physically active, mood states improve, and repeated physical activity behavior is more likely to occur. Repeated positive feeling and mood experiences promote enhanced mental and physical health and as a result, creativity and excellence will flourish. Therefore, the purpose of the #ubwell program is to promote positive PA experiences in a supportive, autonomous, successful and community-oriented environment. The goal is to increase positive mood states which will improve overall mental and physical health. Objectives and instructional strategies included:

Table 6. #ubwell Instructional Strategies

Objective	Instructional Strategies
Encourage participants to make personal PA choices.	Provide multiple options & opportunities to try various activities that are interesting (Kim et al., 2015), fun & enjoyable/affective (Ekkekakis et al., 2013).
Promote success & confidence in performing PA.	Provide skill development, individualized instruction & feedback (Kim et al., 2015) on ACSM guidelines and strategies for overcoming PA barriers.
Cultivate sense of belonging & connection with others.	The group therapy dynamic provides a supportive and interactive environment (Kim et al., 2015) and encourages participants to be active together.

Students were recruited via an email announcement. Initially, 54 students expressed interest in the program. The group size was limited to 12 students following best practices. Group therapy typically involves 1 meeting each week for 1-2 hours (APA, 2019) with a maximum of 5 – 15 people (APA, 2019; Reeves, 2008). Such an environment provides a more comfortable, non-intimidating environment for students to speak and share experiences. Therefore, two sessions were offered (Session I: Sept. – Oct.; Session II: Nov. – Dec.). The group met for 90 minutes, once per week, for 5 weeks. Each meeting combined group therapy and PA, following this format: group discussion (30 minutes); practical experience (PA) (30 minutes); group discussion (15-30 minutes). The group discussions were facilitated by the Counseling Clinician, and topics included PA barriers/concerns, self-talk, and body image. Participants were encouraged to discuss their thoughts, feelings, and concerns about the topic presented. After the initial group discussion, the Fitness Director led the participants in a specific PA. The Counseling Clinician then led the group through a de-brief discussion.

Framed in evidence-based practices, the PA curriculum encompassed the fitness components (i.e., cardiorespiratory, resistance, and flexibility training) according to the American College of Sports Medicine (ACSM) guidelines. Participants were encouraged to self-select their own intensities and variations of the exercises to exercise at their own pace and fitness level. Activities included walking/running, body weight resistance exercises, yoga, and time-crunched 7-minute high-intensity interval training (HiiT) with Pilates exercises. For the last session, participants voted on what type of PA they wanted to do.

#ubwell Outcomes

During the Fall 2018 semester, 21 students (17 females; 4 males) participated. The following charts represent the participants' age (Figure 1), ethnicity (Figure 2), and academic class (Figure 3).

Figure 1. #ubwell Participant Age

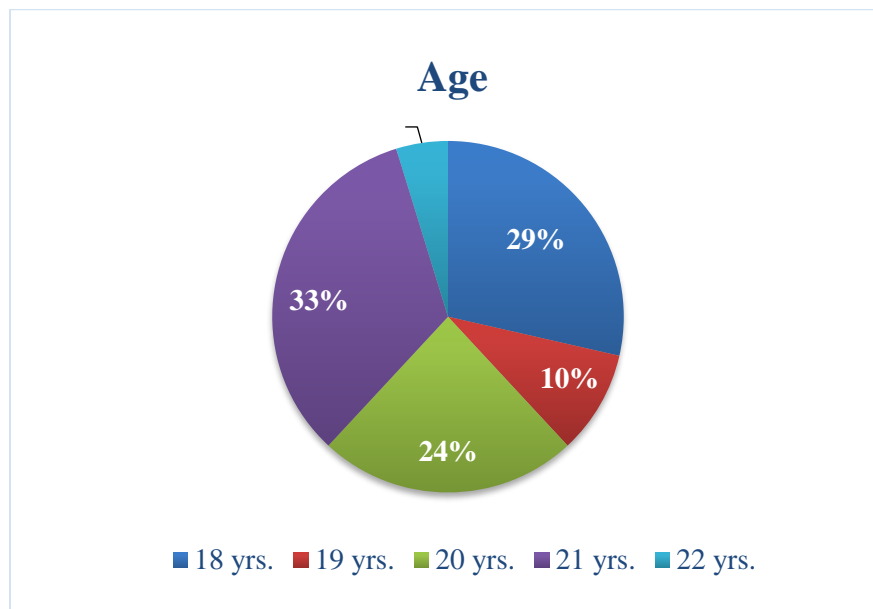


Figure 2. #ubwell Participant Ethnicity

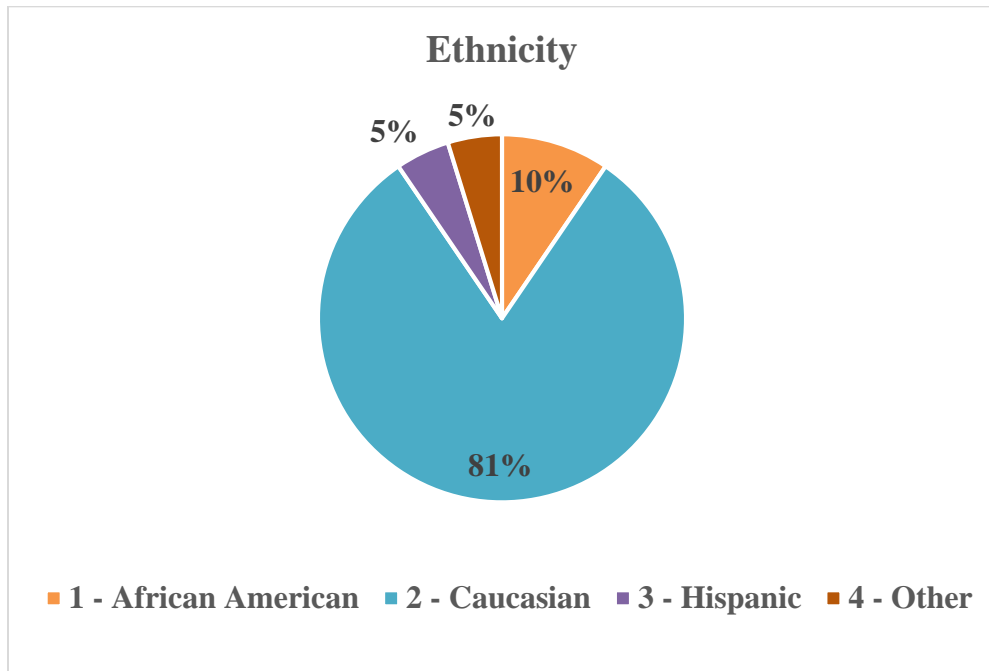
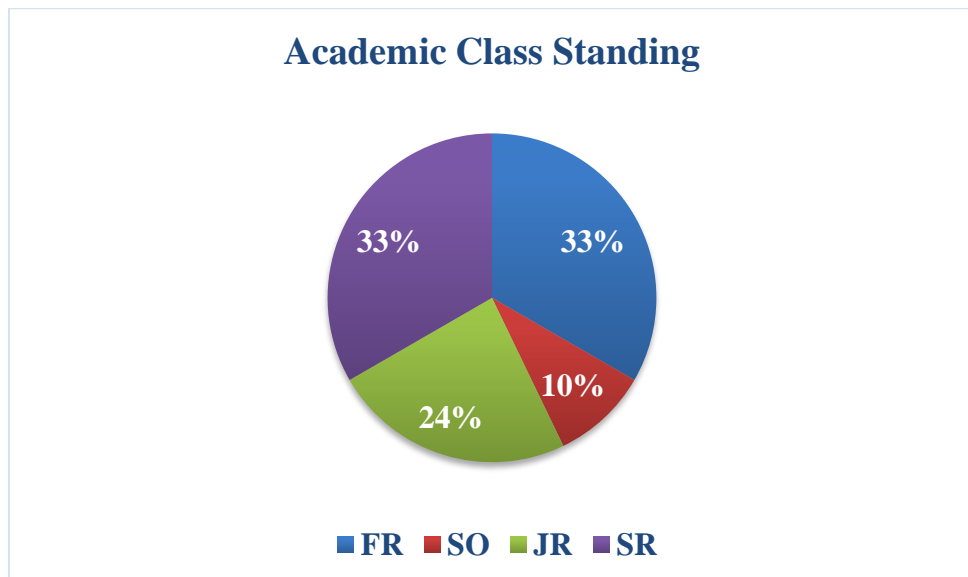


Figure 3. #ubwell Participant Academic Class



Results from the Fall 2018 #ubwell study showed the physical activity experiences increased positive feelings (FS, ranging from -5 very bad to +5 very good) and energy levels (FAS, ranging from 1 low arousal to 6 high arousal) as reflected in the following charts:

Figure 4. How Participants Felt Before, During, and After Physical Activity (Average Across Sessions)

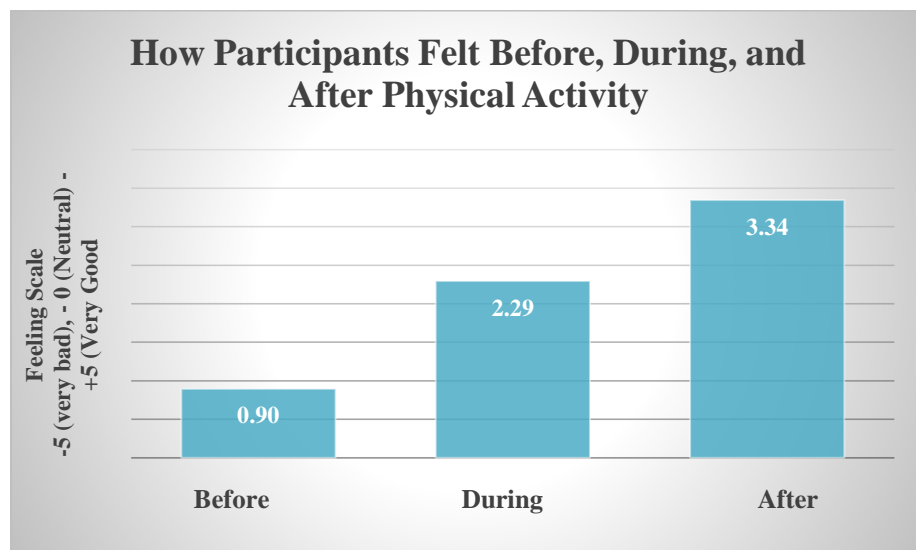
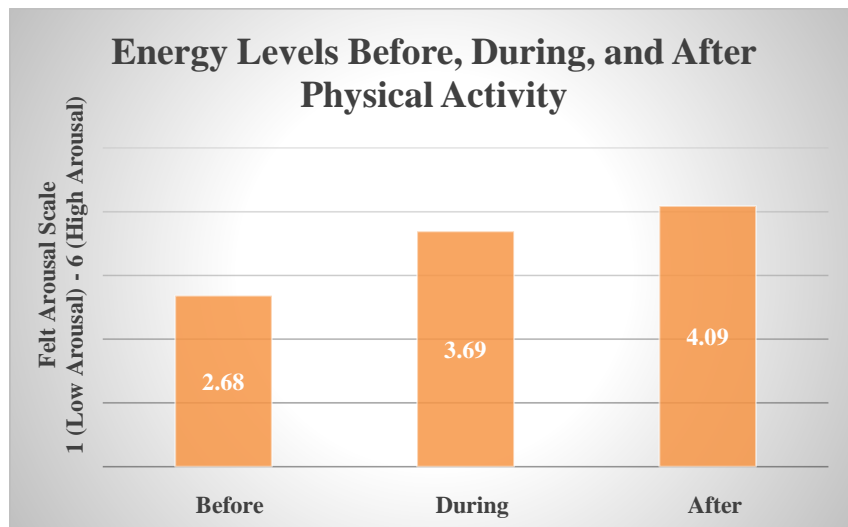


