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The Optimum Performance Program in Sports - Youth: A Case Study

Karolyne Bastos Stucki

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THE OPTIMUM PERFORMANCE PROGRAM IN SPORTS - YOUTH: A CASE STUDY

By

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Bachelor of Arts - Psychology
University of Nevada, Las Vegas
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A thesis submitted in partial fulfillment
of the requirements for the

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Abstract

Ethnically and racially diverse youth athletes underutilize mental health services, resulting in social and economic costs to society (Gudiño et al., 2008; Snowden & Yamada, 2005). Almost half of all children and adolescents participate in sport, and sport participation is especially common in youth from ethnically and racially diverse neighborhoods (Holt, 2008; NSCH, 2017). Therefore, sport may be an effective strategy to permit diverse youth to receive mental health services. The current case study examines The Optimum Performance Program in Sports (TOPPS; a sport-specific family behavior therapy) in an Asian American youth athlete evidencing Social Anxiety Disorder (DSM-5). A within subjects AB experimental design was used to examine outcomes. Baseline measures were obtained, including severity of psychiatric symptoms, substance use, school attendance; mental health factors affecting sport performance in training, competition and life outside of sports; and specific to family, coaches, teammates and peers, happiness in relationships, relationships affecting sport performance, contributions of significant others to sport performance, and program satisfaction. Evangeline, an alias given to protect her identity, then received the experimental intervention. Protocol checklists were used to standardize intervention implementation. Evangeline completed outcome assessments immediately before and after treatment and at one-month follow-up. It was hypothesized that Evangeline will show improvements in all relevant outcome measures from pre- intervention to post-intervention and maintain these improvements at one-month follow-up. The results will provide preliminary support for an engaging, non-pathologically-focused optimization approach to mental wellness in ethnically and racially diverse youth, reducing health disparities in this population.

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The Optimum Performance Program In Sports - Youth: A Case Study

About half of all Americans will experience a mental health disorder in their lifetime, with the onset of these disorders typically occurring during childhood or adolescence (Whitney & Peterson, 2019; Cree et. al. 2018). Notably, 1 in 6 of all children and adolescents in the United States will experience a mental health disorder (Whitney & Peterson, 2019; Cree et. al. 2018); most often substance use, anxiety, behavior, and mood disorders (Kessler, Berglund, & Demler, 2005; Merikangas et. al., 2010). Ethnic and racial minority youth are more likely than Caucasian youth to develop mental health disorders (Kessler, Berglund, & Demler, 2005; Merikangas et. al., 2010) due to various risk factors including (e.g., low socioeconomic status, increased childhood adversities, neighborhood level stressors, single-parent household). Ethnic and racial minority youth are underserved, experience greater treatment delays, and receive inadequate care when served (Gudiño et al., 2008; Snowden & Yamada, 2005). In addition to risk factors associated with being members of marginalized groups, diverse youth athletes (DYA's) have additional stressors related to being a student athlete (Gudiño et al., 2008; Snowden & Yamada, 2005). A lack of research exists on mental health interventions that are culturally adapted and address both life and sport in diverse youth athletes. Previously evidenced in collegiate athletes, The Optimum Performance Program in Sports (TOPPS) is an evidence-based program addressing sport, life, and diversity that would address sport and life stressors, engage community/family, and diverse youth athletes. The following review discusses prevalence of mental health disorders in youth athletes, service utilization, current interventions addressing mental health and sport, and a proposed intervention program addressing DYA concerns (Kessler, Berglund, & Demler, 2005; Merikangas et. al., 2010).

Relevance of Mental Health Disorder Prevalence for Asian-American Youth

It is estimated that 1 in 6 of all children and adolescents in the United States will experience a mental health disorder with ethnic and racial minority youth being most at risk (Whitney & Peterson, 2019; Cree et. al. 2018). The most common disorders children and adolescents meet criteria for are anxiety disorders, behavior disorders, and mood disorders (Kessler, Berglund, & Demler, 2005; Merikangas et. al., 2010). Native, Latinx, Asian, Pacific Islander, and African American adolescents show higher rates of internalizing disorders in comparison to European/Caucasian American counterparts (Kennard, et al., 2006; Anderson & Mayes, 2010). Asian Americans and Latinx American adolescents report the highest levels of depressive symptoms when compared to African American and European American counterparts (Brown et al., 2007; Anderson & Mayes, 2010).

Asian American prevalence data has been non-conclusive and sometimes contradictory due to the pan-ethnic nature of this group (Chu & Sue, 2011). A pan-ethnic group is a social construct in which people of varying ethnic or national backgrounds are lumped together based on similar cultural traits (Kim & White, 2010; Okamoto, 2014). The labeling of pan-ethnic groups, such as Asian-Americans, have been used to develop and inform research and public-policy. Asian-Americans may benefit from the allocation of resources to this community but the lumping of various ethnicities/nationalities into one group also increases the likelihood for harmful stereotypes. Asian hate crimes, the model minority myth, and U.S. history of Japanese Internment camps during World War II (often placing those of non-Japanese Asian decent in camps) indicate a history of U.S. disregard for the diversity within the Asian-American community. Generational trauma and threat to safety influence the mental health of Asian-Americans to the present day. Cultural pressures to perform (also called the “Model Minority” myth or America’s perception of Asian-Americans as having higher academic success, economic

success, or innate-talent above other minorities) and conflict between collectivistic Asian values and individualistic American values increase the suppression of emotions in Asian American youth internalizing disorders (Chu & Sue, 2011, Anderson & Mayes, 2010). Most recently, with blame placed on those of Asian descent for the COVID-19 pandemic within the United States and an increase in Anti-Asian hate crimes, it is important to acknowledge the pan-ethnic nature of Asian-Americans within the United States of America.

Relevance of Mental Health Disorder Prevalence for Asian-American Youth Athletes

Fifty-eight percent of children between the ages of 6 and 17 years participate in any school or community sport (Holt, 2008). Children and adolescents are participating in organized sports at school, club sports, and sport organizations across the United States at an increasing rate until 2019, with the last dip in enrollment occurring in 1989 (Participation in High School Sports Registers First Decline in 30 Years, 2019). In the United States alone, over 38 million children and adolescents participate in organized sports a year with sport participation common in youth from ethnically and racially diverse neighborhoods (NSCH, 2017; Koba, 2014; Holt, 2008). According to the National Survey of Children's Health, within each minority group, about half of all the children between 6 and 17 participate in an individual or team sport; Hispanic (49.6%), Black (47.7%), Asian (57.2%), Other (58.4%) (NSCH, 2017). Sport may be a medium to engage ethnically and racially diverse youth at risk of mental health disorders in treatment.

Mental health risk factors for highly competitive youth athletes include extreme workloads, uncertainty associated with selection processes, developmental changes, and pressure to perform in sport and academia (Gerber et. al., 2018; Sabato, Walch, & Caine, 2016). Youth athletes spend more time at school, completing homework, traveling to and competing in sport, and reduced time resting and engaged in social activities compared with non-athlete peers

(Skein, Harrison, Clarke, 2019). For instance, competitive youth athletes often train between 15 to 20 hours a week in sports (Sabato, Walch, & Caine, 2016). Role conflicts may cause additional psychological strain as parents, teammates, and coaches apply pressure and competition (Kerr, Stirling, & MacPherson, 2016). Minority youth may face additional pressures as the community views sports as a way to receive college funding. The results of a national survey indicated that parents of African-American youth athletes rated the pursuit of a college scholarship as 23% more important and a pro sports opportunity as 26% more important than White parents (National Youth Sport Parent, 2020). Based on the "Model Minority" myth (Chu & Sue, 2011), Asian-American youth athletes are expected to experience increased pressure to outperform teammates which may lead to a number of negative consequences including overtraining. Over trained youth athletes are more likely to experience muscle soreness, sleep problems, appetite loss, mood disturbance, upset, decreased self-confidence, and inability to concentrate (Winsley & Matos, 2011), often leading to anxiety and depression, so culturally informed mental health interventions designed may be beneficial for these athletes.

Relevance of Mental Health Service Utilization in Asian-American Youth Athletes

Despite the need for culturally informed mental health interventions, minority youth underutilize mental healthcare services, experience greater treatment delays, and receive inadequate care when served (Gudiño et al., 2008; Snowden & Yamada, 2005; Kataoka, Zhang, & Wells, 2002; Whitney & Peterson, 2019). Some studies have suggested that, when compared to other racial and ethnic minority groups, Asian Americans have the lowest rate of mental health care utilization (Alegria et. al., 2008; Derr et. al., 2016; Yang et. al., 2020). To update prior research indicating mental health disparities between Asian Americans and other racial and ethnic groups, Yang and colleagues examined samples of 108,404 white and 8,121 Asian

nonelderly American adults collected across a 5-year time frame. They found that Asian Americans were less likely than their white counterparts to access mental health treatment within the past year (Yang et. al., 2020). In regard to barriers, not knowing where to go for treatment was more likely to be reported by Asians than whites but cost of care (after adjusting for insurance and income) was the “most highly endorsed barrier to care for Asians” (Yang et. al., 2020). Thus, the existing research suggests barriers to service utilization in ethnic and racial minority populations, including Asian Americans, that involve poor mental health literacy, stigma, and practical barriers like money or transportation (Rickwood, Deane, & Wilson, 2007; Gulliver, Griffiths, Christensen, 2010; Yang et al., 2020).

Furthermore, according to Bauman (2016), mental toughness and mental health may be perceived by athletes as contradictory terms, and incentives associated with the pursuit of mental healthcare are outweighed by the appearance of being mentally weak, possible loss of playing time, and other negative factors. This assumption is supported from the reports of youth athletes in focus groups (ages 16 to 23). Indeed, stigma associated with the pursuit of psychological intervention was found to be a more important deterrent than mental health literacy for athletes, having a history of negative experiences associated with help seeking and a host of other relatively less influential factors (Gulliver, Griffiths, & Christensen, 2012). Some research suggests perceived stigma associated with the pursuit of mental healthcare can be actively mitigated. For instance, collegiate athletes believe it is more acceptable to see a “sport psychologist” than a therapist, counselor, or general psychologist (Van Raalte et al., 1992; Brooks & Bull, 2001). Other studies suggest mental healthcare can be encouraged through discussion of sport culture and personal ambitions (Donohue et al., in press) and reviewing how sport psychology professionals can be helpful (Donohue et al., 2004b). Also, non-specialty

community services have been made available to address these barriers in ethnic and racial minority youth (typically at the cost of treatment quality or efficacy).

In a meta-analysis of evidence-based psychosocial interventions, Huey and Polo (2008) suggest there are no well-established evidence-based treatments for ethnic and racial minority youth, with the most promising being variants of Cognitive Behavioral Therapy. A more recent meta-analysis by Weisz and colleagues (2017) reviewed over 50 years of randomized-control trials testing psychological therapies in youth with a variety of mental health disorders and suggested that the effects of cognitive behavioral therapy did not differ for Caucasian versus racial-minority samples. For instance, Asian-American youth are more likely to receive non-specialty treatment through institutions like schools, general medicine, juvenile justice, or child welfare than specialty services at outpatient, inpatient, or residential services (SAMHSA, 2017, Table 9.2). Their underutilization of specialty mental health services is most often due to “delay in symptom recognition and seeking help, lack of providers, use of alternative services, stigma, language barriers, and generational status” (Augsberger, Yeung, Daughter, & Hahm, 2015). Youth are more likely to reach out to community leaders and family before seeking services elsewhere (Leong et al., 2001; Li & Seidman, 2010). This may be due to stigma manifesting as shame where Asian Americans are suggested to experience feelings of shame regarding mental health concerns within the family unit as opposed to individually or within the community (Augsberger, Yeung, Daughter, & Hahm, 2015; Yang et. al., 2020). Thus, treatment programs that involve significant others, reduce stigma, and meet Asian-American youth within their community or family would be particularly effective in addressing barriers and reduce health disparities.

