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Family-Based Optimization Intervention Implemented through Video-Conferencing to Address Major Depressive Disorder in a Latina Adolescent Athlete During COVID-19

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Major Depressive Disorder (MDD) is a highly prevalent mental health concern impacting adolescent athletes in unique ways (McGuine et al., 2021), yet sport-specific interventions for adolescent athletes with this disorder have yet to be formally developed. The Optimum Performance Program in Sports (TOPPS) is a sport-specific evidence-supported intervention that has successfully treated depression in collegiate athletes (Donohue et al., 2018). However, evidence for this approach in youth athletes has yet to be established. Further, COVID-19 has shifted the delivery of traditional mental health services to video conferencing (Boelen, 2020), yet very few clinical trials have examined evidence-based intervention implementation in this format. This study reports the results of a case involving an adolescent girl who was formally assessed with MDD. Study results indicated significant improvements from baseline to post-treatment in severity of general mental health symptoms, depression, factors interfering with sport performance, and relationships with family, coaches, and teammates. Treatment protocol adherence was excellent, and she was highly satisfied with treatment implementation.

Keywords: Covid-19, MDD, Treatment, Clinical Trial, Athlete

Major Depressive Disorder (MDD) is a mood disorder characterized by persistent feelings of sadness and loss of interest in activities (American Psychiatric Association, 2013). The Centers for Disease Control and Prevention (2018) reported that Latina adolescents' evidence higher rates of depressive symptoms than non-Latina White and non-Latina Black adolescent girls in the United States. These high rates of depressive symptoms among Latina adolescents are associated with severe health consequences, particularly suicidality (Edmonds et al., 2021). Despite having high rates of depressive symptoms, Latina adolescents are less likely to receive treatment for depression than their White peers (Stafford et al., 2019). Evidence-based therapies exist to treat adolescent depression, such as Cognitive-Behavioral Therapy, Interpersonal Psychotherapy, and antidepressant medications (see review by Lewandowski et al., 2013). Still, very few behavioral treatments have been modified to address psychological conditions in Latina adolescents (Benuto et al., 2019; Hooper et al., 2016). Latina adolescents live within a unique socio-cultural environment that affects their mental health (Davidson et al., 2015). For example, Latina families' household inclusion of both immediate and extended family (familism) has been found to enhance health-related behaviors in Latina adolescents (Perez & Cruess, 2011). Therefore, it is recommended that family and other social supports are integrated into services to help engage Latina adolescents into mental health treatments (Gopalan et al., 2010). Ultimately, it is imperative to develop mental health services that meet the needs of this population (Chu et al., 2016).

Need to Adapt Behavioral Interventions to be Sport-Specific in Latina Adolescent Athletes

While there are currently less Latina adolescents participating in organized sports compared to girls from other ethno-racial groups, the number of Latina adolescents participating in high school sports have increased about ten percent since 2015 (Centers for Disease Control and Prevention, 2020; Sabo & Veliz 2008). Additionally, these Latina adolescents who participate in sports have shown to greatly value their identity as athletes (McGovern, 2021). Therefore, effective integration of sport into mental health interventions may be an effective method of reducing healthcare disparities in Latina adolescents, especially those from low-income households (McGovern, 2021; Fraser-Thomas & Côté, 2006)

While there are many benefits of sport participation, there are stressors associated with competitive sports for adolescent athletes (Goyen & Anshel, 1998), including pressure to perform, conflicts with coaches or opponents, fear of injury, making errors, and poor coach-athlete relationships (Holt et al., 2005). Appreciation for the importance of addressing mental health symptomology through enhanced recognition and amelioration of sport-specific stressors using evidence supported intervention is growing (Breslin et al., 2017; Donohue & Phrathep, 2020; Tamminen & Holt, 2012). Specific to Latina athletes, negative gender and racial stereotypes have been found to exacerbate stressors associated with sport participation (McGovern, 2021). For example, Lopez (2018) showed that Latina adolescents participating in sports face gender and race-based teasing that heightened their experience of insecurity and self-consciousness. Therefore, there is a great need to develop and evaluate sport-specific mental health interventions for Latina adolescent athletes.