Figure 5. Energy Levels Before, During, and After Physical Activity



Additionally, participants reported a significant increase in motivation to be physically active while mood states remained stable as reflected in the graphs below:

Figure 6. Intrinsic Motivation Pre and Post Program

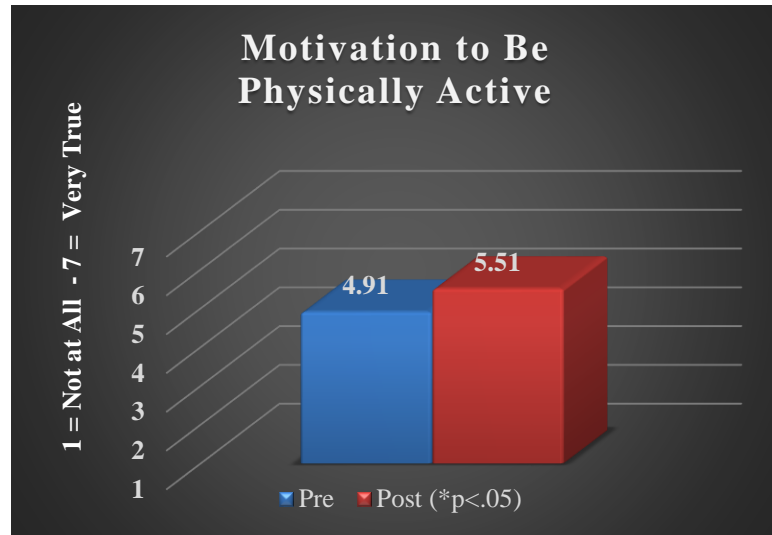
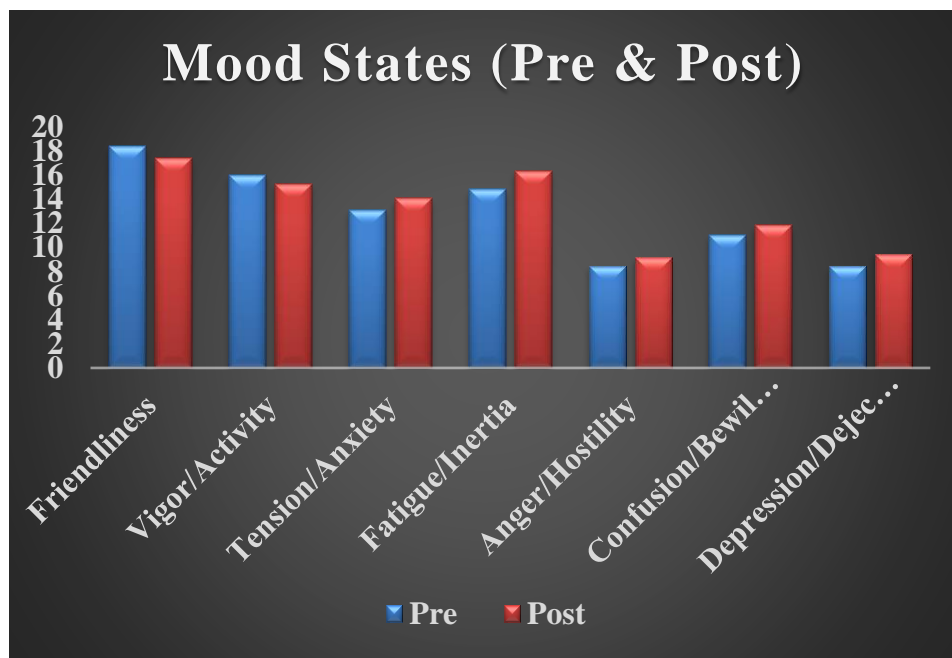


Figure 7. Mood States Pre and Post Program



#ubwell Participant Program Evaluation

Positive feedback was received as participants were provided the opportunity to evaluate the program at the final session meeting.