Limitations of Mental Health Interventions for Youth Athletes

Limited research has been performed on evidence-based mental health interventions in youth athletes, particularly athletes from ethnic/racial minority backgrounds (Donohue et al., 2020). Henriksen and colleagues (2019) conducted semi-structured interviews with 12 sport psychology practitioners and determined the following intervention structural components as key to successful interventions with youth athletes: assessments and evaluations via multiple sources, flexible curriculum, targeting both performance and life skills, holistic approach to addressing challenges in multiple life domains, follow athletes across time and contexts, and involve athletes' significant others. The American Psychological Association (APA) also collected experts in the field to address racial and ethnic disparities in youth access to evidence-based mental health services via a guide for practitioners. The group recommended interventions be culturally grounded, use a social-ecological approach, address intersectionality and identity, be easy to access, familiar and implemented in a non-stigmatizing location (Valdez et al., 2017). In their review of sport performance interventions, Smith, Smoll, and Christensen (1996) found the behavioral and cognitive behavioral therapies that incorporated modeling, reinforcement, self-recording with self-evaluation, role-playing, goal setting, progressive muscle relaxation, imagery, and cognitive restructuring to be most effective. The Optimum Performance Program in Sports is a comprehensive, evidence-based holistic program that incorporates all of these techniques to address athletes' life and sport performance which may be particularly useful for addressing mental health needs of ethnic minority youth athletes.

The Optimum Performance Program in Sports (TOPPS)

The practice philosophy for The Optimum Performance Program in Sports (TOPPS) is based on optimization science that incorporates well-established constructs from several models

of care within the context of evidence-based intervention (Donohue et al., 2018). The Optimum Performance Program in Sports (TOPPS) is based in Cognitive Behavioral Therapy and Family Behavioral Therapy (e.g., Azrin et al., 1994; Donohue et al., 2014). TOPPS works under the premise that thoughts, behaviors, and feelings interdependently influence performance in sport and life. In this model, cognitive and behavioral skills are conceptualized along a continuum of optimization ranging from non-optimal to optimal where everyone can improve, with or without psychopathology (see Figure 1). Optimal behavioral skills are focused on achieving the task at hand with optimal thoughts being objective and positively focused.

Another integral component of TOPPS is its family approach to therapeutic intervention whereby significant others (i.e., persons who are deemed important to the athlete's welfare) are conceptualized to be positive change agents working to assist athletes in their goal achievement, both in sports and general life scenarios. Significant others are encouraged to be present at TOPPS meetings to learn optimal methods of supporting athletes, both in and out of session. The participation of significant others in mental health intervention involving athletes is well established (Henggeler & Schaeffer, 2016) and rooted in Family Behavior Therapy (FBT) (e.g., Azrin et al., 1994; Donohue et al., 2014).

TOPPS utilizes well-founded interventions in conjunction with innovative practices to fully address athletes' needs. Strength-based learning models like Positive Psychology (Seligman & Csikszentmihalyi, 2000), operant conditioning (Skinner, 1938), classical conditioning (Pavlov, 1906), and modeling (Bandura, 1977) are well-integrated into intervention components aimed at facilitating efficient skill acquisition. Therapeutic engagement strategies include enlistment calls and supportive text messages (Donohue et al., 1998), culture-focused, semi-structured engagement interviews (Donohue, Strada, et al., 2006), and sport-focused language and

implementation of interventions in sport-oriented settings. Twelve to 16 performance meetings about 60 to 90 minutes in duration are typically prescribed. Each intervention component includes a theoretical rationale, guidelines to assist implementation, and handouts or worksheets. Assignments (relevant to respective interventions) occur between meetings and providers encourage participation through supportive text messages and brief telephone calls. As compared with services as usual, the engagement interventions have been shown to improve motivation to pursue TOPPS (Donohue et. al., 2016; Donohue et al., in press). In clinical trials involving adult athletes, TOPPS has significantly reduced factors interfering with sport performance, improved relationships, and decreased general psychiatric symptoms (e.g., Donohue et al.), including various mental health diagnoses, including Bulimia Nervosa (Galante, Donohue & Gavrilova, 2019), depression (Pitts, et al., 2015), and substance abuse (Chow, et. al., 2015). However, there is a lack of outcome research specific to TOPPS in middle and high school athletes, as well as with minority youth.

TOPPS may be well-suited to address mental health concerns of DYA with the goal of improving mental health outcomes and decreases mental healthcare disparities for DYAs. TOPPS addresses initial barriers to care by taking performance professionals on-site to athletes, involving significant others in the therapeutic process, and decreasing stigma through a non-pathological, optimization approach. TOPPS interventions may be helpful for youth athletes from marginalized groups because it incorporates an initial assessment of intersectionality (i.e. all cultures youth identifies with in demographics and cultural enlightenment intervention), discussion of interest in addressing intersectionality within treatment and with significant others (cultural enlightenment intervention), using culturally-competent examples and goals as informed by those of that culture (environmental control intervention and dynamic goals and

rewards intervention). This study applies these strategies of addressing diversity in collegiate athletes to a younger population

Purpose of the Present Study

The purpose of this study is to modify the professional training manual for TOPPS that was developed for use in collegiate athletes to be developmentally appropriate for mental health and sport performance optimization in middle and high school ethnic minority youth athletes, and initially examine the modified intervention in an ethnic minority adolescent athlete, Evangeline (an alias given to protect her identity), who evidences Social Anxiety Disorder. TOPPS is the only intervention program to have evidenced in previous case trials and randomized control trials improvements across both mental health and sport performance measures in collegiate athletes (Chow, et al., 2015; Pitts et al., 2015; Donohue et. al., 2016; Donohue et. al., 1998; Donohue, et al., 2015; Gavrilova, 2016). Previous TOPPS case trials have entirely focused on the implementation and evaluation of TOPPS in elite collegiate athletes. Case trials have evidenced improvements with athletes diagnosed with Diagnostic and Statistical Manual of Mental Disorders (DSM) diagnoses on measures of substance use, unsafe sexual practices, mental health, sport performance, and relationships (Chow, et al., 2015, Pitts et al., 2015). Because of the developmental differences between middle and high school athletes compared to collegiate athletes, the TOPPS program needs to be modified if it is to be effectively implemented with these younger athletes. The primary aim of the present study is to determine the efficacy of The Optimum Performance Program in Sports (TOPPS) on measures of mental health, substance use, conduct, school attendance, mental health factors affecting sport performance in training, competition and life outside of sport, relationship happiness, and influence of relationships on sport performance. It is hypothesized that Evangeline will evidence improvements from baseline assessment to 4 and 5 months post-baseline assessment on relevant measures of mental health.

Case Study Design

Participants

The youth athlete, Evangeline, was referred to The Optimum Performance Program - Youth by her mother for negative comments about her appearance and self-confidence. She was screened for the following inclusion and exclusion criteria: 1) enrolled in a Clark County public or private High School; 2) between 12 and 17 years old; 3) no prior diagnosis of Schizophrenia; 4) formally participating as an athlete in a local sport organization for at least 1 month prior to the referral and 5) expected to participate in this organization for at least 5 months with 6) no plans of an extended absence of more than 1 month; 7) not receiving formal psychotherapy at the time of pre-intervention assessment.

Procedure

An AB experimental study design was used to examine changes in dependent measures before and after the TOPPS intervention. The design included baseline, post-intervention, and 1 month follow up. Upon completion of study consent, the participant was administered a comprehensive battery of assessment measures by a trained assessor. The assessment occurred 1 week before intervention, at treatment completion, and 1-month follow-up after program completion (see Table 1).

Measures

Kiddie – Schedule for Affective Disorders and Schizophrenia for School Aged Children (6-18 Years) – Present and Lifetime Version (K-SADS-PL November 2016) (Kaufman et al., 2016). The KSADS-PL November 2016 semi-structured interview was utilized during baseline, post, and follow-up assessment to assess present or lifetime psychiatric disorders consistent with criteria set in the Diagnostic and Statistical Manual of Mental Disorders (5th ed).

The K-SADS-PL November 2016 has 3 components: introductory interview, diagnostic screening interview, and supplements to finalize diagnoses (Townsend et al., 2020). The introductory interview gathers key background and demographic information from the parent and child. The diagnostic interview assesses present and lifetime symptomology across DSM-5 disorder categories with parent and child. Supplements assess symptom sub-criteria for added detail and clarification. A paucity of data exists on reliability and validity data for the K-SADS-PL November 2016.

Although no current reliability or validity data exists for the English-Version K-SADS-PL November 2016, initial reliability, and validity data (Kaufman et. al., 1997) support the concurrent validity of the K-SADS-PL. Support for the K-SADS-PL has remained consistent across languages (over 30; Ambrosini, 2000), settings (outpatient and inpatient; Jensen-Doss et al., 2014, Miller et al., 2001), and revisions (Townsend et al., 2020). According to Kaufman and colleagues (1997), initial interrater reliability on K-SADS-PL screeners and diagnoses range between $\kappa = .93$ to 1.00. Test-retest reliability for present and/or lifetime diagnoses were in the $\kappa = .77$ to 1.00 range for major depression, any bipolar, generalized anxiety, conduct, and oppositional defiant disorder; present diagnoses of posttraumatic stress disorder and attention-deficit hyperactivity disorder $\kappa = .63$ to .67. Overall, the K-SADS-PL demonstrates good to excellent reliability and validity.

Time-Line Follow-Back interview (TLFB) (Sobell, Brown, Leo, & Sobell, 1996; Sobell, Sobell, Klajner, Paven, & Basian, 1986). The TLFB is a standardized assessment initially developed to assess frequency of substance use. This interview has been shown to evidence treatment sensitivity in collegiate athletes (Donohue et al., 2015; Donohue et al., 2018), including substance use, school attendance school, and sport activities. No current reliability or

validity data exists for the TLFB with youth athletes. Psychometric support for the TLFB has remained consistent across outpatient adults (Carey, 1997) and adolescents (Donohue et al., 2004a). Carey and colleagues (1997) evaluated the concurrent validity of the TLFB with gold-standard alcohol use assessment, Addiction Severity Index (ASI). Agreement between measures was strong ($\kappa = .79$) indicating the TLFB as a reliable measure of alcohol use. Donohue and colleagues (2004a) demonstrated validity and reliability of the TLFB with adolescent and parent reports of their children's substance use.

The Symptom Checklist-90-Revised (SCL-90-R) (Derogatis, 1977). The SCL-90-R is composed of 90 items and is one of the most widely used instruments assessing general psychiatric symptoms. Higher scores indicate greater psychological distress and symptomology where a T-score greater than 65 indicates a clinical elevation. Factor analysis revealed the following nine dimensions: Somatization (SOM), Obsessive-Compulsive (O-C), Interpersonal Sensitivity (I-S), Depression (DEP), Anxiety (ANX), Hostility (HOS), Phobic Anxiety (PHOB), Paranoid Ideation (PAR), and Psychoticism (PSY) (Derogatis, 1977). There are also the following three Global Indices: Global Severity Index (GSI), Positive Symptom Distress Index (PSDI), and Positive Symptom Total (PST). In this study, the GSI was used to indicate overall mental health severity and the nine dimensions used to indicate specific domains of psychopathology that are relevant for treatment development. Norms have been developed for adult and adolescent inpatient and outpatient populations and separate norms available for males and females in these populations. Female adolescent nonpatient norms will be used for the purposes of this study (Derogatis, 1994). The SCL-90-R shows excellent construct validity and test-retest reliability (r 's = 0.80 to 0.90; Derogatis, 1977; Derogatis, 1994), internal consistency (Cronbach's $\alpha = .77$ to $.90$; Derogatis et al., 1977; Horowitz, Rosenberg, Baer, Ureño, &

Villaseñor, 1988), and has been effectively used to identify psychological distress in collegiate athletes (Donohue et al, 2018).