There is one published case study evaluating the effects of a strengths-based Cognitive Behavioral Therapy (CBT) treatment approach with a collegiate athlete evidencing depression (Gabana, 2017). Although no formal outcome measures were included, Gabana (2017) indicated that the strengths-based CBT approach allowed the client to discover her strengths, challenge negative beliefs, and form more adaptive behavioral patterns and coping mechanisms to address her depression. Another study evaluated the effects of a Rational Digital Storytelling intervention for depression among adolescent athletes with special educational needs (Ofoegbu, 2020). Rational Digital Storytelling aims to help decrease clients' dysfunctional beliefs, unhealthy emotions, and problem behaviors by teaching them rational alternative beliefs to facilitate functional beliefs, healthy emotions, and adaptive behaviors through storytelling (Ofoegbu, 2020). Post-test and follow-up scores indicated that the Rational Digital Storytelling intervention had a significant reduction on the adolescent athletes' depression outcomes compared to a control group. The cognitive and behavioral components of these behaviors appear to address depressive symptoms in athletes effectively, however, these interventions were not adapted to be sport-specific, which is important for engagement, receptivity, and effectiveness in athletes (Geidne et al., 2013).

Adolescent athletes who evidence MDD are presumed to be more interested in behavioral intervention when it addresses sports performance than traditional applications (Schinke et al., 2017). Such adjustments are hypothesized to establish stronger connections between new information and encourage greater interest in practicing therapeutic skill sets in a real-world context (Brewin, 1989). The Optimum Performance Program in Sports (TOPPS) is a sport-specific intervention that was formally adapted from Family Behavioral Therapy (FBT; Azrin et al., 1994), evidence supported treatment for substance use, to concurrently address sport performance and mental health in athletes (Donohue et al., 2021). TOPPS focuses on performance optimization in both sport and life outside of sport, with athletes determining personal goals and practice scenarios to review during skills training (Donohue et al., 2018). An important feature of TOPPS is the inclusion of significant others (e.g., peers, family**,** coaches, and teammates) as they help athletes by sharing insights, developing goals, modelling skills, and reinforcing optimal thoughts and behaviors. TOPPS has demonstrated significant improvements in collegiate athletes' relationships, interferences with sports performance, and problems associated with mental health symptomology up to eight months post-intervention in clinical trials (Chow et al., 2015; Donohue et al., 2020; Donohue et al., 2015; Galante et al.., 2017; Gavrilova et al., 2016; Pitts et al., 2015), and in one controlled trial particularly as mental health diagnostic severity increased (Donohue et al., 2018). Additionally, in an uncontrolled case trial and controlled case trial involving an Asian-American female adolescent athlete diagnosed with social anxiety disorder and a low-SES white male adolescent athlete diagnosed with attention-deficit hyperactivity disorder and oppositional defiant disorder, respectively, an adaptation of this intervention was determined to lead to similar improvements up to one-month follow-up (Donohue et al., 2021; Phrathep et al., 2021). The results of these studies suggest TOPPS may be efficacious in treating MDD in adolescents from marginalized populations. Indeed, it is important to note that social workers are especially capable of implementing and advocating TOPPS through education, research and policy development, and in doing so promote the well-being of athletes from marginalized backgrounds, such as Latina adolescent athletes (Gill et al., 2017; Moore et al., 2018; Newman et al., 2021).

The cancellation of athletic seasons and fear of contracting COVID-19 have negatively affected the psychological well-being of youth athletes (Sanderson & Brown, 2020). Further,

COVID-19 has also impacted the delivery of traditional mental health services to be adapted to telehealth modalities (Pfender, 2020). Consequently, mental health providers must be mindful of the unique stressors that consumers experience due to COVID-19 while implementing psychologically based interventions safely (Zhou *et al*., 2020). Zoom is a video-conferencing software that has been widely used by mental health providers and has shown to be efficacious in delivering behavioral therapies (Boelen et al., 2020). In addition, its integration into TOPPS implementation has been indicated previously (Donohue et al., 2016; Phrathep et al., 2021).

The present study aims to assess the efficacy of TOPPS in a Latina adolescent athlete evidencing MDD. Dependent measures focus on psychiatric symptoms, factors that have been found to impact the sport performance of this youth directly, and relationships with significant others.

Case Introduction

Vanessa (not her real name) is a 15-year-old Mexican-American volleyball player who presented to the TOPPS program because she was interested in improving her sports performance. At the time of the referral, Vanessa was in the off-season and recovering from an ankle injury. She said she desired to play collegiate volleyball.

Presenting Complaints

During the intake assessment, Vanessa reported low motivation, low self-esteem, and stress regarding recovering from an ankle injury. She expressed how these concerns affected her ability to recover from mistakes and errors in both school and sports, inherently adversely affecting her mood and self-efficacy. Vanessa and her mother described her low self-confidence as prevalent before competitions and affecting her mood during and after performances.