Figure 8. #ubwell Program Evaluation: Autonomy

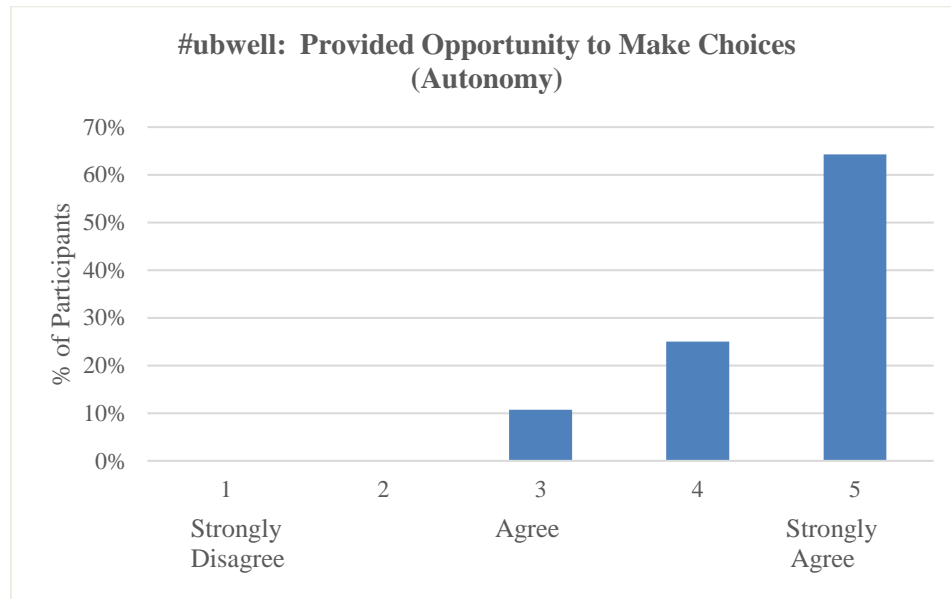


Figure 9. #ubwell Program Evaluation: Competence

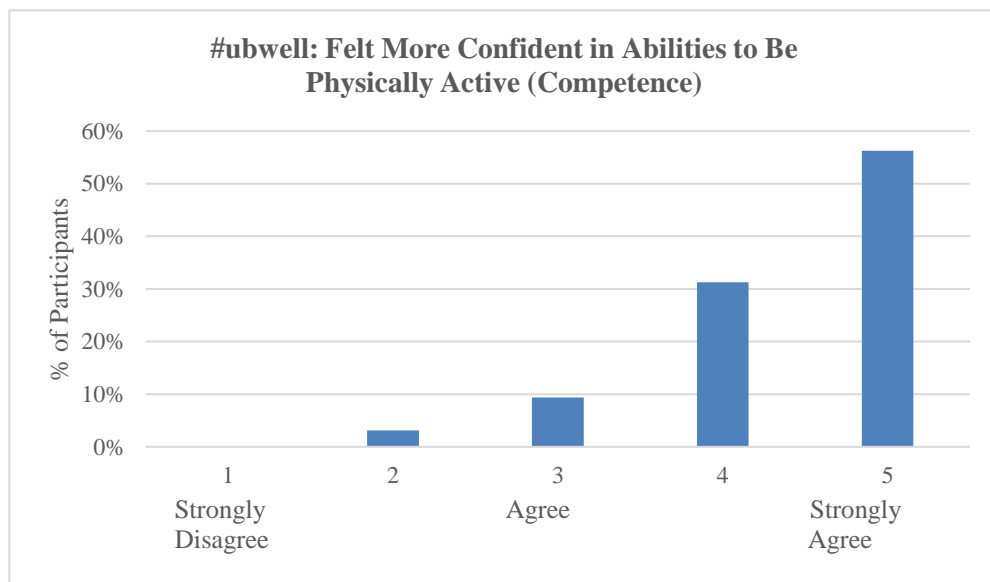


Figure 10. #ubwell Program Evaluation: Relatedness

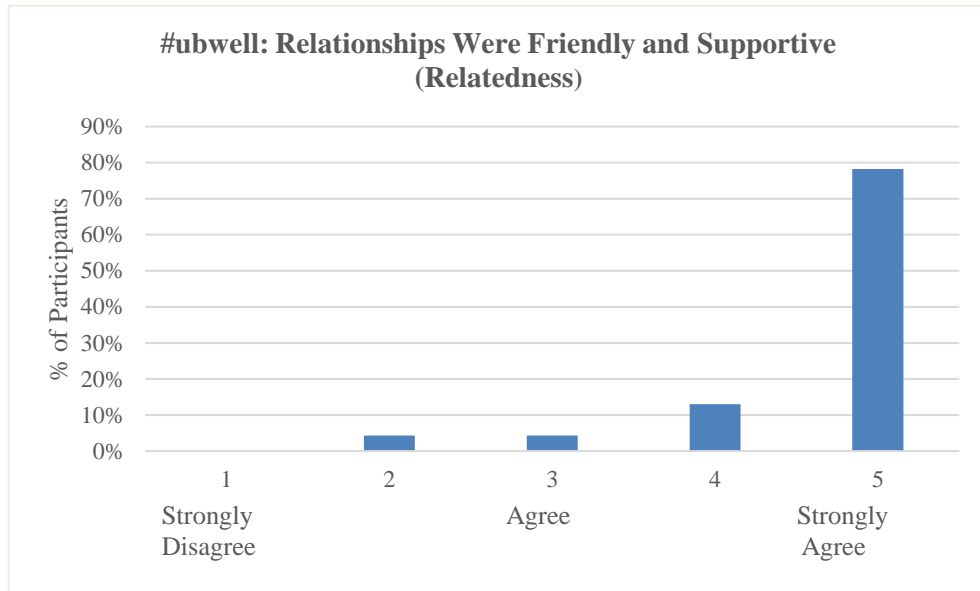
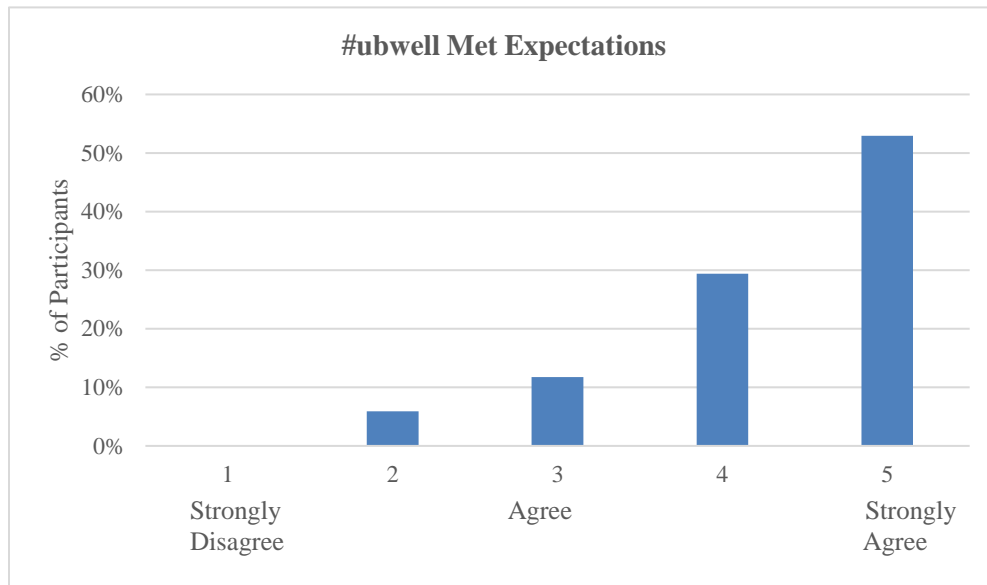


Figure 11. #ubwell Program Evaluation: Met Expectations



Conclusion

Overall, #ubwell promoted positive PA experiences in a supportive, autonomous, successful and community-oriented environment. The #ubwell program conjoins Fitness and Counseling Services, promoting positive PA and feeling experiences in college students through an interdisciplinary partnership. Participants this semester suggested that future #ubwell programs should start earlier in the semester and also be extended for longer duration (i.e., meet for 8 – 10 weeks). We will continue to offer the program in the Spring 2019 semester as it is currently structured and plan to spend the summer revising the schedule (i.e., implementing participants' suggestions) to implement in Fall 2019.

We have a unique opportunity to support the minds and hearts of our students through continued supportive programming, and potentially, policy development. Suggestions include additional programming, events, education and outreach opportunities (e.g., Welcome Week activities, Foundations of Exercise Physiology courses, W.A.T.C.H. initiatives). Healthy minds promote abilities to liberally learn and critically think. Healthy hearts promote physical health and stamina to serve and be leaders of tomorrow. As we support our students holistically, they will be inspired to lead, serve, engage, and set the world on fire and ultimately, “be the change.”

Physical fitness is the first requisite of happiness...the attainment of a uniformly developed body with a sound mind fully capable of naturally, easily, and satisfactorily performing our many and varied daily tasks with spontaneous zest and pleasure. – Joseph Pilates

CHAPTER III

ACTION PLAN

Given that 40% of college students report that anxiety or depression adversely impacts their daily lives (ACHA, 2017), interventions are needed to help students manage these concerns. Research shows that PA and counseling are both promising coping strategies to use. However, they have their limitations, respectively, when practiced separately. This project was designed to evaluate the effects of #ubwell - a novel, interdisciplinary program that combines PA and counseling (i.e., a PA group therapy program, co-facilitated with both a Fitness Professional and a Counseling Clinician). The findings of this study have practical implications that can influence professional practice and potentially, the field of kinesiology. Therefore, I plan to disseminate these findings locally, regionally, and nationally.

Local Community Platforms

As several student mental health support systems are either in place or are forming at the home university, the #ubwell program supports these systems and initiatives. First, the Counseling Center team is an integral part of #ubwell. I will attend one of their weekly staff meetings to present the findings of this study and discuss future collaborations and partnerships. Further, the #ubwell program will be continuously offered to our students. The program is currently offered in the Spring 2019 semester. The Counseling Clinician and Fitness Director plan to spend the summer revising the

program and incorporating the suggested changes indicated in the program evaluations. This would include extending the program from 5 weeks to 8 weeks (as suggested by Fall 2018 program participants) and adding topics such as sleep and nutrition (as suggested by the participants to the Counseling Clinician).

Second, dissemination will also include the Wellness Action Team for Captains' Health (W.A.T.C.H.) Advisory Group. This recently formed team "is a group of students, faculty members, staff, and community partners who seek to promote the institutional wellness of the campus community, paying specific attention to mental health" (W.A.T.C.H., 2018). One of the group's goals is to "promote and support mental health and wellness education effort on campus." As both the Counseling Center and Fitness Services are represented in this group, I will request to be added to the agenda at a spring semester meeting to present an overview, the results, and future recommendations of #ubwell. Finally, I will send the formalized report to several branches of the home institution's Administrators, including the Vice President of Student Affairs, Provost, Executive Vice President, Chief of Staff, and President along with an offer to conduct a presentation, as appropriate. This program will be very timely considering these individuals are also aware of the newly formed W.A.T.C.H. Advisory Group. This program can be included in the group's student support and outreach goals.

Regional Platforms

Plans are being made to share this project with fitness and counseling professionals, respectively, at regional conferences. The Southeast Collegiate Fitness Expo was an annual fitness conference targeted to university fitness professionals and

students. The purpose of the conference was to provide networking and professional development opportunities. Participants “will be able to apply the knowledge learned to their campus community to help instill life-long well-being... This year’s theme [was] Riding the Wave, focusing on seizing opportunities, connecting with others, and riding our own personal fitness waves” (Southeast Collegiate Fitness Expo, 2018). The February 2019 conference was held at the University of North Carolina Wilmington, and I presented #ubwell at this conference (Appendix I). Participants ($n = 67$) included collegiate fitness professionals, student group exercise instructors, and student personal trainers. Another professional conference opportunity includes the Virginia Counselor’s Association Annual Convention provides opportunities for Counseling professionals to “catch their breath, recharge their batteries, and learn new skills to support they great work they do” (Virginia Counselor’s Association, 2018). The 2019 date is yet to be determined. However, the Counseling Clinician and I will work together possibly present that this conference.

National Platforms

Outreach on a national level will provide opportunities to present at professional conferences and submit articles to professional publications. An abstract (*The Effects of a Physical Activity Program on Mood States in College Students*) was submitted to and accepted by the American College of Sports Medicine (ACSM) as a slide presentation at the 2019 Annual Meeting. This conference serves to “bridge research and practice for healthy, active lives...bringing science and practice together” (ACSM, 2018). The dates are May 28 – June 1, 2019, and the event will be held in Orlando, Florida. Another

professional venue is the National Intramural-Recreational Sports Association (NIRSA), or currently known as NIRSA: Leaders in Collegiate Recreation. The next available opportunity to submit a presentation proposal for their annual convention is the April 2020 Expo to be held in Phoenix, Arizona. I plan to submit a proposal when the application date is determined. Additional national dissemination platforms include professional journal publication submissions such as the *NIRSA Recreational Sports Journal*, *ACSM Health and Fitness Journal (HFJ)* and the *Journal of American College Health (JACH)*.

Conclusion

The #ubwell program is a novel interdisciplinary program that can be shared with other fitness professionals and colleagues. By disseminating its curriculum and the results of this study locally, regionally, and nationally, #ubwell can be adopted and/or adapted to other higher education institutions and fitness entities to meet the physical and mental health needs of their students/constituents. Further, additional research is needed to determine optimal interventions to motivate college students (and other populations) to be physically active, especially as a vehicle for positive mental health. #ubwell served as the starting point, and from this point forward, I plan to maintain an active research agenda for PA and mental health in various populations.

REFERENCES

- American College Health Association. (2017). American College Health Association-National College Health Assessment II: Reference Group Undergraduate Executive Summary Spring 2017. Hanover, MD: American College Health Association.
- American Psychological Association. (n.d.). Counseling psychology. Retrieved from <http://www.apa.org/ed/graduate/specialize/counseling.aspx>.
- American Psychological Association. (2019). Psychotherapy. Retrieved from <https://www.apa.org/helpcenter/group-therapy>.
- Annesi, J. J., Porter, K. J., Hill, G. M., & Goldfine, B. D. (2017). Effects of instructional physical activity courses on overall physical activity and mood in university students. *Research Quarterly for Exercise and Sport*, 88(3), 358–364. <https://doi.org/10.1080/02701367.2017.1336280>.
- Anxiety and Depression Association of America. (2016). Facts & Statistics. Retrieved from <https://www.adaa.org/about-adaa/press-room/facts-statistics>.
- Asmundson, G. J. G., Fetzner, M. G., DeBoer, L. B., Powers, M. B., Otto, M. W., & Smits, J. A. J. (2013). Let's get physical: A contemporary review of the anxiolytic effects of exercise for anxiety and its disorders. *Depression and Anxiety*, 30, 362–373. <https://doi.org/10.1002/da.22043>.