Youth Self Report 11-18 (YSR) (Achenbach, 1991). This 112-item measure assesses adolescents' perceptions of their own competencies and problem behaviors from 0 (*not true*), 1 (*somewhat or sometimes true*), or 2 (*very true or often true*). YSR includes 2 broadband scales (internalizing and externalizing), 8 syndrome scales (Anxious/Depressed, Withdrawn/Depressed, Somatic Complaints, Social Problems, Thought Problems, Attention Problems, Rule-Breaking Behavior, Aggressive Behavior), DSM-oriented scales, a summary of problems (Total Problems), and a measure of competency (Activities, Social, Academic Performance, Total Competence). According to Achenbach and colleagues, reliability is considered acceptable for test-retest ($r = 0.79$), internal consistency ($\alpha = 0.83$), and inter-rater ($r = 0.49$; Correlation between YSR & CBCL) (Achenbach et al., 1995a; Achenbach et al., 1995b). Construct and criterion validity was found to be strong in non-clinical, clinical, and diverse samples (Achenbach & Rescorla, 2001).

Beck Depression Inventory-II (BDI-II) (Beck et al., 1996). This 21-item measure is perhaps the most widely used method of assessing depressive symptoms (according to DSM-IV) in adolescents and adults, and its psychometric support is excellent with high test-retest reliability (r range: .73-.96) and internal consistency across both clinical and community populations (mean $\alpha = .90$; Wang & Gorenstein, 2013).

Sport Interference Checklist (SIC) (Donohue et al., 2007b). This 40-item measure includes three inventories that may be used to assess mental health associated factors that are relevant to training (Problems in Sport Training Scale; PSTS), competition (Problems in Sport Competition Scale; PSCS), and life outside of sports (Problems with Life Outside of Sports;

PLOS). Each inventory includes the same item stems (e.g., How often does feeling stressed out interfere with your performance in ... training, competition, life outside of sports) rated on a 7-point Likert-scale of frequency (1 = never, 7 = always). Items were added to obtain a Total score. SIC subscales demonstrated excellent psychometric support in the original study; PSTS subscale (Cronbach's $\alpha = .91$), PSCS Subscale (Cronbach's $\alpha = .92$), DSPS (Cronbach's $\alpha = .95$) (Donohue et al., 2007b).

Student Athlete Relationship Instrument (SARI) (Donohue et al., 2007a). The SARI is a 63-item measure that includes 4 inventories assessing sport specific problems in relationships with Family, Coaches, Teammates, and Peers. Participants respond to items (e.g., at least one of my teammates has a negative attitude towards me) utilizing a 7-point Likert scale (1= extremely disagree, 7 = extremely agree). Separate scores are calculated for Family, Coaches, Teammates, and Peers by summing the items in each domain, and then dividing by number of items. The internal consistency across all four relationship scores is high (α range: .87-.96; Donohue et al., 2007a).

Overall Happiness with Family, Coaches, Teammates and Peers (Donohue et al., 2007). This single-item measure utilizes a percentage scale of Happiness (0% = completely unhappy with the people, 100% = completely happy with the people) to separately assess the participant's satisfaction with their family, coach, teammate, and peer relationships (i.e., one percentage rating per relationship category). Responses to this scale negatively correlate with problems in these relationships (Donohue et al., 2007).

Child and Adolescent Services Assessment (CASA) (Farmer et al., 1994). This semi-structured interview assesses past and present mental health service utilization, opinions about mental health services, and access/barriers to mental health services. The CASA was

administered at baseline to child and parent. The CASA has good test-retest reliability across various settings (inpatient, outpatient, out-of-home, crisis services, non-mental health professional, school, juvenile justice). Intraclass correlation coefficients calculated for number of service settings range from 0.74 (child) to 0.76 (parent) for services received over the last 3 months and from 0.76 (child) to 0.60 (parent) for ever having received services. Validity was calculated using percentage agreement between CASA responses and mental health center records at an outpatient center, day hospital, treatment foster care, and case manager (averages across services: parent = 84%; child = 75%; combined = 90%) (Ascher et al., 1996).

Client Satisfaction Questionnaire-8 (CSQ-8) (Larsen, Attkisson, Hargreaves, & Nguyen, 1979). The CSQ-8 is used to assess clients' satisfaction with the services received during a specific intervention session. It consists of 8 self-report items that are rated on a scale of 1 to 4 with higher scores reflecting greater satisfaction. A total score that ranges from 8 to 32 is calculated by summing the scores for the individual items. The CSQ-8 was used at the conclusion of each session. The CSQ-8 has demonstrated strong internal consistency across many samples ($\alpha = .83-.93$; Attkisson & Greenfield, 1996).

Suicide Probability Scale (SPS) (Larzelere, Smith, Batenhorst, & Kelly, 1996). The SPS is a psychometrically validated measure of suicidal risk/ideation that, in addition to measuring study outcomes associated with suicidal ideation, permits examination of contra-indicative factors that are associated with suicidal ideation in youth athletes. Participants respond to 36 items using a four-point Likert scale (1 = "None or a little of the time" to 4 = "Most or all of the time"). In addition to total score, four subscale scores (Hopelessness, Suicide Ideation, Negative Self-evaluation, Hostility) are also reported. In adolescents, internal consistency for

total SPS score is high ($\alpha = .90$), with lower but acceptable internal consistency for subscale scores (α range: .60-.86; Tatman et al., 1993).

TOPPS Intervention

The participant was assigned a performance professional (PP) who was responsible for implementing the TOPPS intervention. The PP was a 24-year old post-baccalaureate student comprehensively trained in TOPPS. The participant engaged in 12 TOPPS performance meetings of 60 to 90 minutes duration over a 4-month time span. Meetings focused on optimizing performance in sports, mental health, relationships, and intake (food, drugs, and alcohol) (see Table 2). Significant others such as coaches, teammates, parents, siblings, or peers were required to participate in the program as they assisted with skill implementation outside of meetings. Each intervention component included a theoretical rationale, guidelines to assist implementation, and handouts or worksheets. Assignments (relevant to respective interventions) occurred between meetings and providers encouraged participation through supportive text messages and brief telephone calls.

Meeting Agenda. Intervention meetings start with a Meeting Agenda that outlines planned interventions, estimated times for implementation, and rationale for each intervention relevant to the participant. Significant others (SOs) were invited to adjust intervention plans, including the selection, order, and duration of each agenda item, making the intervention more consumer-driven.

Meeting Conclusion. Intervention meetings end with a structured Meeting Conclusion that includes descriptive positive feedback about completed intervention(s), review of assigned homework, and preparation for the upcoming meeting (including scheduling and determining significant others involvement).

Program Orientation. The first meeting includes a program orientation to provide an overview of TOPPS, including its structure and program guidelines. The therapeutic rationale Program Orientation is to build rapport, set therapeutic boundaries, and increase motivation for treatment compliance (Donohue et. al., 2009). The PP reviews TOPPS programmatic knowledge to understand the therapeutic roles and responsibilities of the participant, significant others, and PP. Limitations of confidentiality and privacy are reiterated in accordance with consent forms signed during pre-assessment. During the program orientation, the participant's PP discusses SO(s) involvement (i.e., strategic, motivational), utilization of protocol checklists to guide meetings, scheduling of future meetings, communication guidelines, and ways the significant other or PP can be supportive with the athlete.

Cultural Enlightenment. The initial meeting also includes the Cultural Enlightenment intervention to address the participant's cultural identity, importance of ethnic culture, and any arguments or problems associated with respective ethnic culture. The PP administers the psychometrically validated Semi-Structured Interview for Consideration of Ethnic Culture Scale and discusses endorsed cultural values, beliefs, and behaviors (Donohue et. al., 2006).

Dynamic Goals and Rewards. Dynamic Goals and Rewards is based in Family Behavioral Therapy's Behavioral Goals and Contingency Management intervention, initially proven effective in reducing drug abuse and associated problems by identifying stimuli that induce craving to use drugs (Donohue et. al., 2009). Goals are pre-generated from assessment findings onto a monitoring form and discussed in tandem with assessment results to the participant and present SO(s). Program goals are reviewed during each performance meeting, including the participant and SO(s) meeting attendance, avoidance of substances, mental

wellness strength and stability, maintenance of optimum relationships with others, assisting others to have optimal lives, sport performance, and school performance.

Performance Planning. Performance Planning is based in Family Behavioral Therapy's Standardized Treatment Plan intervention and proven effective in determining the order of FBT's skill-based interventions implementation (Donohue et. al., 2009). Each intervention component is reviewed with the participant and SO(s). After the participant rates perceived helpfulness of each intervention, the participant and SO(s) rank each intervention component separately on perceived usefulness of each intervention to goal achievement. The PP discusses rankings with the participant and SO(s) and sum rankings are made to determine order of intervention implementation. Sum rankings suggest the order of intervention implementation.

Reciprocity Awareness. Reciprocity Awareness is based in Family Behavioral Therapy's Communication Skills Training intervention (*I've got a great family* component) and proven effective in increasing positive reinforcement within the family unit (Donohue et. al., 2009). In reciprocity awareness, the participant and SO(s) record what they like or appreciate about each other. The participant and respective SO take turns expressing their appreciation for one another and gratitude for any kind words given. Appreciation homework is given to show appreciation on a daily basis for those in the participant's life.

Self-Control. Self-Control is a Family Behavioral Therapy intervention and proven effective in identifying triggers for substance use in-vivo (Donohue et. al., 2009). Self-control is utilized to prevent or adjust various undesired behaviors, thoughts, and feelings. Self-control involves identifying when undesired thoughts and behaviors first occur so steps can be learned to prevent or manage them in the future. The intervention is implemented in the following steps to

solidify learning: (1) identification of trigger, (2) modeling Self-Control exercise, (3) evaluation of modeling, (4) athlete role-play of self-control, and (5) evaluation of role-play.

Environmental Control. Environmental Control is based in Family Behavioral Therapy's Stimulus Control intervention and proven effective in decreasing "drug use, HIV infection, and if a parent, poor caretaking behavior of children" (Donohue et. al., 2009). Indeed, environmental control aims to decrease time spent on people, places, and things that impede optimization and increase time spent on things that assist with optimization and overall goal achievement. The participant generates a list of goal-consistent and goal-inconsistent cues with present SO(s).

Positive Request. Reciprocity Awareness is based in Family Behavioral Therapy's Communication Skills Training intervention (*positive request* component) and proven effective in increasing the likelihood of a participant receiving desired reinforcers from family members (Donohue et. al., 2009). Positive request is a 9-step method for developing assertiveness and communication skills when making requests of others. The 9 steps are as follows: (1) request a specific action using "please" and specify when action is desired, (2) state how it would be difficult for the person to do what was requested, (3) state how it would be good for other person if the request was performed, (4) state how it would be good for you if the request was performed, (5) offer to help other person get the action done, (6) offer to do something for recipient, (7) tell the other person it would be appreciated if the action was done, (8) suggest something that would be acceptable as an alternative action, (9) ask other person to suggest an alternative in case the action can't be done.

Goal Inspiration. Goal inspiration works to increase motivation for goal accomplishment by discussing positive consequences of goal accomplishment. Participant began

by determining a goal where motivation is low (e.g., Being praiseworthy of self in training and life outside of sport) and rating motivation on a 0-100% motivated scale.

Performance Timeline. Performance timeline determines which time frame is best to implement skills learned or to be learned for optimal performance in a given situation. Specific time periods or set points are most influential in an athlete's performance in any given training or competition. These time periods are days before, hours before, seconds before, during, seconds after, hours after, or days after a performance.

Job-Getting Skills Training. Job-Getting Skills Training is a Family Behavioral Therapy intervention and proven effective in getting previous substance abusing parents' jobs (Donohue et. al., 2009). The PP provides training on networking with potential employers, job interview skills, and resume building.

Dream Job Development. The PP, participant, and SO(s) brainstorm different financial, time, status etc. requirements in the participant's "dream job". Required skills, education, and training required to achieve his or her dream job are integrated into treatment as short-term and long-term primary goals.

Financial Management. Financial Management is a Family Behavioral Therapy intervention and proven effective in teaching previous substance abusing parents to manage income and expenses (Donohue et. al., 2009). The participant learns about fiscal terminology and budgeting relevant to a child or adolescent. Parents, other SO(s), and PP discuss with the participant current methods of decreasing expenses and increasing income. An expenses and income sheet are utilized to budget for the upcoming month and new fiscal goals created to ensure budget maintenance.