Assessment Measures and Pre-Intervention Assessment Results

Prior to receiving treatment, a comprehensive assessment was conducted that assessed client demographics, mental health symptoms, factors interfering with her sport performance, and diagnoses. A comprehensive battery of assessment measures was administered by a trained assessor one week before intervention (baseline), and 4- and 5-months post-baseline. This comprehensive assessment was designed to evaluate the efficacy of TOPPS with adolescent athletes. In typical clinical settings, providers can modify the assessment to expedite its implementation and outcome tracking (e.g., using one mental health measure and one sport performance measure). The comprehensive battery included both primary outcome measures and secondary measures, where the primary outcome measures were evaluated using the reliable change index (RCI; Jacobson & Truax, 1991) and secondary measures were evaluated using eyeballing (Byrne, 2017). Eyeballing is completed by reviewing the raw data and determining if the post-test and follow-up scores for the selected measures appear to demonstrate significant improvement from baseline based on clinical experience.

Primary Outcome Measures:

Kiddie – Schedule for Affective Disorders and Schizophrenia for School-Aged Children 6 to 18 years old DSM-5 (K-SADS) (Kaufman et al., 2000). This semi-structured interview assessed psychiatric symptoms consistent with the Diagnostic and Statistical Manual of Mental Disorders (5th ed). Inter-rater agreement of the K-SADS with similar measures is high (range: 93% to 100%). The KSADS also has demonstrated high test-retest reliability and concurrent validity (Kaufman et al., 1997). Vanessa's results on the KSADS indicated that she met DSM-5 criteria for MDD.

The Symptoms Check-List-90-Revised (SCL-90-R) (Derogatis, 1986). This 90-item measure is a widely utilized scale for general psychiatric symptoms and has been normed on adolescent populations and has demonstrated acceptable internal consistency and test-retest reliability (Preti et al., 2019). The SCL-90-R revealed that Vanessa scored above clinical thresholds on two dimensions of mental health symptomology (i.e., Obsessive-Compulsive, Interpersonal Sensitivity) and demonstrated Borderline Clinical levels on Phobic Anxiety, Depression, Somatization, Psychoticism, and the Global Severity Index.

Sport Interference Checklist (SIC) (Donohue, Silver, et al., 2007). This 40-item measure includes three inventories used to assess factors that have been indicated to interfere with sport training (Problems in Sport Training Scale; PSTS), sport competition (Problems in Sport Competition Scale; PSCS), and life outside of sports (Problems with Life Outside of Sports; PLOS). The SIC has demonstrated excellent factor structure, internal consistency and convergent validity (Donohue et al., 2007), and has predicted psychiatric symptom severity (Donohue et al., 2019), in collegiate athletes. Vanessa demonstrated elevations on the Thoughts and Stress and Team Relationships subscales on the SIC in both Training and Competition. In contrast, her Team Relationships and Motivation subscale scores reflected relative strengths

Secondary Measures:

Time-Line Follow-Back interview (TLFB) (Sobell et al., 1996). This assessment measure uses a calendar with pre-recorded anchor points (e.g., birthdays, special events) to assist retroactive reports of alcohol, non-prescribed drug use frequency, and frequency of days attending school and sport practice. The TLFB has demonstrated test-retest reliability and concurrent validity (Donohue et al., 2004). Vanessa did not report any drug or alcohol use on the TLFB.

Youth Self Report 11-18 (YSR) (Achenbach, 1991). This 112-item measure assesses adolescents' competencies and problem behaviors. The Externalizing and Internalizing Behavior Problem scales will be used in the current study. The YSR has demonstrated acceptable internal consistency, test-retest reliability, and content validity (Achenbach & Rescorla, 2001). Vanessa's YSR scores demonstrated elevations in internalizing problems, withdrawn/depressed, anxious/depressed, and affective problems.

Beck Depression Inventory-II (BDI-II) (Beck et al., 1996). This 21-item measure is one of the most widely used methods of assessing depressive symptoms. In addition, the BDI-II has

demonstrated high internal consistency, test-retest reliability, and concurrent validity (Wang & Gorenstein, 2013). Vanessa's BDI-II total score was 34, suggesting severe depressive symptoms.