- Balish, S. M., Conacher, D., & Dithurbide, L. (2016). Sport and recreation are associated with happiness across countries. *Research Quarterly for Exercise and Sport*, 87(4), 382–388. <http://dx.doi.org/10.1080/02701367.2016.1229863>.
- Blumenthal, J. A., Babyak, M. A., Doraiswamy, M., Watkins, L., Hoffman, B. M., Barbour, K. A., ... Sherwood, A. (2007). Exercise and pharmacotherapy in the treatment of major depressive disorder. *Psychosomatic Medicine*, 69, 587–596.
- Blumenthal, J. A., Smith, P. J., & Hoffman, B. M. (2012). Opinion and evidence: Is exercise a viable treatment for depression? *ACSM's Health & Fitness Journal*, 16(4), 14–21.
- Calvete, E., Estevez, A., Landin, C., Martinez, Y., Cardenoso, O., Villardon, L., & Villa, A. (2005). Self-talk and affective problems in college students: Valence of thinking and cognitive content specificity. *The Spanish Journal of Psychology*, 8(1), 56–67.
- Conner, M., Rhodes, R.E., Morris, B., McEachan, R., & Lawton, R., (2011). Changing exercise through targeting affective or cognitive attitudes. *Journal of Psychology & Health*, 26(2), 133-149.
- Craft, L. L., & Perna, F. M. (2004). The benefits of exercise for the clinically depressed. *Journal of Clinical Psychiatry Primary Care Companion*, 6(3), 104–111.
- Ekkekakis, P. (2012). Affect, mood, and emotion. In G. Tenenbaum, R. C. Eklund, & A. Kamata (Eds.), *Measurement in sport and exercise psychology* (pp. 321–519). Champaign, IL: Human Kinetics.

- Ekkekakis, P., Hargreaves, E. A., & Parfitt, G. (2013). Invited guest editorial: Envisioning the next fifty years of research on the exercise-affect relationship. *Psychology of Sport and Exercise, 14*, 751–758.
- Ekkekakis, P., & Murri, M. B. (2017). Exercise as antidepressant treatment: Time for the transition from trials to clinic? *General Hospital Psychiatry, 49*, A1–A5.
- Ekkekakis, P., Parfitt, G., & Petruzzello, S. J. (2011). The pleasure and displeasure people feel when they exercise at different intensities. *Sports Medicine, 41*(8), 614–671.
- Elsangedy, H. M., Machado, D. G. D. S., Krinski, K., Duarte Do Nascimento, P. H., De Amorim Oliveria, G. T., Santos, T. M., ... Parfitt, G. (2018). Let the pleasure guide your resistance training intensity. *Medicine & Science in Sports & Exercise, 50*(7), 1472–1479. <https://doi.org/10.1249/MSS.0000000000001573>
- Garber, C. E., Blissmer, B., Deschenes, M. R., Franklin, B. A., Lamonte, M. J., Lee, I.-M., ... Swain, D. P. (2011). Quantity and quality of exercise for developing and maintaining cardiorespiratory, musculoskeletal, and neuromotor fitness in apparently healthy adults: Guidance for prescribing exercise. *Medicine & Science in Sports & Exercise, 43*(7), 1334–1359. <https://doi.org/10.1249/MSS.0b013e318213fefb>
- Godin, G., & Shepard, R. J. (1985). A simple method to assess exercise behavior in the community. *Canadian Journal of Applied Sports Sciences Journal, 10*(3), 141–146.

- Godin, G. (2011). Commentary: The Godin-Shephard leisure-time physical activity questionnaire. *Health & Fitness Journal of Canada*, 4(1), 18-22.
- Goldstein, C., Xie, S., Hawkins, M., & Hughes, J., (2015). Reducing risk for cardiovascular disease: Negative health behaviors in college students. *Emerging Adulthood*, 3(1), 24–36.
- Haas, P., Schmid, J., Stadler, G., Reuter, M., & Gawrilow, C. (2017). Zooming into daily life: Within-person associations between physical activity and affect in young adults. *Psychology and Health*, 32(5), 588–604.
<https://doi.org/10.1080/08870446.2017.1291943>.
- Hardy, C. J., & Rejeski, W. J. (1989). Not what, but how one feels: The measurement of affect during exercise. *Journal of Sport & Exercise Psychology*, 11, 304–317.
- Heuchert, J. P., & McNair, D. M. (2014). Test review. *Journal of Psychoeducational Assessment*, 32(3), 217–277. <https://doi.org/10.1177/0734282913505995>
- Hurst, M. (2015). Experiential therapy: What is it? Retrieved from <https://www.crchealth.com/types-of-therapy/what-is-experiential-therapy/>.
- Kim, M., Cardinal, B. J., & Yun, J. (2015). Enhancing student motivation in college and university physical activity courses using instructional alignment practices. *Journal of Physical Education, Recreation & Dance*, 86(9), 33–38.
<https://doi.org/10.1080/07303084.2015.1085343>.
- Kinnafick, F.-E., Thøgersen-Ntoumani, C., & Duda, J. L. (2014). Physical activity adoption to adherence, lapse, and dropout: A self-determination theory

perspective. *Qualitative Health Research*, 24(5), 706–718.

<https://doi.org/10.1177/1049732314528811>.

Ladwig, M. A., Hartman, M. E., & Ekkekakis, P. (2017). Affect-based exercise prescription. *ACSM's Health & Fitness Journal*, 21(5), 10–15.

Mammen, G., & Faulkner, G. (2013). Physical activity and the prevention of depression: A systematic review of prospective studies. *American Journal of Preventative Medicine*, 45(5), 649–657.

Mata, J., Thompson, R. J., Jaeggi, S. M., Buschkuhl, M., Jonides, J., & Gotlib, I. H. (2012). Walk on the bright side: Physical activity and affect in major depressive disorder. *Journal of Abnormal Psychology*, 121(2), 297–308.

<https://doi.org/10.1037/a0023533>

McAuley, E., Duncan, T., & Tammen, V. V. (1989). Psychometric properties of the intrinsic motivation inventory in a competitive sport setting: A confirmatory factor analysis. *Research Quarterly for Exercise and Sport*, 60(1), 48–58.

<https://doi.org/10.1080/02701367.1989.10607413>.

Melnyk, B., Kelly, S., Jacobson, D., Arcoleo, K., & Chaibi, G. (2013). Improving physical activity, mental health outcomes, and academic retention in college students with Freshman 5 to thrive. *Journal of the American Association of Nurse Practitioners*, 314–322.

Michopoulos, V. (2019). Anxiety and physical health. *Anxiety-What is Anxiety & How to Treat It*. <https://anxiety.org>.

National Institute of Mental Health. (n.d.). Mental health information. Retrieved from

<https://www.nimh.nih.gov/health/topics/index.shtml>.

Oliver, E. J., Markland, D., & Hardy, J. (2010). Interpretation of self-talk and post-lecture

affective states of higher education students: A self-determination theory

perspective. *British Journal of Educational Psychology*, *80*, 307–323.

<https://doi.org/10.1348/000709909X477215>.

Oliver, E. J., Markland, D., Hardy, J., & Petherick, C. M. (2008). The effects of

autonomy-supportive versus controlling environments on self-talk. *Motivation*

and Emotion, *32*(3), 200–212. <https://doi.org/10.1007/s11031-008-9097-x>

Reetz, D. R., Bershad, C., LeViness, P., & Whitlock, M. (2016). *The Association for*

University and College Counseling Center Directors Annual Survey (pp. 1–118).

Retrieved from

http://files.cmcglobal.com/Monograph_2012_AUCCCD_Public.pdf.

Reeves, D. (2008). What is a psychotherapy process-oriented group? Retrieved from

<https://www.goodtherapy.org/blog/therapy-group/>.

Rose, E. A., & Parfitt, G. (2008). Can the feeling scale be used to regulate exercise

intensity? *Medicine & Science in Sports & Exercise*, *40*(10), 1852–1860.

<https://doi.org/10.1249/MSS.0b013e31817a8aea>.

Ruissen, G. R., Rhodes, R. E., Crocker, P. R. E., & Beauchamp, M. R. (2018). Affective

mental contrasting to enhance physical activity: A randomized control trial.

Health Psychology, *37*(1), 51–60. <http://dx.doi.org/10.1037/hea0000551.supp>.

- Ryan, R. (1982). Control and information in the intrapersonal sphere: An extension of cognitive evaluation theory. *Journal of Personality and Social Psychology*, 43(3), 450–461.
- Ryan, R. M., & Deci, E. L. (2008). A self-determination theory approach to psychotherapy: The motivational basis for effective change. *Canadian Psychology*, 49(3), 186–193. <https://doi.org/10.1037/a0012753>.
- Ryan, R. M., Patrick, H., Deci, E. L., & Williams, G. C. (2008). Facilitating health behaviour change and its maintenance: Interventions based on self-determination theory. *The European Health Psychologist*, 10, 2–5.
- Silva, M. N., Markland, D., Minderico, C. S., Vieira, P. N., Castro, M. M., Coutinho, S. R., ... Teixeira, P. J. (2008). A randomized controlled trial to evaluate self-determination theory for exercise adherence and weight control: Rationale and intervention description. *BMC Public Health*, 8(0), 234–246. <https://doi.org/10.1186/1471-2458-8-234>.
- Svebak, S., & Murgatroyd, S. (1985). Metamotivational dominance: A multimethod validation of reversal theory constructs. *Journal of Personality and Social Psychology*, 48(1), 107–116.
- Topp, R.V., Edward, J.S., Ridner, S.L., Jacks, D.E., Newton, K. (2011). Fit into college: A program to improve physical activity and dietary intake lifestyles among college students. *Nursing Faculty Research and Publications*, 35(1), 69-78.

- United States Census Bureau. (2017a). Educational attainment in the United States: 2016. Retrieved from <https://www.census.gov/data/tables/2016/demo/education-attainment/cps-detailed-tables.html>.
- United States Census Bureau. (2017b). School enrollment in the United States: October 2016. Retrieved from <https://www.census.gov/data/tables/2016/demo/school-enrollment/2016-cps.html>.
- U.S. Department of Health and Human Services. (2018). Physical activity guidelines for Americans, 2nd ed. Department of Health and Human Services.
- Weir, K. (2011). The exercise effect. Retrieved from <http://www.apa.org/monitor/2011/12/exercise.aspx>.
- Williams, D. M., Dunsiger, S., Emerson, J. A., Gwaltney, C. J., Monti, P. M., & Miranda, Jr., R. (2016). Self-paced exercise, affective response, and exercise adherence: A preliminary investigation using ecological momentary assessment. *Journal of Sport & Exercise Psychology*, *38*, 282–291. <http://dx.doi.org/10.1123/jsep.2015-0232>.
- Wu, I. H. C., Bathje, G. J., Kalibatseva, Z., Sung, D., Leong, F. T. L., & Collins-Eaglin, J. (2017). Stigma, mental health, and counseling service use: A person-centered approach to mental health stigma profiles. *Psychological Services*, *14*(4), 490–501. <http://dx.doi.org/10.1037/ser0000165>.