Last Meeting: Intervention Generalization. The final meeting is to reflect on progress throughout the program in areas of relationships, sport performance, mental health, and avoidance of substance use.

Results

Case Introduction

Evangeline is a Japanese-American female athlete (martial arts reported as main sport) in her mid-teens. Her mother was a self-referral who learned about the program from a community resource. She was screened for inclusion and exclusion criteria to assure that she (a) was enrolled in a local public or private High or Middle School, (b) was between 12 and 17 years old at time of referral, (c) had no prior diagnosis of schizophrenia, (d) was participating in a local organized sport for at least 1 month prior to referral, (e) expected to participate in the local organized sport for at least 5 months with no plans of an extended absence of more than 1 month, (f) was not receiving any formal psychotherapy at the time of pre-intervention assessment to avoid confounds due to concurrent intervention, and (g) had at least one adult supportive other (SO) willing to participate in the program. All study procedures were approved by the university's institutional review board for the protection of human participants.

History. Evangeline reported her difficulties with social situations and developing friendships as beginning in elementary school. She self-described as shy, self-conscious, and found it difficult to be around other children. Mother indicated this may be because the family moved so often. Evangeline and her mother noted that in 5th grade she was bullied heavily by another student.

Evangeline reported enduring social situations with anxiety in elementary school but that the anxiety peaked in middle school. After a class presentation, she experienced her first anxiety attack after a class presentation with symptoms of shortness of breath, dizziness, heart palpitations, trembling, sweating, and hot flashes. This resulted in calling her mother, leaving school early, and missing the rest of the school day. She experienced her most recent anxiety

attack 3 months prior (same symptoms) on high school orientation day after being required to group up with other prospective students for a school tour.

The quality of Evangeline's relationships varied across significant others. At home, she reported that her relationship with her nuclear family was "close" with her closest relationship being that with her mother. In sport, she reported having a good relationship with her coach as he gave her the unique opportunity to coach younger students. At school, she reported having two best friends.

Pre-intervention assessment results. The K-SADS indicated that Evangeline met DSM-5 diagnostic criteria for Social Anxiety Disorder at the time of the pre-assessment (see Table 7). Table 3 includes Evangeline's responses for Mental Health Outcome Measures, SCL90-R, BDI-II, SPS, & YSR. She had clinical elevations (T-scores of 65 or above) of the adolescent female nonpatient sample on the following SCL90-R scales (see Figure 2): Obsessive-Compulsive (65) and Anxiety (65). The following scales had borderline clinical elevations (T-scores of 60 - 64): Paranoid Ideation (64), Interpersonal Sensitivity (62), and Phobic Anxiety (63). She reported mild depressive symptomology on BDI-II and subclinical suicidality on SPS. Evangeline scored in the Clinical range for the following YSR scales/subscales (noted in T-scores here; see Figure 3): Anxious/Depressed Syndrome Subscale (84), Internalizing Problems Scale (69), Total Problems Scale (65), Anxiety Problems DSM-Oriented Scale (73), and Obsessive-Compulsive Problems (80). Table 4 includes her responses for sport relevant outcome measures, SIC and SARI. Notably on the SIC, she endorsed experiencing the following in training and life outside of sport: negative thoughts about personal performance, being too critical of myself, difficulty thinking positively once negative thoughts have occurred, overly concerned or worry too much about what others think about my performance, feeling stressed out, hard to recover mentally

once errors are made, difficulty with time management, & difficulty maintaining weight at an acceptable level to me or to others. With higher scores indicating greater difficulties in relationships, she scored highest on SARI Teammates. Table 5 includes Evangeline's responses for Overall Happiness with Family, Coaches, Teammates and Peers where she reported being least happy with her teammates (90% happy) and peers (90% happy). She indicated no substance use on the TLFB.

Course of Intervention

Intervention. Evangeline's performance professional (PP) was a 24-year old post-baccalaureate student comprehensively trained in TOPPS. As shown in Table 6, she attended all 12 of her scheduled intervention meetings focused on optimizing performance in sports, mental health, relationships, and intake (food, drugs, and alcohol). The following significant others were present in intervention meetings: Evangeline's mother attended all 12 meetings, brother attended 2 meetings, and father attended 2 meetings. Meeting duration ranged from 43 to 120 minutes ($M = 73$) and intervention lasted 3 months and 7 days.

Meeting Agendas (meetings 2-12). Intervention meetings started with a Meeting Agenda that outlined planned interventions, estimated times for implementation, and rationale for each intervention relevant to participant. SO's were invited to adjust intervention plans, including the selection, order, and duration of each agenda item, making the intervention more consumer-driven. The meeting participants preferred to maintain the proposed agenda items and implementation times in all 12 meetings.

Meeting Conclusions (meetings 3-11). Intervention meetings ended with a structured Meeting Conclusion that included descriptive positive feedback about completed intervention(s),

reviewed assigned homework, and prepared for the upcoming meeting (including scheduling and determining SO involvement).

Program Orientation (meeting 1). The first meeting included Program Orientation to provide an overview of TOPPS, including its structure and program guidelines. During the Program Orientation, the participants discussed SO involvement (i.e., strategic, motivational), utilization of protocol checklists to guide meetings, scheduling of future meetings, communication guidelines, and ways they can be supportive with the athlete.

Cultural Enlightenment (meeting 1). The initial meeting also included the Cultural Enlightenment intervention to address Evangeline’s cultural identity, importance of her ethnic culture, and any arguments or problems associated with her ethnic culture. Based on the results of the Semi-Structured Interview for Consideration of Ethnic Culture Scale (SSIECTS; Donohue, Strada, et al. 2006), she “agreed” that her ethnic culture was important to her and that there were many things that she liked about her ethnic culture (Likert-type scale score of 6; 7 = extremely agree, 1 = extremely disagree). By contrast, she “somewhat disagreed” that ethnic culture was a big part of her life, that others have said offensive things about her ethnic culture, experienced arguments or problems with others due to ethnic culture, and that she would want a professional to address her ethnic culture (Likert-type scale score of 3; 7 = extremely agree, 1 = extremely disagree). Because she experienced little direct connection to her ethnic culture, more time was spent on Dynamic Goals & Rewards.

Dynamic Goals and Rewards (meetings 1-12). Goals were pre-generated from assessment findings onto a monitoring form and discussed in tandem with assessment results to Evangeline and her mother. There are several program goals that were reviewed during each performance meeting, including Evangeline’s and SO’s meeting attendance, avoidance of

substances, mental wellness strength and stability, maintenance of optimum relationships with others, assisting others to have optimal lives, sport performance, and school performance. Meetings were initiated with Evangeline reviewing how her goals were achieved since last contact, and contingent rewards and/or support for goal accomplishment were provided by significant others. Her rewards were broken down into money (e.g., allowance increase for goal accomplishment), gifts (e.g., pins or white board), events/time together (e.g., shopping), privileges (e.g., friends over during school week), and trips (e.g., hiking local mountain). Her levels of support were broken down into supportive or praise-worthy statements (e.g., Great job with self-care! Or Excellent effort on time management!). Goals were relatively vague to permit them to be rapidly changed, although reviews of these goals during performance meetings involve solicitation of very specific cognitive and behavioral skills that were performed to accomplish the respective goals. Goals for the upcoming week were verbally reviewed in detail, and significant others indicated how goal accomplishment will be rewarded and/or supported. All interventions were performed to assist goal accomplishment, with an emphasis on goals that are specific to mental strength and relationships.

Performance Planning (meeting 2). Each intervention component was reviewed with Evangeline and her mother in meeting 2. After she rated perceived helpfulness of each intervention, her and her mother ranked each intervention component separately on perceived usefulness of each intervention to goal achievement. PP discussed rankings with Evangeline and her mother and sum rankings made to determine order of intervention implementation. Sum rankings suggested the following order of intervention implementation: Self- Control, Reciprocity Awareness, Environmental Control, Positive Request, Goal Inspiration, Performance

Timeline, Job-Getting Skills Training, Financial Management, Dream Job Development, Cultural Enlightenment.

Reciprocity Awareness (meetings 2-3 and 10). Evangeline, her mother, and her father participated in reciprocity awareness in order to assist with development of self-confidence, improve relationships with one another, and develop assertiveness skills. In reciprocity awareness, each person records what they like or appreciate about the others involved. This is followed by the recipient's emotional reception of the information and a promise to continue with the desired behavior(s). She reported feeling acknowledged (e.g., “nice someone see’s what I am doing even if I don’t”) and more aware of her relationship with her brother after parent’s displayed appreciation for that sibling relationship (e.g., “I make sure I spend more time with him now like playing videogames”). Appreciation homework was given to show appreciation on a daily basis for those in her life.

Self-Control (meetings 3-4). Self-control may be utilized to prevent or adjust various undesired behaviors, thoughts, and feelings. Self-control involves identifying when undesired thoughts and behaviors first occur so steps can be learned to prevent or manage them in the future. The intervention is implemented in the following steps to solidify learning: (1) identification of trigger, (2) modeling Self-Control exercise, (3) evaluation of modeling, (4) athlete role-play of self-control, and (5) evaluation of role-play.

Evangeline learned to identify the initial triggering thought through backward chaining (e.g. “I’m overwhelmed” when exposed to a socially evaluative situation). After identification, she learned to implement the following Self-Control steps: state “focus” (thought stopping technique), diaphragmatic breathing (relaxation technique), state 4 potential solutions, evaluate pros and cons for each potential solution, imagine doing & telling someone you love about 1

solution, state positive consequences of doing the solution. Likelihood of engaging in optimal thought was rated on a scale of 0-100% optimal pre and post Self-Control. She also reported which step helped the most (e.g., state 4 potential solutions).

Environmental Control (meetings 4-5). Environmental control aims to decrease time spent on things that assist with optimization and decrease time on things that impede optimization. Evangeline generated a list of goal-consistent and goal-inconsistent cues with mother and brother. Cues could be people, places, situations, activities, and emotions that either promote or interfere with goal accomplishment. For example, Evangeline listed mother, martial arts studio, books, and focused as goal-consistent cues. Goal-consistent and inconsistent cues were monitored the following week and reviewed to increase time spent with goal-consistent cues.

Positive Request (meetings 5-6). Positive request is a 9-step method of communicating things desired and assertiveness. The 9 steps are as follows: (1) request a specific action using “please” and specify when action is desired, (2) state how it would be difficult for the person to do what was requested, (3) state how it would be good for other person if the request was performed, (4) state how it would be good for you if the request was performed, (5) offer to help other person get the action done, (6) offer to do something for recipient, (7) tell the other person it would be appreciated if the action was done, (8) suggest something that would be acceptable as an alternative action, (9) ask other person to suggest an alternative in case the action can’t be done. Evangeline utilized this skill to improve her relationship with her parents (e.g., requesting for parent to listen more often and father to increase allowance).

Goal Inspiration (meetings 6-7). Goal inspiration works to increase motivation for goal accomplishment by discussing positive consequences of goal accomplishment. Evangeline began

by determining a goal where motivation is low (e.g. being praiseworthy of self in training and life outside of sport) and rating motivation on a 0-100% motivated scale. Evangeline and her mother provided possible positive consequences of goal accomplishment (e.g., feeling better about self, openness with brother, decreased stress, better sleep, and more assertiveness). PP and mother discussed with Evangeline which positive consequences were most influential in goal-accomplishment. Most important consequences were records as goals to be worked on.

Performance Timeline (meetings 7-8). There are specific time periods, or set points, according to the Performance Timeline intervention that are most influential in an athlete's performance in any given training or competition. These time periods are days before, hours before, seconds before, during, seconds after, hours after, or days after a performance.

Evangeline chose a recent performance situation in which her performance could be optimized (e.g. dance routine for tryouts). She indicated that during the dance her performance was most influenced by the following performance factors: thoughts, interpretation of perceptions, and training/strategy. Evangeline and her mother brainstormed skills previously used, skills learned in the program, and positive or neutral thought patterns (e.g., out-come oriented or routine-focused thoughts) to manage the selected factors to optimize performance.