Student-Athlete Relationship Instrument (SARI) (Donohue et al., 2007). This 63-item measure assesses sport-specific problems in relationships with Family, Coaches, Teammates, and Peers. The SARI has demonstrated high internal consistency and criterion-related validity (Donohue et al., 2007), and reliably predicts mental health symptom severity in collegiate athletes (Hussey et al., 2019).

Overall Happiness with Family, Coaches, Teammates and Peers (Donohue et al. 2007). This 4-item measure utilizes a 0 to 100 scale of happiness (0 = completely unhappy, 100 = completely happy). Items assess overall happiness in four relationships, e.g., coaches, teammates, family, and peers; these scales have demonstrated acceptable criterion-related validity (Hussey et al., 2019). See Table 2 for Vanessa's overall happiness ratings with her family, coaches, teammates, and peers.

Client Satisfaction Questionnaire-8. (CSQ-8) (Larsen et al., 1979). This 8-item (4-point scale) self-report questionnaire evaluates the quality of services received and has demonstrated high internal consistency and concurrent validity (Kelly et al., 2017). The CSQ-8 was implemented after the intervention and Vanessa reported total score of 32.

Child and Adolescent Services Assessment (CASA) (Ascher et al., 1996). This semi-structured interview assesses mental health service utilization, opinions about mental health services, and access/barriers to mental health services. The CASA was administered at baseline. The CASA has demonstrated high interrater reliability for items and (Schwartz et al., 2019) and concurrent validity in studies comparing CASA data to mental health centers' management information systems. No concerns were indicated by Vanessa or her mother regarding engaging in mental health services.

Suicide Probability Scale (SPS) (Cull & Gill, 1982). This measure assesses suicidal risk/ideation. The SPS has demonstrated acceptable internal consistency (Eltz et al., 2006) and has established predictive validity in suicidal attempts and self-destructive behavior (Larzelere et al., 1996). Vanessa reported a probability score of 21, which met the cutoff for safety concerns.

Case Conceptualization

At the time of intake, Vanessa was living with her father, mother, and younger brother. Her older adult brother had just moved out for college, where he played a sport at the collegiate level. Her father was employed as a skilled laborer, and her mother was an administrative assistant at a government office.

Vanessa's mother described her family culture as hardworking, connected, and disciplined. Growing up with a younger and older brother, Vanessa expressed experiencing gender-based teasing that negatively affected how she initially perceived her abilities in sports. She reported this bantering as well as constructive criticism from her mother after practices and games when she performed poorly helped to motivate her to work hard and ultimately match the

achievements of her brothers in both sports and school. However, these experiences were also reported to be associated with derogatory self-statements and anxiety.

Vanessa's experience of low self-esteem, confidence, and motivation after her ankle injury was conceptualized to be impacting her thinking patterns maladaptively (e.g., "I'm not good enough," "need" and "should" statements, "I'm letting others down,"). She also expressed maladaptive behaviors, including poor time management, procrastination, decreased engagement in pleasurable activities. Physically, she expressed low energy, sleeping less, and increased appetite. Lastly, a month before treatment, Vanessa described her depressive symptoms intensifying after learning about the recent passing of her uncle with whom she had a close relationship. Vanessa's severity of her depressive symptoms contributed to thoughts of wanting to die (she did not have any plan or intent to harm herself).

Vanessa's negative self-appraisal and expectation of punishment were reported to affect her sport performance. She expressed a lack of confidence, difficulty recovering after making mistakes, and hesitancy in asking for help from her coach. While she expressed doing well academically, Vanessa experienced increased pressure to maintain her academic performance due to challenges with time management, low motivation, and comparing herself to others. These problems resulted in her lacking reinforcement opportunities specific to social attention.

Remediation was thus aimed at improving Vanessa's automatic negative thoughts and maladaptive behaviors through cognitive and behavioral skills (e.g., objective thinking, positive outlook, focusing on the task at hand rather than outcomes, thought stopping, solution generation, positive imagery, scheduling pleasant activities with others, perspective-taking, social skills training, recognition of antecedent triggers to undesired behavior). Performance planning also involved teaching her supportive others to reinforce desired behaviors while ignoring undesired ones and generating potential solutions to problems. Given the importance of family connectedness in Mexican American families, supportive other involvement was conceptualized to be important in helping Vanessa achieve reinforcement, which was particularly important due to isolation from classmates due to COVID-19.