APPENDIX A

PARTICIPANT RECRUITMENT EMAIL

To:

Subject: Participants needed for physical activity/mental health program

Good morning/afternoon!

Volunteers are needed to participate in research designed to determine the effects of a physical activity program on mental health outcomes in college students.

Volunteers will participate in #ubwell, a 5-week physical activity program which will consist of weekly 1 ½ hour meetings designed with a discussion/activity/discussion format. Discussions will be led by_____. Activities will be led by _____. Participants will complete questionnaires and keep a physical activity journal. Volunteers will also be encouraged to discover and engage in enjoyable physical activity throughout the week with resources and guidance provided. Prior to the start of the study, participants will be screened for eligibility criteria to be determined by one intake session with the Primary Investigator and a second intake session with the Counseling Lead Facilitator.

Session Dates (pick one session to attend):Time: 3 – 4:30 p.m.

Session I: Thursdays, Sept. 13, 20, 27; Oct. 4, 11 OR

Session II: Thursdays, Oct. 25; Nov. 1, 8, 15, 29

To participate, you should be between the ages of 18-25 years; be apparently healthy (“low risk” for physical/mental factors), and not be pregnant.

To be considered, please complete this form: <https://goo.gl/forms/aJ9kO159e8gwUwy42>. Space is limited so register as soon as possible, but no later than Aug. 30! Participants will receive a free fitness class pass (valued at \$25).

If you have any questions, please contact me at _____. We hope you will consider being part of valuable opportunity! We look forward to hearing from you!

Sincerely,

Lisa Powell

APPENDIX B

#UBWELL PARTICIPANT INITIAL REGISTRATION

#ubwell Participant Initial Registration (Fall 2018)

#ubwell Participant Initial Registration (Fall 2018)

Volunteers are needed to participate in research designed to determine the effects of a physical activity program (#ubwell) on mental health outcomes in college students. Volunteers will participate in a 5-week #ubwell program which will consist of weekly 1.5 hour meetings designed with a discussion/activity/discussion format. Volunteers will also be encouraged to discover and engage in enjoyable physical activity throughout the week with resources and guidance provided. Prior to the start of the study, participants will be screened for eligibility criteria to be determined by one intake session with the Primary Investigator and a second intake with the Counseling Lead Facilitator.

1. First Name

2. Last Name

3. Email

4. I am interested in being a participant for this study.

Check all that apply.

Yes

No, but I am interested in the program and would like more information

5. What day(s)/time(s) might you be available to meet for the initial intake?

6. I am interested in attending the following session:

Check all that apply.

Thursdays, Nov. 1, 8, 15, 29 & Dec. 6 (Time 3 - 4:30 pm)

7. Please add any other comments or questions:

<https://docs.google.com/forms/d/1304L2p4w1CNzQmzVb9R7okAWst0hOqInFyTrAHp2M0/edit>

APPENDIX C

INFORMED CONSENTS

CONSENT TO ACT AS A HUMAN PARTICIPANT

Project Title: The effects of a physical activity program on mood states in college students.

Principal Investigator and Faculty Advisor:

What are some general things you should know about research studies?

You are being asked to take part in a research study. Your participation in the study is voluntary. You may choose not to join, or you may withdraw your consent to be in the study, for any reason, without penalty.

Research studies are designed to obtain new knowledge. This new information may help people in the future. There may not be any direct benefit to you for being in the research study. There also may be risks to being in research studies. If you choose not to be in the study or leave the study before it is done, it will not affect your relationship with the researcher. Details about this study are discussed in this consent form. It is important that you understand this information so that you can make an informed choice about being in this research study.

You will be given a copy of this consent form. If you have any questions about this study at any time, you should ask the researchers named in this consent form. Their contact information is below.

What is the study about?

This is a research project. Your participation is voluntary. The purpose of this study is to determine the effects of a physical activity program on mental health outcomes in college students.

Why are you asking me?

You are being asked to participate in the study because you meet the criteria to be included in the study, such as being a college student and being low risk for physical/mental health concerns. Prospective participants with known or reported symptoms of cardiovascular, respiratory, diabetes, or thyroid disorders will not be included in the study. Prospects with any orthopedic or other medical concern that would prevent the person from participating in physical activity will not be included in the study. Participants who are pregnant will not be included in the study.

Prospective participants, as assessed and determined by the Center for Counseling Services Clinician, who are assessed as moderate or high risk to themselves or others will not be included in the study. You must be 18 or older to participate.

What will you ask me to do if I agree to be in the study?

You will be asked to participate in the 5-week session in several ways. You will be asked to complete a Health, Physical Activity, and Mood Experiences survey on the first and last sessions. You will be asked to attend the weekly 1.5 hour group meetings, consisting of group discussions and physical activities. You will be asked to complete questionnaires before, during and after each exercise session as well as a program evaluation. You will also be asked to track your weekly physical activity participation that you perform on your own outside of the regularly scheduled sessions.

Please note, you may still participate in this program without having your data collected for research purposes.

Is there any audio/video recording?

There will not be any audio/video recording.

What are the risks to me?

If you decide to participate in this study, in addition to the normal fatigue and muscle soreness following physical activity, you face a slight risk of musculoskeletal injury or abnormal cardiorespiratory response. Also, in group therapy you will be asked to share your thoughts and feelings. Sometimes this can lead to some initial feelings of discomfort, nervousness, and anxiety. And, as with any research, there is some possibility that you may be subject to risks that have not yet been identified.

Risk of injury is low as the activities are designed to be enjoyable, not strenuous, and the PI will provide instruction and supervision for all sessions. The facilitator is a licensed counselor with the university counseling center who will provide a safe environment and crisis mental health care if needed.

The confidentiality of what is said during the group session cannot be guaranteed; however, participants will be asked not to discuss anything outside the group setting (as established in the Group Therapy consent form).

Are there any benefits to society as a result of me taking part in this research? The results of this study may suggest a complementary or alternative approach to managing mental health as well as stimulate additional research.

Are there any benefits to me for taking part in this research study?

The main benefits to you include receiving physical activity and mental health wellness education, services and opportunities. The program may provide physical activity options and programming that can be continued once the program concludes.

Will I get paid for being in the study? Will it cost me anything?

There are no costs to you or payments made for participating in this study. However, participants will receive a fitness class (group exercise class) pass, valued at \$25.

What if I get injured?

(Home Institution) not able to offer financial compensation nor to absorb the costs of medical treatment should you be injured as a result of participating in this research study. However, we will provide you with a referral to student health or your primary care physician. You do not waive your legal rights by signing this consent form.

How will you keep my information confidential?

All information obtained in this study is strictly confidential unless disclosure is required by law. Any information obtained from this study, including questionnaires, medical history, and physical activity participation data, will be kept confidential. Only the primary investigator will have access to the survey data. The data will be collected via Qualtrics® and uploaded to SPSS Statistics 25, and will only be accessible to the primary investigator.

The counseling intake data and consent forms are only accessible via the Counseling Clinician.

These records are secured and maintained electronically through the Titanium intake software. This is only accessible to the Clinician at her assigned office computer workstation and only with her assigned username and password. The Clinician will generate a master list to assign a random identification number to each participant. After the participants receive their random identification number, the master list will be shredded.

The survey data will be tracked by the assigned random identification number and coded into SPSS for data analysis by the PI; no names will be listed. The data is accessible only to the PI and is username and password protected. The data derived **in this study could be used in** reports, presentations, and publications, but you will not be referred to by name or identification number.

What if I want to leave the study?

You have the right to refuse to participate or to withdraw at any time, without penalty. If you do withdraw, it will not affect you in any way. If you choose to withdraw, you may request that any of your data which has been collected be destroyed unless it is in a de-identifiable state. The investigators also have the right to stop your participation at any time. This could be because you have had an unexpected reaction, or have failed to follow instructions, or because the entire study has been stopped.

What about new information/changes in the study?

If significant new information relating to the study becomes available which may relate to your willingness to continue to participate, this information will be provided to you.

If you have questions, want more information or have suggestions, please contact _____ who may be reached at _____ or _____ or contact _____ at _____.

If you would like to seek counseling services or resources, please contact _____ who may be reached at _____

If you have any concerns about your rights, how you are being treated, concerns or complaints about this project or benefits or risks associated with being in this study please contact the _____ Institutional Review Board toll free at _____ or the _____ Institutional Review Board at _____ or _____.

Voluntary Consent by Participant:

By signing this consent form, you are agreeing that you read, or it has been read to you, and you fully understand the contents of this document and are openly willing consent to take part in this study. All of your questions concerning this study have been answered. By signing this form, you are agreeing that you are 18 years of age or older and are agreeing to participate, in this study described to you by _____ .

Signature: _____ **Date:** _____

Personal Counseling Informed Consent (Office of Counseling Services)

Client's Name _____

Date _____

Welcome to the Office of Counseling Services (OCS). As a client receiving services from the OCS, our foremost priority is offering you the help you need. You have specific rights as a client and can expect the following from the counseling process.

You have the right:

1. To be helped by your counselor with the issues which concern you
2. To work with the counselor in deciding what goals to pursue in counseling and how to pursue them
3. To ask questions or voice concerns regarding counseling techniques or your progress in counseling
4. To experience an atmosphere of safety and trust in which you are free to be yourself and express what bothers you most
5. To refuse any counseling recommendation, technique, or service
6. To request a referral at any time
7. To terminate counseling at any time

Counseling services are confidential. Mental health professionals are not allowed to release any information about clients, unless the client signs a "Release of Information" form that permits the transfer of specific information to a specified individual or organization. The release can be revoked at any time and, otherwise, only remains valid for the time specified on the form.

There are certain situations in which information about clients may be released with or without their permission. The law requires counselors:

1. To report any known or suspected incidences of abuse, neglect, or exploitation of children or elderly and incapacitated adults
2. To take action when a client is a danger to himself/herself or to another identified person
3. To respond when a court of law orders the release of information

In addition, it is important to understand that for supervision, consultation or case management, information may be released to other professionals within the office that are bound by ethical and legal confidentiality.