Job-Getting Skills Training (meeting 8-9). PP provided training on networking with potential employers, job interview skills, and resume building. Evangeline and her mother brainstormed possible jobs for teenagers in their area and Evangeline's marketable skills (e.g. embroidery, artwork).

Dream Job Development (meetings 9-10). Evangeline and parents discussed desirable traits/components of her "dream job". For example, traits/components discussed were art, theatre, humor, fun, higher than teacher's salary, travel, vacation days, 40 hours a week, personal

office, higher education requirement, retirement at age 60, being her own boss, and able to own a therapy service dog. She reported her “dream job” as being an art therapist. New current goals were set in order to achieve long-term job requirements.

Financial Management (meeting 11). Evangeline was taught about key fiscal terminology and budgeting relevant to a teenager. Parents and PP discussed with Evangeline current methods of decreasing expenses and increasing income (e.g., extra chores for more allowance money, spreading out large purchases across months). An expenses and income sheet were utilized to budget for the upcoming month and new fiscal goals created to ensure budget maintenance.

Last Meeting: Intervention Generalization (meeting 12). The final meeting is to reflect on progress throughout the program in areas of relationships, sport performance, mental health, and avoidance of substance use. PP noted improvements in Evangeline’s time management, openness to new social experiences, communication skills with family and friends, continued sobriety, self-confidence, positive or neutral thoughts, and self-compassion.

Outcomes

Post-intervention assessment results. The K-SADS indicated that Evangeline did not meet DSM-5 diagnostic criteria for Social Anxiety Disorder at the time of the post assessment (see Table 7). Table 3 includes Evangeline’s responses for Mental Health Outcome Measures, SCL90-R, BDI-II, SPS, & YSR. Evangeline’s post-scores fell below clinical elevations (T-score of 65) for the adolescent female nonpatient sample on all SCL90-R scales (see Figure 2). She reported decrease to minimal depressive symptomatology on BDI-II and remained subclinical suicidality on SPS. Her YSR scores decreased from Clinical range to Normal range for Anxious/Depressed Syndrome Subscale (50), Internalizing Problems Scale (45), Total Problems

Scale (42), Anxiety Problems DSM-Oriented Scale (50), and Obsessive-Compulsive Problems (52) (see Figure 3). Table 4 includes the participant's responses for sport relevant outcome measures, SIC and SARI. Her SIC total scores reduced by the following percentages across all 3 domains: Training (44.7%), Competition (23.3%), and Outside of Sport (63.5%). Participant's SARI total scores reduced by the following percentages across all 4 domains: Teammates (61.2%), Family (42.9%), Coaches (32.1%), and Peers (28.6%). Table 5 includes Evangeline's responses for Overall Happiness with Family, Coaches, Teammates and Peers where evidence showed most improvement in peers domain from baseline (90% happy to 100% happy). Evangeline again indicated no substance use on the TLFB.

Follow-up assessment results. The K-SADS indicated that Evangeline did not meet DSM-5 diagnostic criteria for Social Anxiety Disorder at the time of the follow-up assessment (see Table 7). Table 3 includes Evangeline's responses for Mental Health Outcome Measures, SCL90-R, BDI-II, SPS, & YSR. Evangeline's follow-up scores fell below clinical elevations (T-score of 65) for the adolescent female nonpatient sample on all SCL90-R scales (see Figure 2). She reported decrease to minimal depressive symptomatology on BDI-II and remained subclinical suicidality on SPS from baseline to follow-up assessment. Her YSR scores decreased from Clinical range to Normal range at post-assessment and remained within Normal range at follow-up assessment for Anxious/Depressed Syndrome Subscale (51), Internalizing Problems Scale (47), Total Problems Scale (42), Anxiety Problems DSM-Oriented Scale (51), and Obsessive-Compulsive Problems (58) (see Figure 3).

Table 4 includes her responses for sport relevant outcome measures, SIC and SARI. From baseline to follow-up, her SIC total scores reduced by the following percentages across all 3 domains: Training (39.5%), Competition (23.3%), and Outside of Sport (54.8%). From

baseline to follow-up, the participant's SARI total scores reduced by the following percentages across all 4 domains: Teammates (53.1%), Family (42.9%), Coaches (32.1%), and Peers (28.6%). Table 5 includes her responses for Overall Happiness with Family, Coaches, Teammates and Peers where she evidenced most improvement in teammates and peers domain from baseline (90% happy to 100% happy). Evangeline again indicated no substance use on the TLFB.

Discussion

This study had two primary aims. The first was to initially examine the effectiveness of the modified TOPPS intervention in an Asian American adolescent athlete who evidenced Social Anxiety Disorder and had elevated scores at baseline on measures of mental health. The results indicated participant improvement from baseline assessment to 4 and 5 months post-baseline assessment on the mental health measures, as well as on measures of sport performance and relationship happiness. Evangeline met full diagnostic criteria for current Social Anxiety Disorder at baseline, but no longer met current diagnostic criteria at post-assessment or follow-up assessment. Assessment in symptoms of anxiety (SCL-90-R & YSR), depression (SCL-90-R, BDI-II & YSR), obsessive thoughts (SCL-90-R & YSR), and compulsive behaviors (SCL-90-R & YSR) also decreased from clinical elevations to normative range scores. According to the SIC and SARI, symptoms interfering with sport training, competition, and life outside of sports also improved from baseline to post-assessment and baseline to follow-up assessment. SCL-90-R, YSR, SARI, and Overall Happiness scale scores evidence improvements in interpersonal sensitivity, social competence, social support, relationship quality, and happiness with relationships. Evangeline's symptom improvement may be attributed to the following TOPPS interventions' mechanisms of change: 1) restructuring of dysfunctional thoughts about self and others to become more positive and relationship-oriented, 2) increasing pro-social behaviors and decreasing isolating behaviors, 3) using psychoeducation to improve mental health awareness, and 4) fostering communication skills to develop assertiveness, develop new relationships, and improve current relationship quality. Results are consistent with previous TOPPS research with collegiate athletes where TOPPS significantly reduced factors interfering with sport performance, improved relationships, and decreased general psychiatric symptoms (e.g.,

Donohue et al., 2018), including various mental health diagnoses, including Bulimia Nervosa (Galante, Donohue & Gavrilova, 2019), depression (Pitts, et al., 2015), and substance abuse (Chow, et. al., 2015). Results provide preliminary support for an engaging, non-pathologically-focused optimization approach to mental wellness in ethnically and racially diverse youth, reducing health disparities in this population.

The second aim was to modify the professional training manual for TOPPS that was developed for use in collegiate athletes to be developmentally and culturally appropriate for mental health and sport performance optimization in middle and high school ethnic minority youth athletes. Factors consistent across TOPPS studies and previously believed to contribute to intervention success include sport focused branding and terminology, optimization over psychopathology focused treatment goals, engagement interviews and calls, direct involvement of athlete and significant others in treatment planning, including significant others via phone or video when necessary, and permitting meetings in non-clinical/sport settings (Donohue et. al., 2018). This study builds upon this literature with innovations that address cultural diversity and adolescent development such as (a) additional emphasis on positive consequences to goal achievement above negative consequences of failure, (b) variance of prompts to adolescent developmental level, (c) additional emphasis on positive solutions above negative solutions during problem-solving, (d) increased time spent on significant other appreciation of athlete, (e) cultural discussions throughout treatment, and (f) increased group discussion between athlete, significant others, and performance professional around the role of jobs and finances (see Table 2 for modifications to Donohue et. al., 2021). Barriers to service utilization in ethnic and racial minority populations include poor mental health literacy, stigma, and practical barriers like

money or transportation (Rickwood, Deane, & Wilson, 2007; Gulliver, Griffiths, Christensen, 2010).

Common barriers experienced by Evangeline and other Asian Americans include poor mental health literacy and stigma. For example, she reported concern over the financial and temporal expense of treatment and felt that seeking treatment would put an undue burden on her family. TOPPSY provided psychoeducation to combat poor mental health literacy, a non-pathological optimization approach to combat stigma and guilt associated with seeking treatment, and interventions at the location most feasible to Evangeline and her family. Cultural differences and beliefs about mental health are also addressed during the cultural enlightenment intervention and throughout treatment with significant others understanding of the athlete's intersectionality. Aspects of Evangeline's intersectionality identified during the cultural enlightenment intervention include Asian-American, female, military family culture, and athletic culture. On the Ethnic Culture in Therapy Scale, she agreed (Likert-type scale score of 6 out of 7; 7= extremely agree, 1 = extremely disagree) that her ethnic culture (Asian American) was important to her and that there were many things that she liked about her ethnic culture; during the Semi-Structured Interview for Consideration of Ethnic Culture Scale, Evangeline reported identifying most with her athletic culture. In particular, Evangeline and her family chose TOPPS for its respect towards athletic culture and optimization approach to mental healthcare. While mental health was the focus for this case, it is important to note that these aspects helped Evangeline and her family choose TOPPS over other treatment in the community. Therefore, this case demonstrates TOPPS ability to overcome common barriers to care for marginalized groups (particularly Asian Americans). Family members of the same race or ethnicity, teammates with the same athletic values, or other engaged significant others provide reinforcement, cultural

insight/connection, and support for the athlete's optimization. These innovations may increase treatment initiation, engagement, and completion in ethnic and racial minority youth athletes.

The results of this study suggest TOPPS in youth holds limitations in generalizability, substance use, and diversifying types of significant others. First, this single-case study design limits results generalizability towards adolescent athletes differing from our Japanese-American female athlete. Donohue and colleagues (2018) have demonstrated the efficacy of TOPPS in a randomized control trial with diverse collegiate athletes (41%= White/Caucasian, 22% = Hispanic/Latino, 20% = Black/African-American, 11% = Asian/Asian American, and 0.1% = Other). Effectiveness of TOPPS in youth athletes must be demonstrated in other ethnic and racial minority groups, males, and other mental health disorders to best reflect diversity in the American adolescent population. Second, research must be conducted on the inclusion of significant others from sport (coaches or teammates) in-vivo with adolescent athletes as this study best reflects participation of multiple family members in TOPPS programming (see Table 4). Recent TOPPS research suggests the intervention program is most beneficial to mental health outcomes when there are multiple types of significant others involved in weekly meetings (family, coaches, teammates) rather than the involvement of a single type (e.g., solely family members) of significant other (Gavrilova, 2019). Lastly, TOPPS efficacy with substance use or abuse in youth athletes could not be accurately assessed as she had never engaged in substance use at baseline, intervention, post-assessment, or follow-up assessment. Interventions based in Family Behavioral Therapy and modified for TOPPS (e.g., Environmental Control, Dynamic Goals and Rewards) have been proven effective in decreasing drug use, reducing drug abuse, and associated problems with drug abuse like poor caretaking in parents (Donohue et. al., 2009). This

research would suggest potential for TOPPS reach with adolescent athletes at-risk of or currently abusing drugs.

Recommendations for TOPPS development includes implementation of standardized cultural assessments and booster sessions to maintain treatment gains for clients. The Semi-Structured Interview for Consideration of Ethnic Culture Scale provides an initial evaluation of culture for intervention purposes. Cultural assessments designed to evaluate long-term integration of culture throughout treatment and assessment of the athlete's view of their provider's cultural humility throughout treatment would assist with the evaluation of TOPPS as a culturally-competent program. TOPPS may build on previous research by implementing client-rated measures like the Cultural Humility Scale (Hook et al., 2013) and Client Cultural Competence Inventory (Switzer, 1998). TOPPS is efficacious between 12 to 16 performance meetings at about 60 to 90 minutes. These results support previous research suggesting 12 TOPPS sessions. Booster meetings that incorporate the client's unique cultural factors may further improve maintenance of long-term gains.

Furthermore, results imply a need for decolonization of therapeutic practices to be more culturally competent, financially feasible, and physically accessible to diverse populations. This study represents TOPPS as an engaging, non-pathologically-focused optimization approach to mental wellness in ethnically and racially diverse youth. TOPPS may assist in the reduction of health disparities in this population and provide evidence for the development of similar programs in nationally-established sport organizations.