The limits of practice in the OCS include using a brief therapy and consultation model and making appropriate referrals for psychiatric and long-term outpatient therapy. Number of sessions may be limited. We ask you to commit to regular sessions,

be on time for those sessions, and notify us 24 hours in advance should you be unable to attend your scheduled session. Failure to show for your appointment without notification may result in the termination of counseling services.

Emergency coverage

Clinicians may be reached during office hours at 757-594-7047. After hours, University Police may be called at 757-594-7777. Let them know that there is an emergency; they will contact the clinician on call. Other emergency resources include your local hospital emergency room.

I HAVE READ AND UNDERSTAND THE ABOVE CONSENT AND VERIFY THAT I AM A CURRENT STUDENT.

Client's signature Date

GROUP COUNSELING INFORMED CONSENT (Office of Counseling Services)

Group counseling provides you a chance to share your concerns with both professionals and peers. It gives you the opportunity to interact with people who, like you, are interested in growth and self-understanding. Groups often contain members who share similar issues and have similar goals. A group provides a supportive and challenging atmosphere for you to explore and discuss what is on your mind. Groups can be a very effective means of treatment and, in some cases, the best form of treatment for a particular individual or a particular type of concern.

Each person participates differently in a group. While active participation is often encouraged, it is important that you are comfortable with your level of participation. There is no “right” way to be. We encourage people simply be themselves. Being in a group provides an opportunity for individual growth and change; however, growth depends on your efforts and readiness for change.

Groups typically meet once a week, on the same day and time, and can meet for anywhere from 45 to 90 minutes, depending on the nature of the group. The number of weeks that a group meets will vary depending on the group. Most groups contain 3-10 members, although this can vary as well. Some groups may be closed to new members, following the first few sessions, while others may remain open until the group is scheduled to end. You will be informed about these group variations prior to the start of the group or during the initial group meetings. Each group is facilitated by one or two counselors from the Office of Counseling Services (OCS). The counselor(s) will provide some structure for the group, as well as, assist members in sharing concerns, encourage a collaborative environment, and promote positive change.

There are two expectations shared by all groups at the OCS. The first is confidentiality. This is the responsibility of group members and counselors. Group members need to keep the identity of other group members and the information shared during the meetings confidential. In a safe environment, people feel more comfortable sharing and honestly expressing what is on their minds. The more honest and open sharing that occurs, the greater the benefit to group members. Group counselors abide by professional standards that require that information, even of your attendance, not be released to outside sources without your written permission. The only exception to this is when there is a danger to you or another person or when required by law. The other expectation shared by all groups is attendance. Groups cannot run without participants. It is common to feel anxious about attending the group for the first few sessions. This nearly always dissipates after group members become more comfortable together; therefore, regular attendance is important for all members to get to know one another and begin to feel comfortable. If you unavoidably need to miss a group meeting, please inform your group counselor or the front office as far in advance as possible by calling 757-594-7047 or by e-mailing your group counselor(s).

By signing this form, I acknowledge that I have read and understand the information above. I have also received information about the specific group I am joining and understand the purpose of the group and the qualifications of the counselor(s). I understand that counseling is voluntary.

Student Signature: _____

Date: _____

Student Printed Name: _____

Counselor Signature _____

Date: _____

Counselor Printed Name: _____

APPENDIX D

HEALTH, PHYSICAL ACTIVITY, AND MOOD EXPERIENCES

#ubwell ID# Age Ethnicity/Race

Gender Year in school: FR SO JR SR MAT/MS

How would you rate your mental health?

Excellent Somewhat good Average Somewhat poor Poor

How would you rate your physical health?

Excellent Somewhat good Average Somewhat poor Poor

GODIN-LEISURE TIME EXERCISE QUESTIONNAIRE. During a typical 7-day period (a week), how many times on average do you do the following kinds of exercise for at least 15 minutes during your free time (write the appropriate number on each line).

1 a). **STRENUOUS EXERCISE (HEART BEATS RAPIDLY)** (e.g., running, jogging, hockey, football, soccer, squash, basketball, cross country skiing, judo, roller skating, vigorous swimming, vigorous long-distance bicycling).

b). **MODERATE EXERCISE (NOT EXHAUSTING)** (e.g., fast walking, baseball, tennis, easy bicycling, volleyball, badminton, easy swimming, alpine skiing, popular and folk dancing).

c). **MILD EXERCISE (MINIMAL EFFORT)** (e.g., yoga, archery, fishing from river bank, bowling, horseshoes, golf, snowmobiling, easy walking)

2). During a typical 7-day period (a week), in your leisure time, how often do you engage in any regular activity long enough to work up a sweat (heart beats rapidly)?

Often Sometimes Never/Rarely

APPENDIX E

#UBWELL PHYSICAL ACTIVITY PARTICIPATION LOG

#ubwell PA Pre-, During, & Post Measurements

#ubwell ID#

Date (Month, date) Example: March 28

Start Time (Example: 8:30 am)

End Time (Example: 9:32 am)

Activity performed (i.e., Type, Light/Moderate/Hard Intensity)

Rate how you were feeling BEFORE/DURING/AFTER the activity.

+5 Very Good +4 +3 Good +2 +1 Fairly good 0 Neutral -1 Fairly bad -2 -3 Bad -4 -5 Very bad

Rate how you were feeling BEFORE/DURING/AFTER the activity.

1 Low Arousal 2 3 4 5 6 High Arousal

APPENDIX F

#UBWELL PROGRAM EVALUATION

Please take a minute to complete the following evaluation of this program. Please indicate the number that reflects your answer. Please add information in the open-ended questions to provide explanations. Thank you!

1. *I had the opportunity to make choices with regard to the physical activities I did.*

1 2 3 4 5
Strongly disagree Agree Strongly agree

How did the program give opportunities for choice?

2. *I feel more confident in my ability to be physically active as a result of participating in the #ubwell program.*

1 2 3 4 5
Strongly disagree Agree Strongly agree

What do you think contributed to your feeling feel (or not feeling) successful and confident in performing physical activities?

3. *The relationships with the people in #ubwell were friendly and supportive.*

1 2 3 4 5
Strongly disagree Agree Strongly agree

What do you think are factors that contributed to the friendliness and support of the group members?

4. *The #ubwell program met my expectations.*

1 2 3 4 5
Strongly disagree Agree Strongly agree

Please explain how the program did or did not meet your expectations.

5. *I plan to continue being physically active.*

1 2 3 4 5
Strongly disagree Agree Strongly agree

Please explain how you will continue to be physically active.

6. *What I enjoyed most about the program was:*

7. *The program could be improved by:*

Thank you!

APPENDIX G

#UBWELL PROGRAM CURRICULUM

The purpose of the #ubwell program is to promote positive physical activity experiences in a supportive, autonomous, successful and community-oriented environment. The goal is to increase positive mood states which will improve overall mental and physical health.

The Group will meet once per week for 1.5 hours over a 5-week period. Each meeting combines group therapy and physical activity, following a process-experiential-process model which is typical of group therapy dynamics.

Group Therapy Component

Process model (Discussion). Group members talk openly about their experiences (i.e., mental health, physical activity) with guided discussions, feedback, and comments from the Counseling Clinician. This creates an atmosphere of open communication and trust, learning from each other, individual and group growth, and development into a “social microcosm that bears its own unique culture and identity” (Reeves, 2008). The group provides a venue for individuals to be themselves without the pressure of social and cultural expectations. This format provides a foundation from which the group grows into repeating coping strategy behaviors (e.g., physical activity) beyond group therapy. (30 minutes pre- and 30 minutes post- experiential/PA)

Experiential model (Activity). Group members participate in an activity or movement that promotes identification of conscious and unconscious issues. This provides the participant with “the opportunity to experience successes, identify obstacles, develop improved self-esteem, and take greater responsibility for their actions” (Hurst, 2015). This is an ideal format to experience new activities. (30 minutes)

Physical Activity Component

During the experiential model section of the weekly meeting, students will participate in pre-determined physical activities (see program schedule). Participants will be taught how to use the Feeling Scale and Felt Arousal Scale before, during, and after physical activity to assess their enjoyment, intensity, and pleasure/displeasure felt before, during, and after the activity performed in the experiential portion of the weekly meeting.

Additionally, participants will be encouraged to engage in physical activity on their own, and a resource guide will be provided. The guide will include the program’s goals/objectives and schedule. It will also include evidence based informational flyers and handouts and will be invited to contact the Lead Researcher for additional guidance or to answer any questions they may have. Participants will track their workouts using

the “7-day Physical Activity Log” (i.e., date, start/end times, name of activity). Participants will also be given the opportunity to receive a gym tour/tutorial if interested.

Framework

Self-Determination Theory Basic Psychological Needs Application

- Autonomy – self-selecting activities that are fun, enjoyable and pleasurable, rather than being directed or prescribed to engage in specific activities. Resources will be provided.
- Competence – selecting activities that can be performed successfully and that accomplish realistic goals. Weekly instruction will be provided, showing proper form and technique, to promote success and confidence.
- Relatedness – group support through weekly group therapy sessions and working out with others, feeling cared for and connected.

Table 1. #ubwell: Self-Determination Theory Basic Needs Framework

SDT Basic Need	Objective	Instructional Strategies
<i>Autonomy</i>	Encourage participants to make personal physical activity choices.	Provide multiple options and opportunities for students to try various activities that interest them (Kim et al., 2015) and are fun and enjoyable (i.e., affective) (Ekkekakis et al., 2013).
<i>Competence</i>	Promote success and confidence in performing physical activities.	Provide skill development, individualized instruction and feedback (Kim et al., 2015) through success engaging in cardiorespiratory, resistance, and flexibility activities; learning form and technique for various activities; overcoming barriers to physical activity, overcoming negative body image, and fitting activity into a busy day.
<i>Relatedness</i>	Cultivate a sense of belonging and connection with other people.	In a group therapy setting, participants will be part of a supportive and interactive team (Kim et al., 2015) and will be encouraged to be active together.

Exercise Experience & Mood/Affect.

Mood is an enduring, conscious state that is the culmination of repeated emotional experiences (e.g., happiness, sadness). Affect is a broad, unconscious, transient state that impacts mood and emotions. It can vary from one extreme to the other such as pleasure-displeasure and tension-relaxation. Persistent affective states can translate into moods which could impact mental health. For example, a person who is persistently tense and consistently worries about the future will tend to experience anxiety (Ekkekakis, 2012). On the other hand, a person who experiences states of displeasure, too much relaxation, and self-deprecation will tend to experience depression (Ekkekakis, 2012). Positive affect

resulting from physical activity can promote positive mental health, reducing stress and symptoms of anxiety and depression (Ekkekakis et al., 2013).

While it is known that PA participation enhances mood, increasing positive feelings such as pleasure, students who are depressed or suffer from anxiety may be sedentary and may not be motivated to be physically active (Craft & Perna, 2004). For example, a student suffering from depression may not have the energy to even get out of bed. A student suffering from anxiety may worry about what they look like or that they are not as fit as others they see in the gym. Exacerbating these concerns, following specific guidelines may also be overwhelming and could contribute to the depression or anxiety (Craft & Perna, 2004). Therefore, physical activity should not only be safe and effective, but also pleasurable and affective (Ladwig, Hartman, & Ekkekakis, 2017).

Autonomous physical activity participation. It is this premise that will guide participants to **self-select** and discover physical activities that they will enjoy. In turn, repeated participation in pleasurable, affective PA will promote repeated exposure to positive mood states, thereby improving mental health (Ruissen, Rhodes, Crocker, & Beauchamp, 2018). In this program, students will be asked to engage in physical activities of their own choosing and will self-report the date, duration, and type of activities they chose.

Self-talk. Self-talk is often referred to as internal/private speech in which individuals engage in self-dialogue with themselves to actively seek ways to understand their environment. (Calvete et al., 2005; Oliver, Markland, & Hardy, 2010; Oliver, Markland, Hardy, & Petherick, 2008). Depending on the context of the self-talk, this can affect mood and motivation (e.g., positive self-talk can promote positive affect) (Oliver et al., 2010, 2008). Anxiety often breeds from self-talk (Calvete et al., 2005), but it also promotes positivity even in stressful situations if positive in nature (Oliver et al., 2010). Research suggests that positive self-talk moderately correlates with reduced anxiety and depression among undergraduate students (Calvete et al., 2005). Therefore, it is included as a topic in the #ubwell curriculum to help participants understand what self-talk is, identify personal self-talk habits (positive or negative), and learn ways to adapt to more positive self-talk language. Training students to practice positive self-talk will improve their resiliency to stressful events increase overall positive affect, and therefore, reduce anxiety and depression symptoms (Oliver et al., 2010).

Body Image. In addition to self-talk, positive affect during physical activity can be thwarted by a negative body image and fear of being judged or evaluated in a physical activity environment (Asmundson et al., 2013). Therefore, in the #ubwell program will include opportunities for participants to explore their perceptions of their own body image and ways to overcome negative body image or continue to appreciate their positive body image.

Week 1 Meeting: Introductions, the PA Experience and Affect

Process (Counseling Clinician)

- Participants sign-in

- Introductions, including what interested them in the program
- Review group therapy informed consent, emphasizing confidentiality
- Assign identification #s (students will use this instead of name or student ID# when completing assessments)
- Take Health, Physical Activity, Motivation, and Mood State Experiences assessment (students will bring their laptop/tablet to complete this online through Qualtrics)

Experiential (Primary Investigator)

- Feeling Scale/Felt Arousal Scale
- March in place warm-up and discuss: Reducing Sedentary Behaviors: Sit Less and Move More and Finding Your Motivation for Exercise (ACSM Appendix G); Aerobic Training; modes & group exercise classes
- Activity: Walking/Running (outside, weather permitting; or in the Field House track)
- Encourage participants to be physically active this week

Process (Counseling Clinician)

- How is everyone feeling/what are your thoughts about the activity you just did?
- Discuss mental health, positive impact PA can have on mental health
- Discuss PA as a form of self-care
- Discuss physical activity plans for the week/set goals

Week 2 Meeting: Self-Talk

Process (Counseling Clinician)

- Check-in's: 1 "up" and 1 "down" from the week
- Discuss PA progress and how they felt when being physically active
- Discuss feelings of insecurity when at the gym/when working out
- Discuss other areas of life where insecurity is felt
- Discuss ways to overcome insecurities
- Discuss becoming aware of positive/negative self-talk that occurs when you do PA (self-talk article)
- Encourage to notice self-talk during activity

Experiential (Primary Investigator)

- Resistance Training – various modes & group exercise classes, including split routine, Blitz system, functional exercises (ACSM; Appendix G)
- Activities: Squats, Push-Ups, Abdominal crunches (or planks), Back Extensions (form, technique, practice) (Teach form/technique, then have participants perform 10 repetitions. Then, move to the next exercise). Once all exercises are taught, then have them repeat the sequence.

- Explain the reason why these activities were chosen (i.e., functional, no equipment needed).

Process (Counseling Clinician)

- How did you feel during the activities you just did?
- What did you notice about any self-talk?
- Discuss how feelings and self-talk can impact overall mood
- Discuss finding activities that promote positive feelings and encourage to try something new

Week 3 Meeting: Self-Talk and Body Image

Process (Counseling Clinician)

- Check-in's: 1 "up" and 1 "down" from the week
- Discuss PA progress
- Discuss how experiences affected mood
- Discuss any self-talk they noticed
- Discuss any barriers experienced with trying to be physically active
- Encourage to notice self-talk again during activity

Experiential (Primary Investigator)

- Flexibility training: modes, yoga, fitness classes (ACSM; Appendix G)
- Activity: Yoga (Breathing, Sun salutations 3X, R Warrior I, R Warrior II, R Reverse Warrior; Center wide leg forward fold; L Warrior I, L Warrior II, L Reverse Warrior; Mountain; Sun salute; Locust; Cobra; Pigeon R/L; Seated Forward Fold; Seated Spine Twist; Neck Stretch R/L; Savasana)

Process (Counseling Clinician)

- Discuss how PA went and how everyone is feeling now
- Discuss self-talk and what participants noticed while doing the activity
- Introduce body-image
- Discuss any perceived barriers seen through the week and discuss how to overcome them

Week 4 Meeting: Body Image

Process (Counseling Clinician)

- Check-in's: 1 "up" and 1 "down" from the week
- Discuss PA progress
- Ask group members to summarize what talked about last week
- Discuss any self-appreciating or self-deprecating thoughts had while being active
- Ask group members to define what body image means
- Encourage to note any body image thoughts that arise during activity

Experiential (Primary Investigator)

- Shorter bouts of activity just as effective as longer bouts (time saver)
- Activities: Time Saver: High Intensity Fitness Circuit in Minutes (ACSM; Appendix G; showing modifications and options); Pilates (DeSimone, G., 2016; Appendix G) (Hundred, Single Leg Stretch, Roll-up; Reverse Plank/Leg Pull Up; Side leg Series R/L; Swimming; Child Pose)
- Discuss next week's activity will be a group exercise class of their choosing. A brief, anonymous poll will be sent out later that day.

Process (Counseling Clinician)

- Discuss how PA went and how everyone is feeling now
- Ask group members to share what they think about their bodies (how does this impact their PA habits)
- Present info from article on body image
- Complete body image activity: Each group members wrote 2 things they like about their bodies that they can keep around the house

Week 5: Wrap-Up and Next Steps

Process (Counseling Clinician)

- Check-in's: 1 "up" and 1 "down" from the week
- Discuss PA progress
- Discuss body image thoughts from the previous week
- Ask group members to summarize what they learned regarding each topic area throughout the last 5 weeks
- Discuss what wanted to get out of the group but didn't

Experiential (Primary Investigator or Fitness Instructor)

- Engage in a group fitness class/activity voted on by the group (e.g., Kickboxing, Yoga, Pilates, Muscle Sculpt, Dodgeball, Basketball). Review Finding Your Motivation for Exercise (ACSM; Appendix G)

Process (Counseling Clinician)

- Discuss how PA went and how everyone is feeling now
- Discuss ways to continue physical activity after completion of the group today. Ask group members to share their plans.
- Take Health, Physical Activity, Motivation, and Mood State Experiences Assessment (students will bring their laptop/tablet to complete this online through Qualtrics)
- Complete the program evaluation (students will bring their laptop/tablet to complete both of these online through Qualtrics)
- Thank them for their participation and encourage them to stay connected.

APPENDIX H

PROGRAM EVALUATION: OPEN-ENDED RESPONSES

Factors that contributed to their feeling (or not feeling) successful and confident.

- “I liked the modifications, they made me feel like I could do any activity.”
- “Body image”
- “I kept remembering how I was fitter in my freshman year than now.”
- “Previous athletic experience.”
- “Being sick and not having a lot of free time.”
- “I’m small so exercise is sometimes hard but I can still do it.”
- “Having that group support and time.”
- “Stress of course work.”
- “Doing it more frequently.”
- “Lisa was constantly reassuring and boosted my confidence.”
- “Feeling no judgement from Lisa during activity.”
- “Doing the beginner classes like kickboxing and yoga gave me confidence into doing the real classes.”
- “Stress, upcoming exams.”
- “Having somewhat of a rapport with the group from the beginning talking and the variation of exercises and being reminded we could do the exercises at our own pace.”
- “Personal mindset, but finals were a big contributor to feeling unsuccessful.”
- “School stress played a large role in how much exercise I would get done in a week.”
- “My lack of making physical activity a priority.”

Factors that contributed to the friendliness and support of the group members.

- “Maybe the fact that they were all girls, as well as having a wide range of physical experience”
- “Openness”
- “We all agreed when we ranted.”
- “Everyone was looking to improve themselves not compete against each other.”
- “How short the program was and the time of day, we might have all been tired.”
- “Open and non-judgement environment.”
- “We all don’t really care.”
- “The diversity”
- “Age, interaction outside of the program, major, Greek life”
- “Being able to have an open space to speak.”
- “Everyone was there for similar reasons.”
- “Openness and related well together.”
- “Relatability.”
- “Common goals, we are all going through some of the same things.”
- “Everyone wanted to be here and wanted to listen to and support each other.”

- “Open environment, knew that people could talk openly and share without feeling judged.”
- “It can be hard to open up with people you don’t know but during the group exercise no one was judging and just having fun.”
- “I definitely think having the counseling sessions where we all were able to share our feelings and experiences helped a lot because we started to feel more comfortable around each other but also could relate to what other people were going through, so we were more sympathetic and understanding which increased our friendliness and support for one another.”

Plans to be physically active.