Appendix

Figure 1

Performance Triangle and Performance Optimization Scale

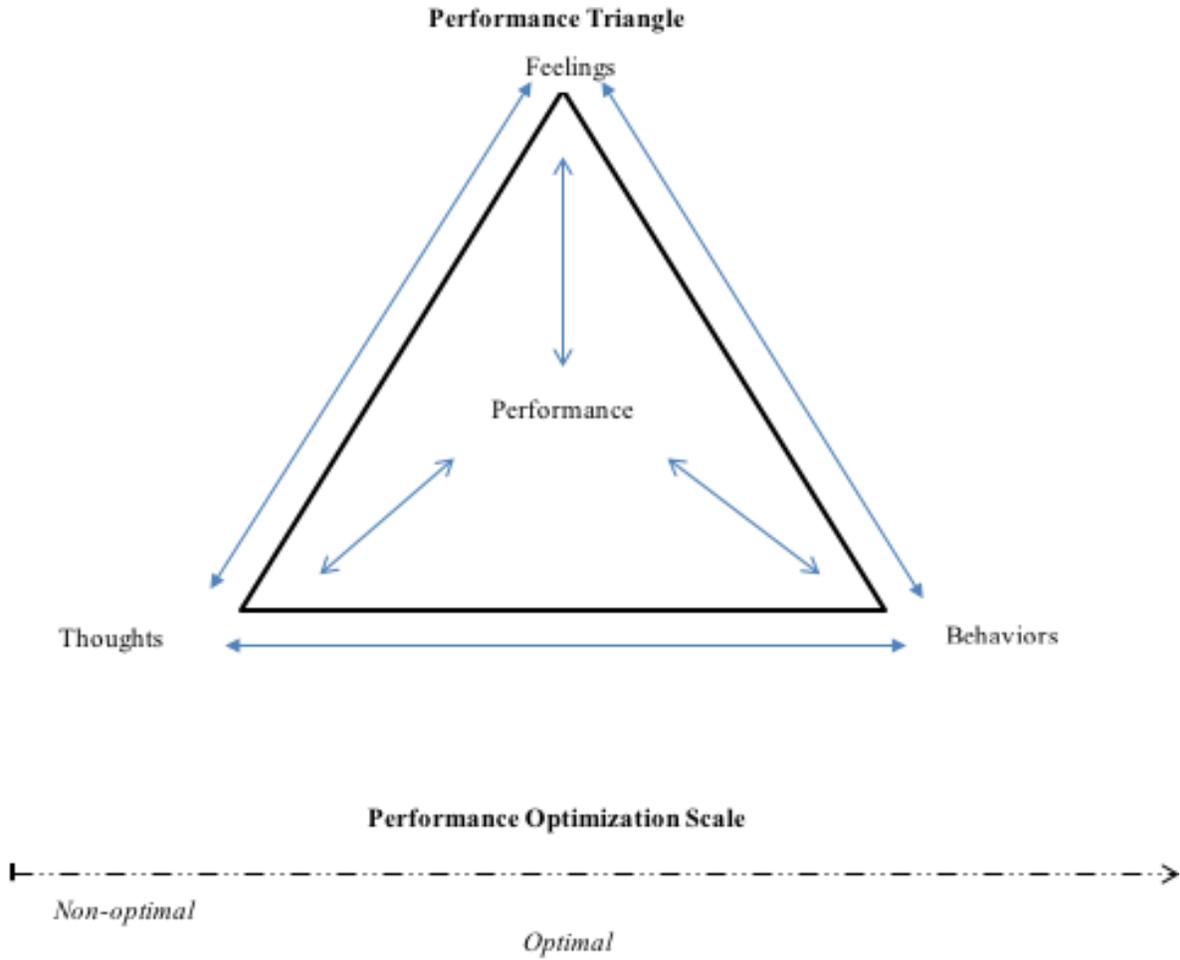
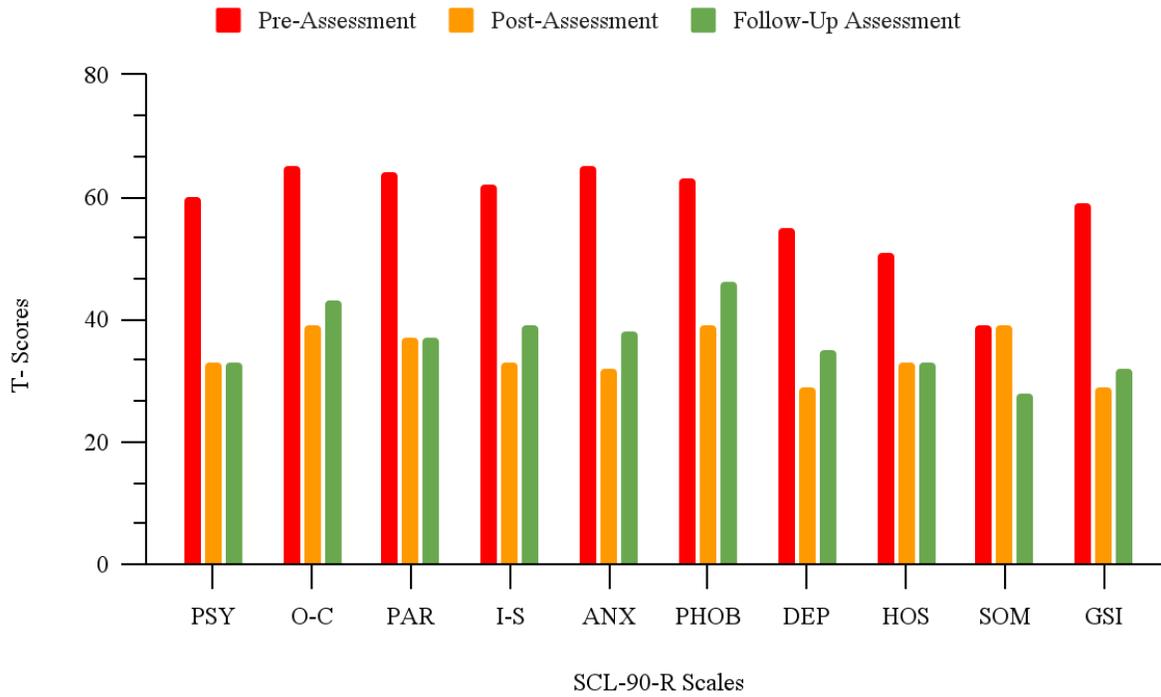


Figure 2

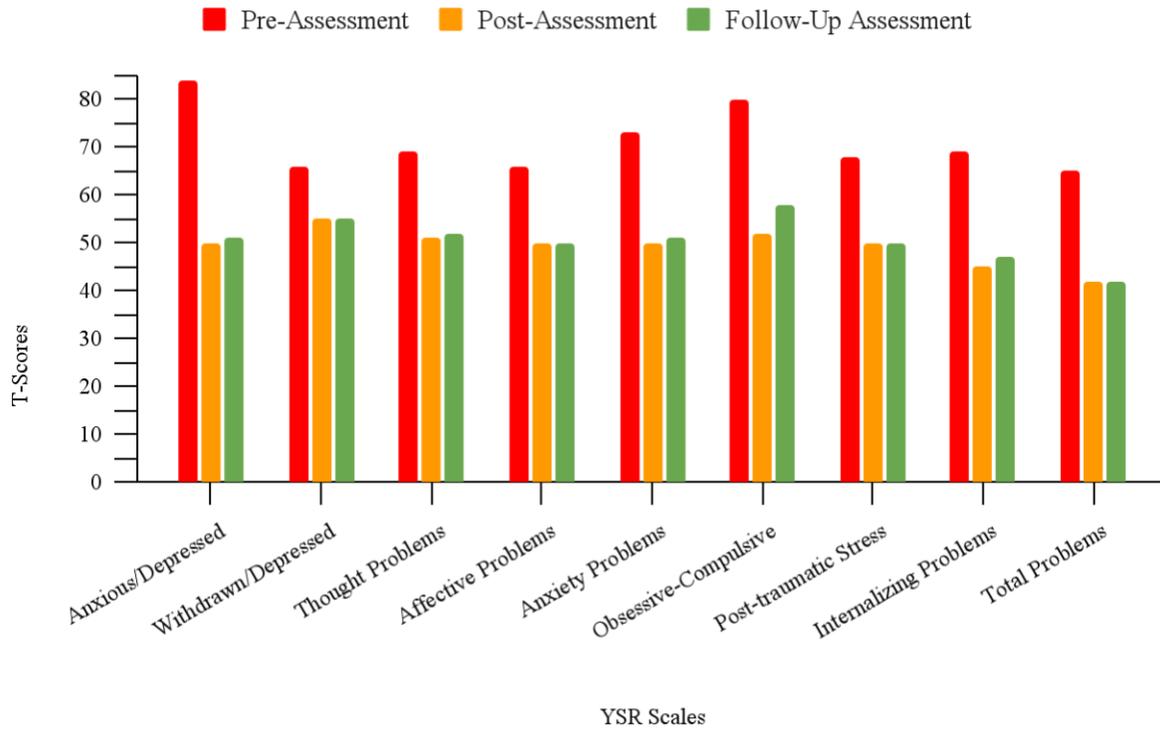
SCL-90-R T-Scores at Pre-, Post-, and Follow-Up Assessment



Note: T-scores of 60 places the participant in the 84th percentile and 70 in the 98th percentile of the normative sample (Norm E: Adolescent Nonpatient - Female). T-scores of 65 or higher indicate clinical elevation.

Figure 3

YSR T-Scores at Pre-, Post-, and Follow-Up Assessment



Note: T-Scores are only visualized for the YSR scores designated clinically elevated at pre, post, or follow-up assessment. For syndrome and DSM-oriented scales, 65+ = Clinical range, 66-70 = Borderline Clinical range, 64 or less = Normal range. For Internalizing and Total Problems, 65+ = Clinical range, 60-64 = Borderline Clinical range, and 59 or less = Normal range.

Table 1

Assessment Summary

Assessment	Description	Completion Time
Kiddie – Schedule for Affective Disorders and Schizophrenia for School Aged Children 6 – 18 years DSM-5 (K-SADS):	Assesses for DSM-5 mental health symptomatology. Parent and child are evaluated for child’s symptomatology.	45 mins. per person
Time-Line Follow-Back interview	Athlete is shown a calendar covering the past 4 months and asked to indicate which days during this time they used drugs, alcohol, and any hours of work and school attendance.	12 mins.
The Symptoms Check-List-90-Revised	Assesses a wide range of things that have been found to interfere with sport performance, including common problems in your sport training and competition, as well as your interest in seeing a professional for these things. Some of the things that this checklist can assess includes negative thoughts, stress, academic and adjustment problems, injury concerns, poor team relationships, lack of motivation, and being too confident/critical.	10 mins.
Youth Self Report (YSR)	Assesses participants’ perceptions of their own behaviors.	15 mins.
Beck Depression Inventory	Assesses depressive symptoms.	10 mins.
Sport Interference Checklist	Assesses a wide range of things that have been found to interfere with sport performance, including common problems in your sport training and competition, as well as your interest in seeing a professional for these things. Some of the things that this checklist can assess includes negative thoughts, stress, academic and adjustment problems, injury concerns, poor team relationships, lack of motivation, and being too confident/critical.	10 mins.
Student Athlete Relationship Instrument (SARI)	Includes 4 questionnaires that assess how relationships influence your sport performance. The relationships we will assess include Family, Coaches, Teammates, and Peers. Some of the areas include pressures to perform, support, pressure to use illicit substances, pressure to quit sports or continue unsafely, teamwork, lack of involvement, being too demanding, and being too non-competitive.	5 mins.
Overall Happiness with Family, Coaches, Teammates and Peers	Assesses overall happiness with family, coaches, teammates and peers.	2 mins.
Child and Adolescent Services Assessment (CASA)	Assesses utilization of services across various settings (hospitalization, outpatient clinic, in-home counseling etc.). CASA is completed only during pre-intervention assessment.	30 mins.
Client Satisfaction Questionnaire-8 (CSQ-8)*	Assesses participants’ satisfaction with services received.	5 mins.
Suicide Probability Scale (SPS):	Assesses suicidal risk/ideation and factors associated with suicide.	5 mins.