- “I am going to do the yoga and resistance training routines in my home.”
- “Field hockey, maybe hiking.”
- “I have picked up learning to play basketball and power walking.”
- “Continue going to the gym.”
- “Making time to work out.”
- “Gym, tennis, field hockey.”
- “Keep going to gym.”
- “Set a time at least once a week to exercise.”
- “I want to do yoga next semester every week.”
- “My goal is to start exercising each day from now on.”
- “I will continue to workout at least 5 days a week but I will try to incorporate the workouts that were introduced to me through the program.”
- “I will continue to go to the gym and find little ways to get more active on a daily basis.”
- “I workout 5-6 times a week and play club volleyball”
- “Workout at home.”
- “I will now make more of an effort to use the new things I learned and go to fitness classes.”
- “Try to keep on a better schedule when times aren't crazy i.e. finals, focus more on activity such as yoga and walking to continue meeting goals even if its not strenuous exercise, get friends involved with me.”
- “I think it’s gotten me excited to try new workouts.”
- “I want to use the fitness pass to take some classes at the gym and get more motivated about being active.”

Factors about the program that participants enjoyed the most.

- “I liked the yoga, and learning a routine I could do at home without equipment and for beginners.”
- “Meeting new people.”
- “Structured activity.”
- “Free exercise pass.”
- “Trying new workouts.”
- “Learning about how others were feeling towards exercise.”
- “The different exercises.”

- “Having the time to exercise and learning new exercises.”
- “The diversity of physical activity.”
- “The yoga portion.”
- “The new and exciting workouts.”
- “Kickboxing and yoga mix was awesome!!”
- “Yoga.”
- “Yoga.”
- “Getting to try new exercises.”
- “The different programs and attitude was great.”
- “The different workouts.”
- “It introduced me to a lot of different types of exercise I had never really tried before, which made me more motivated to work out and be active.”

The program could be improved by:

- “Less talking. The half an hour at the beginning and end of the day were a little lengthy, and conversation was often stilted.”
- “More intense workouts.”
- “Being at a different time.”
- “Harder sections of workouts.”
- “Allowing more connection between the groups.”
- “Starting it at the beginning of the semester instead of at the end.”
- “Expanding it for a longer duration.”
- “Scheduling it for the entire semester or earlier in the semester.”
- “Making this program longer and instead of being so close to final exams.”
- “Adding weightlifting/ strength training with the Basic Squats, Deadlifts, and Bench press.”
- “Added weight training.”
- “Starting earlier in the school year/running longer.”
- “Better way to keep hours and activities logged.”
- “Doing the group talk in a more comfortable environment not in the gym.”
- “The only thing I would change would be the timing! I feel like the second session of this program was a little wonky because of when it happened (near the end of the semester) so our sessions were broken up with breaks and people getting sick and taking finals made it harder for participants to be as involved/focused on the program.”

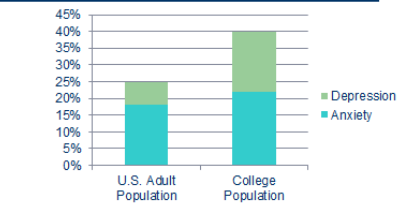
APPENDIX I

SOUTHEAST COLLEGIATE FITNESS EXPO 2019 POWERPOINT PRESENTATION

#ubwell: Supporting Students' Hearts and Minds

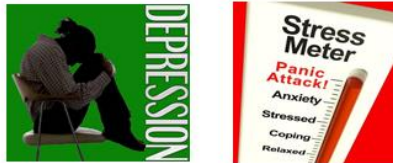
Lisa Powell, M.S.Ed., ACSM C-EP®,
AFAA, 200-hr RYT
Ed.D. Kinesiology Candidate, UNCG
Fitness Director, CNU

Background



(American College of Health Association, 2017; Anxiety and Depression Association of America, 2016)

Background



Interventions



#UBWELL

- 5-week group therapy/PA program
- Weekly, 1½ hour meetings
 - 1st 30-minutes: group discussion, led by Counseling Clinician
 - 2nd 30-minutes: PA experiences, led by Fitness Director**
 - 3rd 30-minutes: de-brief, and forecasting, led by Counseling Clinician

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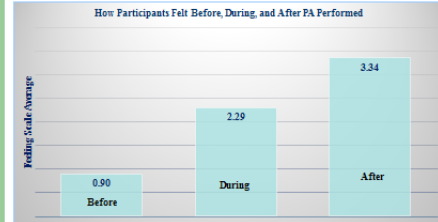
- PA's
 - Week 1: Cardio – Walk/Run
 - Week 2: Weight Training – Body weight or equipment/machine-based exercises
 - Week 3: Flexibility – Yoga
 - Week 4: Time-crunched workout – HiiT & Pilates
 - Week 5: Determined by group vote

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SDT Basic Need (Ryan & Deci, 2008)	Objective	Instructional Strategies
Autonomy	Encourage participants to make personal physical activity choices.	Provide multiple options and opportunities for students to try various activities that interest them (Kim et al., 2015) and are fun and enjoyable (i.e., affective)(Ekkakakis et al., 2013).
Competence	Promote success and confidence in performing physical activities.	Provide skill development, individualized instruction and feedback (Kim et al., 2015) through success engaging in cardiorespiratory, resistance, and flexibility activities; learning form and technique for various activities; overcoming barriers to physical activity; overcoming negative body image, and fitting activity into a busy day.
Relatedness	Cultivate a sense of belonging and connection with other people.	In a group therapy setting, participants will be part of a supportive and interactive team (Kim et al., 2015) and will be encouraged to be active together.

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Observations



"Affect" measures during PA

Feeling Scale (FS)

(Hardy & Rejecki, 1989)

Participants use this scale to assess how they are feeling before, during, and after physical activity.

- +5 Very good
- +4
- +3 Good
- +2
- +1 Fairly good
- 0 Neutral
- 1 Fairly bad
- 2
- 3 Bad
- 4
- 5 Very bad

Felt Arousal Scale (FAS)

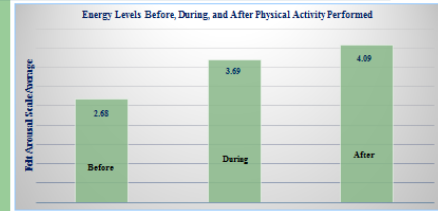
(Svebak & Murgatroyd, 1985)

Participants will use this scale to estimate how "worked-up" you feel. You might experience high arousal in one of a variety of ways, for example, excitement, anxiety, or anger. Low arousal might also be experienced by you in one of a number of different ways, for example, relaxation, boredom, or calmness.

- 1 LOW AROUSAL
- 2
- 3
- 4
- 5
- 6 HIGH AROUSAL

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Observations



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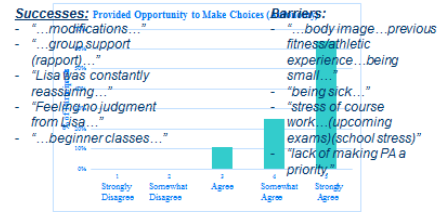
Observations

Motivation



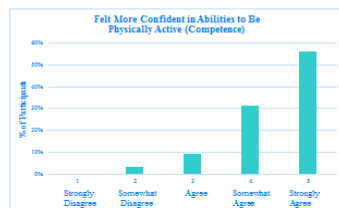
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Evaluations



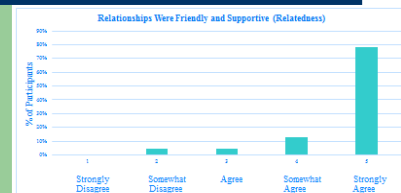
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Evaluations



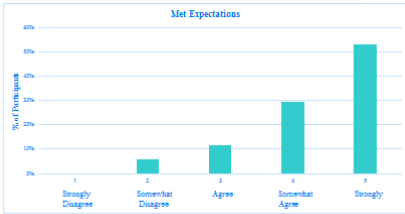
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Evaluations



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Evaluations



Evaluations – What Participants Enjoyed Most

- "I liked the **yoga**, and learning a routine I could do at home without equipment and for beginners."
- "Meeting new people."
- "Structured activity."
- "Free exercise pass."
- "Trying new workouts."
- "Learning about how others were feeling towards exercise."
- "The different exercises."
- "Having the time to exercise and learning new exercises."
- "The diversity of physical activity."
- "The yoga portion."
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- "Kickboxing and yoga mix was awesome!!"
- "Yoga."
- "Yoga."
- "Getting to try new exercises"
- "The different programs and attitude was great."
- "The different workouts."
- "It introduced me to a lot of different types of exercise I had never really tried before, which made me more motivated to work out and be active."

Suggestions for Future Programs

- "Less talking. The half an hour at the beginning and end of the day were a little lengthy, and conversation was often stilted."
- "More intense workouts."
- "Being at a different time."
- "Harder sections of workouts."
- "Allowing more connection between the groups."
- "Starting it at the beginning of the semester instead of at the end."
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- "Adding weightlifting/ strength training with the Basic Squats, Deadlifts, and Bench press."
- "Added weight training."
- "Starting earlier in the school year/running longer."
- "Better way to keep hours and activities logged."
- "Doing the group talk in a more comfortable environment not in the gym."
- "The only thing I would change would be the timing!"

Future Program Plans

- Start at the beginning of the semester
- Extend program to be 8 weeks
- Add a gym orientation and weight training
- Add a nutrition component
- Add a sleep component

Questions?



THANK YOU FOR THIS OPPORTUNITY!

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References

Ekkkekakis, P., Hargreaves, E. A., & Parfitt, G. (2013). Invited guest editorial: Envisioning the next fifty years of research on the exercise-affect relationship. *Psychology of Sport and Exercise*, 14, 751–758

Hardy, C. J., & Rejeski, W. J. (1989). Not what, but how one feels: The measurement of affect during exercise. *Journal of Sport & Exercise Psychology*, 11, 304–317.

Kim, M., Cardinal, B. J., & Yun, J. (2015). Enhancing student motivation in college and university physical activity courses using instructional alignment practices. *Journal of Physical Education, Recreation & Dance*, 86(9), 33–38. <https://doi.org/10.1080/07303084.2015.1065343>

Ryan, R. M., Patrick, H., Deci, E. L., & Williams, G. C. (2008). Facilitating health behaviour change and its maintenance: Interventions based on self-determination theory. *The European Health Psychologist*, 10, 2–5

Svebak, S., & Murgatroyd, S. (1985). Metamotivational dominance: A multimethod validation of reversal theory constructs. *Journal of Personality and Social Psychology*, 48(1), 107–116.