Note:* indicates assessments completed after each TOPPS intervention meeting.

Table 2

Performance Interventions Summary and Modifications for TOPPSY (modified from Donohue et. al., 2021)

Performance Intervention	Description	Modification (Donohue et. al., 2021)
Goal Inspiration	Gaining motivation for your goals.	Emphasis on positive consequences to goal achievement.
Environmental Control	Learning to manage your environment so more time is spent doing things that enhance optimum performance in sports, and in life and less time doing things that interfere with optimum performance.	Prompting people, places, and things vary due to youth developmental age from collegiate athletes (e.g. teacher versus professor).
Self-Control	Learning to identify triggers to prevent trouble, maintain calmness in tough situations, optimally generate solutions, and imagine optimum performance.	Emphasis on generating positive solutions that optimize goal achievement.
Performance Timeline	Determining when and how to enhance factors that contribute to optimum performance in sport and life situations/events.	None.
Reciprocity Awareness	Learning to give and accept appreciations to/from supportive others.	Increased time spent on significant other appreciation of athlete.
Positive Request	Learning to optimally settle disagreements and request things so people are more motivated to do what you want.	None.
Cultural Enlightenment	Discussing your culture of choice and why it's important to you.	Discussed earlier in treatment and emphasis on how culture can be implemented into interventions through athlete and significant other discussion.
Dream Job Development	Determining an optimum career plan, including how to prepare for your dream job	Emphasis on resource gathering and discussion of job requirements (e.g. location, hours).
Job-Getting Skills Training	Developing skills to achieve optimum employment to be used now or in the future.	Increased discussion between athlete, significant other(s), and performance professional around job solicitation calls and meeting requests.
Financial Management	Learning how to decrease expenses and increase income.	Increased discussion between athlete, significant other(s), and performance professional around household financial culture and personal budgeting.

Table 3

Pre, Post, and 1-Month Follow-up Results for Mental Health Outcome Measures

Variable	Pre-assessment	Post-assessment	1 month follow-up
<i>SCL-90-R</i>			
Psychoticism	1.3 (60)	0 (33)	0 (33)
Obsessive-Compulsive	2.1 (65)	0.3 (39)	0.5 (43)
Paranoid Ideation	2.2 (64)	0.2 (37)	0.2 (37)
Interpersonal Sensitivity	2.1 (62)	0.1 (33)	0.3 (39)
Anxiety	1.8 (65)	0 (32)	0.1 (38)
Phobic Anxiety	1.1 (63)	0 (39)	0.1 (46)
Depression	1.2 (55)	0 (29)	0.1 (35)
Hostility	0.8 (51)	0 (33)	0 (33)
Somatization	0.2 (39)	0.2 (39)	0 (28)
Global Severity Index	1.4 (59)	0.1 (29)	0.1 (32)
<i>BDI-II</i>			
Total	19 (mild)	1 (minimal)	1 (minimal)
<i>SPS</i>			
Probability Score	11 (Subclinical)	10 (Subclinical)	11 (Subclinical)
Total T-Score	49	42	49
<i>YSR</i>			
Total Problems	74 (65-C)	20 (42)	19 (42)
Broadband Scales			
Internalizing Problems	30 (69-C)	7 (45)	8 (47)
Externalizing Problems	11 (54)	4 (42)	3 (40)
Competence Scale			
Activities	6.5 (34-B)	11.5 (49)	14 (65)
Social	8.5 (48)	9.0 (50)	10 (54)
Academic Performance	3.0	3.0	3.0
Total Competence	18.0 (38-B)	23.5 (52)	27 (63)
Syndrome Scale			
Anxious/Depressed	20 (84-C)	2 (50)	4 (51)

Withdrawn/Depressed	8 (66-B)	4 (55)	4 (55)
Somatic Complaints	2 (51)	1 (50)	0 (50)
Social Problems	5 (58)	0 (50)	0 (50)
Thought Problems	12 (69-B)	2 (51)	3 (52)
Attention Problems	8 (60)	6 (54)	5 (53)
Rule-Breaking Behavior	0 (50)	0 (50)	0 (50)
Aggressive Behavior	11 (60)	4 (50)	3 (50)
DSM-Oriented Scale			
Affective Problems	11 (66-B)	0 (50)	0 (50)
Anxiety Problems	9 (73-C)	0 (50)	2 (51)
Somatic Problems	1 (51)	0 (50)	0 (50)
Attention Deficit/Hyperactivity Problems	5 (54)	4 (52)	3 (51)
Oppositional Defiant Problems	5 (60)	3 (52)	2 (51)
Conduct Problems	1 (50)	1 (50)	0 (50)
Obsessive-Compulsive Problems	13 (80-C)	3 (52)	5 (58)
Post-traumatic Stress Problems	16 (68-B)	3 (50)	3 (50)

Note: For Symptom Checklist-90-Revised (SCL-90-R), raw scores are reported with T-scores present in parentheses; a T-score of 60 places the participant in the 84th percentile and 70 in the 98th percentile of the normative sample (Norm E: Adolescent Nonpatient). Beck Depression Inventory – II (BDI-II) total scores are reported using suggested cut scores for patients aged 13 to 86 diagnosed with major depression (0–13 = minimal; 14–19 = mild; 20–28 = moderate; 29–63 = severe). Suicide Probability Scale (SPS) probability scores are reported using suggested cut scores for patients over age 14 of varying suicidality. Youth Self Report (YSR) is reported with total scores and T-scores present in parentheses. For competence and positive qualities scales, 35+ = Normal, 30–34 = Borderline Clinical range, 29 or less = Normal range. For syndrome and DSM-oriented scales, 65+ = Clinical range, 66–70 = Borderline Clinical range, 64 or less = Normal range. For Internalizing, Externalizing, and Total Problems, 65+ = Clinical range, 60–64 = Borderline Clinical range, and 59 or less = Normal range.

Table 4

Pre, Post, and 1-Month Follow-up Results for Sport Relevant Outcome Measures

Variable	Pre-assessment	Post-assessment	1 month follow-up
<i>SIC Training</i>			
Total	76	42 (44.7%)	46 (39.5%)
<i>SIC Competition</i>			
Total	60	46 (23.3%)	46 (23.3%)
<i>SIC Outside of Sport</i>			
Total	115	42 (63.5%)	52 (54.8%)
<i>SARI Teammates</i>			
Not a Team Player and Too Non-competitive	3.5	1.5 (57.1%)	2.5 (28.6%)
Poor Relationships	3.5	1 (71.4%)	1.25 (64.3%)
Pressure to Drink Alcohol and Interfere During Competition	3	1 (66.7%)	1.5 (57.1%)
Poor Relationship and Lack of Support	2.5	1 (60%)	1 (60%)
Pressure to Use Illicit Drugs and Being Difficult During Training	1.75	1 (42.9%)	1 (42.9%)
Total	49	19 (61.2%)	23 (53.1%)
<i>SARI Family</i>			
Poor Relationship and Lack of Support	1	1 (0%)	1 (0%)
General Pressure	2.5	1 (60%)	1 (60%)
Pressure to Quit or Continue Unsafely	1	1 (0%)	1 (0%)
Embarrassing Comments and Negative Attitude	2.5	1 (60%)	1 (60%)
Total	28	16 (42.9%)	16 (42.9%)
<i>SARI Coaches</i>			
Poor Relationship and Lack of Support	1	1 (0%)	1 (0%)
Lack of Concern for Teamwork and Safety	1	1 (0%)	1 (0%)
Lack of Involvement and High Expectations	2.5	1 (60%)	1 (60%)
Too Demanding	2	1 (50%)	1 (50%)
Total	28	19 (32.1%)	19 (32.1%)
<i>SARI Peers</i>			
Poor Relationship and Lack of Support	1.57	1 (36.3%)	1 (36.3%)

Use of Recreational and Performance-enhancing Substances	1	1 (0%)	1 (0%)
Total	14	10 (28.6%)	10 (28.6%)

Note: Sport Interference Checklist (SIC) is measured on a 7-point Likert scale (1 = Never to 7 = Always); mean subscale scores are presented in table. Student Athlete Relationship Instrument (SARI) is measured on a 7-point Likert scale (1 = Extremely Disagree to 7 = Extremely Agree); mean subscale scores are presented in table. Percent change from baseline is reported in parentheses.

Table 5

Pre, Post, and 1-Month Follow-up Results for Relationship Outcome Measures

Variable	Pre-assessment	Post-assessment	1 month follow-up
<i>Overall Happiness</i>			
Teammates	90%	90%	100%
Peers	90%	100%	100%
Coaches	100%	100%	100%
Family members	100%	100%	100%

Note: Overall Happiness with Family, Coaches, Teammates and Peers is reported in percentage of happiness (0% = completely unhappy to 100% = completely happy).

Table 6

Intervention Meeting Format

Meeting	Time	Intervention Component	SO(s)	CSQ-8	Helpfulness Rating
1	60	Program Orientation (I) Cultural Enlightenment (I)	Mother	28	MD
2	75	Agenda Reciprocity Awareness (I) Performance Planning (I) Dynamic Goals & Rewards (I) Meeting Conclusion	Mother	28	MD
3	77	Agenda Reciprocity Awareness (F) Dynamic Goals & Rewards (F) Self-Control (I) Meeting Conclusion	Mother	31	Self-Control (I) 6
4	50	Agenda Dynamic Goals & Rewards (F) Self-Control (F) Environmental Control (I) Meeting Conclusion	Mother Brother	MD	MD
5	53	Agenda Dynamic Goals & Rewards (F) Environmental Control (F) Positive Request (I) Meeting Conclusion	Mother	MD	Positive-Request (I) 7
6	43	Agenda Dynamic Goals & Rewards (F) Positive Request (F) Goal Inspiration (I) Meeting Conclusion	Mother Brother	31	Goal Inspiration (I) 5
7	72	Agenda Dynamic Goals & Rewards (F) Goal Inspiration (F) Performance Timeline (I) Meeting Conclusion	Mother	32	Performance Timeline (I) 7
8	60	Agenda Dynamic Goals & Rewards (F) Performance Timeline (F) Job Getting Skills Training (I) Meeting Conclusion	Mother	31	Job-Getting Skills Training (I) 7
9	75	Agenda Dynamic Goals & Rewards (F) Job Getting Skills Training (F) Dream Job Development (I) Meeting Conclusion	Mother	31	Dream Job Development (I) 7
10	82	Agenda Dynamic Goals & Rewards (F) Dream Job Development (F) Reciprocity Awareness (F) Meeting Conclusion	Mother Father	31	MD
11	111	Agenda Dynamic Goals & Rewards (F) Reciprocity Awareness (F) Financial Management (I) Meeting Conclusion	Mother Father	32	Financial Management (I) 7

Agenda				
		Dynamic Goals & Rewards (F)		
		Financial Management (F)		Last Meeting Review (I)
		Last Meeting Review (I)		7
12	120	Meeting Conclusion	Mother	32

Note: Table indicates meeting number, time spent in minutes, interventions implemented during respective session, significant others (SOs) involved in respective session, Client Satisfaction Questionnaire (CSQ-8) total scores, and Helpfulness Rating per respective intervention. The following shorthand is used: MD = Missing Data; (I) = initial implementation; (F) = future implementation.

Table 7

Social Anxiety Disorder Diagnostic Statistical Manual of Mental Disorders, 5th Edition diagnostic criteria for social anxiety disorder at Pre, Post, and Follow up Assessments

Symptom	Pre		Post		Follow-Up	
	Parent	Child	Parent	Child	Parent	Child
Screening Questions						
1. Fear of Social Situations	3	3	1	1	1	1
2. Failure to Speak in Specific Social Situations	3	3	1	1	1	2
DSM-5 criteria						
A. Review social situations that elicit stress	2	2	NA	NA	NA	NA
B. Fears humiliation, embarrassment, or rejection	2	2	NA	NA	NA	NA
C. Exposure almost always elicits anxiety	2	2	NA	NA	NA	NA
D. Avoidance or endures with intense anxiety	2	2	NA	NA	NA	NA
E. Fear is out of proportion to actual threat	2	2	NA	NA	NA	NA
F. Duration	2	2	NA	NA	NA	NA
G. Impairment	2	2	NA	NA	NA	NA
H. Not due to substance or another medical condition*	2	2	NA	NA	NA	NA
I. Not better explained by another mental disorder*	2	2	NA	NA	NA	NA
J. If another medical condition present, anxiety unrelated/excessive*	2	2	NA	NA	NA	NA

Note. For screening questions, 1 = Not Present, 2 = Subthreshold, 3 = Threshold. NA = Not applicable because screening questions not endorsed. For supplement questions, 1 = No, 2 = Yes. *Patient reported no substance use, no medical conditions, and no other mental disorder to better explain symptomology

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Curriculum Vitae
KAROLYNE BASTOS STUCKI
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EDUCATION

Spring 2018 **B.A., Psychology (Summa Cum Laude)**, University of Nevada, Las Vegas
Degree Honors: University Honors, Research & Creative Honors
Honors Thesis: *The Type of Significant Other Chosen by Athletes to Participate In Goal-Oriented Alcohol Prevention Programming Influences Alcohol Use.*

Summer 2021 **M.A., Clinical Psychology**, University of Nevada, Las Vegas (APA-Accredited)
Thesis: *The Optimum Performance Program In Sports - Youth: A Case Study.*

LANGUAGES

English, Native Proficiency
Portuguese, Bilingual Proficiency

SCHOLARSHIPS & AWARDS

NsTEC Family Scholarship (\$5,000)	Fall 2015 – Spring 2016
Rebel Achievement Scholarship (\$1,800/year)	Fall 2013 – Spring 2018
Nevada Millennium Scholarship (\$1,800/year)	Fall 2013 – Spring 2018
Leaving a Legacy Scholarship (\$1,000)	Fall 2013 – Spring 2014
Rebel RAMP Conference Travel Sponsorship (\$1,000)	Fall 2017 – Spring 2018
Joseph Allen Taylor Sponsorship (\$750)	Fall 2017 – Spring 2018
Dean’s Honor List	Spring 2018
Outstanding Student in Psychology	Spring 2018
Robert C. Maxson Phi Kappa Phi Graduate Scholarship (\$500)	Fall 2018
UNLV Graduate College Recruitment Scholarship (\$200)	Fall 2018 – Spring 2019
UNLV Graduate College Access Grant (\$2,000)	Fall 2019 – Spring 2020
UNLV Rebel Research & Mentorship Program (\$750)	Fall 2019 – Spring 2020
UNLV Rebel Writing Bootcamp Certificate	Fall 2019
UNLV Graduate College Mentorship Certification	Spring 2020

RESEARCH

*Math Cognition
Lab*
University of
Nevada, Las
Vegas
Las Vegas, NV

Research Assistant

- Spring 2016– Fall 2016
- Running participants, gathering articles, eye-tracking, and organizational duties.

*The Optimum
Performance
Program
(TOPP)*
University of
Nevada, Las
Vegas
Las Vegas, NV

Research Assistant | Clinic Team Member |
Assessment Management Specialist |
Quality Assurance Coordinator

- August 2016– Spring 2018
- Maintenance of clinic, training of new lab members, data collection, input, and analysis, literature reviews, quality assurance of assessment and intervention records, website creation and management, development of evidence-based workshops for student-athletes, recruitment and dissemination efforts, and preparation of customized Timeline Followback (TLFB) procedure for assessments.
- Assist graduate students in conducting numerous studies.
- Drug testing (i.e., amphetamine, barbiturates, benzodiazepines, and oxycodone) for assessments.
- Volunteer to present team workshops for UNLV student-athletes on various topics, including motivation, thought management, goal-setting, focus, and cohesion.
- Standardization of protocols for enhancement of productivity.
- Weekly group supervision.
- Acquired funding for undergraduate research under the COLA Undergraduate Student Organization Event Funding Scholarship (\$1,000), Summer 2018.

Graduate Assistant | Program Coordinator | Clinic Team Coordinator
| Data Management Coordinator | Quality Assurance Coordinator

- Fall 2018– Spring 2021
- Oversight of The Optimum Performance Program in Sports - Youth sector of The Optimum Performance Program including recruitment, assessment, and psychotherapy of youth athletes in the Las Vegas community.
- Overall management of clinic, ensuring participant records are legally and ethically maintained, assuring clinic protocols are properly developed and implemented, assuring supplies and resources are maintained, assuring a clean and

aesthetically-pleasing work environment, ensures filing systems are organized and functioning properly.

- Manages budget(s) with Program Director, and assures client/participant confidentiality.
- Responsible for submitting and maintaining IRB protocols, performs all day-to-day activities, and provision of interventions in controlled trials.
- Oversees all data systems, assessments, trainings, security of data, quality assurance of research, development and initiation of data spreadsheets, treatment adherence, treatment outcome variables, trains research assistants to appropriately collect and record data, and establishes and maintains quality assurance checks of data records and databases, and assures data security to ensure strict client confidentiality.
- Conducts participant engagements and consents and provides support to Program Coordinator.

PUBLICATIONS & PRESENTATIONS

Publications

Donohue, B., Phrathep, D., **Stucki, K.**, Kowal, I., Breslin, G., Cohen, M., White, S., Jefferson, L., White, T., Irvin, J., Reece, G., Henrique Paim Kessler, F., Kieslich da Silva, A., Gabriel Santos da Silva, F., Fothergill, M., Robinson, G., Allen, H., Light, A., Allen, D. (2021). Adapting an Evidence-Supported Intervention to Optimize Mental Health and Sport Performance in Youth from Ethnic/Racial Minority and Low-Income Neighborhoods: A National Institutes of Health Stage Model Study. *Journal of Positive Behavior Interventions*.

Poster Presentations

Stucki, K., Jasso, M., Griffin, K., Donohue, B. (2020, February). *A Systematic Review of Mental Health in Athletes: Prevalence*. Poster presented at the Graduate & Professional Student Research Forum, Las Vegas, NV.

Donohue, B., **Stucki, K.** (2017, November). *The type of significant other chosen by athletes to participate in goal-oriented alcohol prevention programming influences alcohol use*. Poster presented at the UNLV Honors College Research Program Poster Session, Las Vegas, NV.

Galante, M., Gavrilova, Y., Gavrilova, E., Bricker, M., Danlag, A., **Stucki, K.**, & Donohue, B. (2017, November). *The Effects of a Culturally Adapted Intervention for Student-athletes on Engagement in Mental Health Services, Treatment Adherence, and Client Satisfaction with Services*. Poster presented at the annual convention for Association of Behavioral and Cognitive Therapies, San Diego, CA.

Gavrilova, Y., **Stucki, K.**, Galante, M., Gavrilova, E., Danlag, A., Bricker, M., & Donohue, B. (2018, April). *A Controlled Examination of Motivational Strategies: Is it Better to Motivate by Reviewing Positive Consequences for Goal Achievement or Negative Consequences of Not Accomplishing Goals?* Poster presented at the annual convention for Western Psychological Association, Portland, OR.

Galante, M., Hussey, J., Corey, A., **Stucki, K.**, Danlag, A., Griffin, K., Donohue, B., & Allen, D. (2018, April). *Sport-specific problems and mental health in athletes: Screening for referral to treatment*. Poster presented at the annual convention for American Psychological Association, San Francisco, CA.

Verbal Presentations

Stucki, K., & Reeves, J. (2017, January). *Problem solving*. Workshop conducted at Women's Development Center, Las Vegas, NV.

Stucki, K., (2017, May). *Motivation*. Workshop conducted at Family Research & Services Lab, Las Vegas, NV.

Panels

Stucki, K., (2019, February). *UNLV Psi Chi Chapter & Psychology Club: Navigating the Psychology Major*. Panel conducted at the University of Nevada, Las Vegas, Las Vegas, NV.

WORK EXPERIENCE

UNLV Graduate College	Student Worker	Spring 2015 – Spring 2018
UNLV Family Research & Services via Regents Service Program	Research Assistant	Spring 2017
UNLV Psychology Department	Graduate Research Assistant	Fall 2018 – Spring 2020
UNLV Psychology Department	Graduate Teaching Assistant	Summer 2019; Fall 2020 – Present

CLINICAL TRAINING

<i>The PRACTICE</i> University of Nevada, Las Vegas Las Vegas, NV Fall 2019 – Summer 2020	Dialectical Behavioral Training (DBT)	Fall 2019 (36 hours)
	The Optimum Performance Program in Sports (TOPPS)	Summer 2019 (48 hours)
	Cognitive Behavioral Therapy (CBT)	Fall 2019 – Summer 2020
	Acceptance & Commitment Therapy (ACT)	Fall 2019 – Summer 2020
	Interpersonal & Social Rhythm Therapy (IPSRT)	Spring 2020 – Summer 2020
<i>The Evidence Based Practice of Southern Nevada (The EBP)</i> 2460 Paseo Verde Pkwy Suite 100, Henderson, NV 89074 Fall 2020 - Present	Radically Open Dialectical Behavioral Therapy (RO-DBT)	Fall 2020 – Spring 2021

ASSESSMENT EXPERIENCE

The PRACTICE

University of Nevada, Las Vegas

Las Vegas, NV

Fall 2019 – Summer 2020

- Achenbach Adult Self-Report for Ages 18-59
- Delis-Kaplan Executive Functioning Systems (D-KEFS)
- Repeatable Battery for the Assessment of Neuropsychological Status (RBANS)
- Test of Memory Malingering (TOMM)
- Wechsler Adult Intelligence Scale – Fourth Edition (WAIS-IV)
- Woodcock-Johnson IV – Achievement (WJ-IV-ACH)
- Woodcock-Johnson IV – Cognitive (WJ-IV-COG)
- Woodcock-Johnson IV – Oral Language (WJ-IV-OL)
- Wechsler Memory Scale – Fourth Edition (WMS-IV)
- Nelson-Denny Reading Test
- Conners' Continuous Performance Test – 3rd Edition (CPT-3)
- Beck Depression Inventory II (BDI-II)
- Beck Anxiety Inventory (BAI)

The Optimum Performance Program (TOPP)

University of Nevada, Las Vegas

Las Vegas, NV

Fall 2019 – Spring 2021

- Achenbach Youth Self-Report for Ages 11-18
- Kiddie – Schedule for Affective Disorders and Schizophrenia for School Aged Children 6 – 18 years DSM-5 (K-SADS)
- The Symptoms Check-List-90-Revised (SCL-90-R)
- Suicide Probability Scale (SPS)
- Child and Adolescent Services Assessment (CASA)
- Time-Line Follow-Back interview (TLFB)
- Client Satisfaction Questionnaire-8 (CSQ-8)
- Student Athlete Relationship Instrument (SARI)
- Sport Interference Checklist (SIC)

PROFESSIONAL AFFILIATIONS

UNLV Honors College	Student	Fall 2013 – Spring 2018
UNLV Outreach Undergraduate Mentoring Program (OUMP)	Mentor Mentee	Fall 2015 – Spring 2021
Graduate College Rebel Research & Mentorship Program (RAMP)	Mentor Mentee	Fall 2017– Fall 2020
The Honor Society of Phi Kappa Phi	Member	Spring 2016 – Present
Association for Behavioral & Cognitive Therapies	Member	Spring 2017 – Present
American Psychological Association	Member	Fall 2018 – Present
Nevada Psychological Association	Member Diversity, Equity, & Inclusion Committee Member	Spring 2020 – Present

COMMUNITY SERVICE AFFILIATIONS

UNLV Psi Chi INHS & Psychology Club	Secretary Member	Fall 2015 – Spring 2018
Silver State Service Dogs	Honorary Board Member DCO DSI	Fall 2015 – Fall 2019
UNLV The PRACTICE	Clinician Volunteer	Fall 2016 – Present
The UNLV Society for Service Dogs	Founder/President	Fall 2017 – Fall 2019
UNLV Clinical Psychology Student Committee	Member Co-Chair	Fall 2018 – Present
UNLV Psychology IDEAS Committee	Member	Summer 2020 – Present