Intervention Components

The protocols used for TOPPS with college athletes has undergone adaptations to fit the experience of adolescent athletes (Donohue et al., 2021; Phrathep et al., 2021). The intervention principles, therapeutic style, and overarching procedures implemented in this case study were consistent with those used in Donohue *et al*. (2021). The TOPPS program consists of 10 different intervention components that are designed to optimize sport, relational, and mental well-being, among other things. The TOPPS intervention starts with a planning session where athletes and their significant others rank the intervention components based on their perceived need to each component's perceived desirability. See Table 3 to see the descriptions and order of priority that Vanessa and her mother ranked the TOPPS intervention components.

Intervention Integrity

To ensure implementation integrity, several strategies were employed, including documentation of techniques used during each session, the participant's ratings of engagement and progress towards personal and programmatic goals; ongoing clinical supervision by a licensed psychologist (i.e., review of audio-recordings, corrective feedback); structured agendas

and detailed protocol checklists to guide intervention and measure protocol adherence; reviews of audio recordings by independent raters to evaluate protocol adherence and measure inter-rater reliability; and the participant's ratings of helpfulness with each intervention component during each session.

Intervention integrity scores were calculated in a two-step process:

1. The overall percentages of intervention protocol steps completed as per the provider's self-report was computed, thus serving as validity estimates for protocol adherence.
2. Ten percent of the session audiotapes rated by the provider for intervention completion were randomly selected and reviewed by independent raters. Inter-rater agreement was computed by adding the number of steps agreed upon by the provider and independent rater and dividing this result by the number of steps agreed upon and disagreed upon by the provider and independent rater and multiplied by 100. Seventy percent protocol adherence and inter-rater agreement is considered satisfactory.

Protocol Adherence. The overall protocol adherence across 12 sessions was 98.01% (SD = 4.26%, *range* = 88-100%), according to the provider. Inter-rater agreement between the provider and independent rater was 96.88% (*range* = 87.5-100%). Thus, the intervention components in this study were implemented with high reliability.

Consumer Satisfaction and Engagement Ratings. Following completion of TOPPS, Vanessa reported high satisfaction with the intervention components, as indicated by the Athlete Helpfulness Rating Scale with an average score of 6.82 (*SD* = .41). The provider rated Vanessa's engagement with each intervention component (based on attendance/promptness, participation, conduct, and home assignment completion) 96.36% optimal. She also reported high satisfaction with the services received, as indicated by the CSQ-8 with a total score of 32. Vanessa attended 100% of the scheduled meetings

Course of Treatment and Assessment of Progress

Vanessa completed 12 one-hour meetings. Vanessa involved multiple significant others in her meetings, including her mother, aunts, uncle, coach, and father. The following sections provide summaries of each performance meeting including who was involved.

Performance Orientation (Meeting 1; Vanessa, mother). During Meeting 1, a standardized Program Orientation was conducted to provide an overview of the program, discuss expectations, and gather information regarding the referral. Vanessa and her mother also discussed potential significant others to be involved in future sessions (e.g., her coach, aunts and uncle, and father). The Performance Timeline intervention component was subsequently implemented to build treatment engagement and teach Vanessa to identify antecedents and consequences that maintain undesired behavior. In this intervention, a sport performance scenario was identified (missing a strike during competition), and a functional analysis was performed to identify factors occurring before and after making a mistake. Relevant to antecedents, she determined anxiety symptoms were strong and her motivation was low immediately before she reached to strike the ball. The provider taught her diaphragmatic breathing to apply when anxiety symptoms (i.e., increased heart rate) were recognized. Vanessa, her mother, and the provider generated goals from the Performance Timeline, such as focusing on the task at hand, diaphragmatic breathing, and

practicing optimal motivational statements. Teaching diaphragmatic breathing and optimal motivational statements are both integrated components within TOPPS.

Performance Planning (Meeting 2; Vanessa, mother). Vanessa and her significant others (SOs) ranked each intervention in the order of importance. The provider then tailored the intervention plan to echo Vanessa's wishes, reflecting the following order from highest to least priority: Appreciation Exchange, Environmental Control, Self-Control, Positive Request, Performance Timeline, Dream Job Development, Job Getting Skills, Financial Management, Discussion about choice culture, and Goal Inspiration. The interventions were implemented successively and cumulatively, thus after interventions were implemented for the first time they were subsequently reviewed in additional meetings to an increasingly lesser amount of time as targeted skills were optimized. The order of implementation was modified slightly in Meeting Agendas based on life events that made certain interventions more relevant than others.

Dynamic Goals and Rewards (Meeting 2-12; Vanessa, mother, coach, aunts, uncle, and father). Meeting 2 involved reviewing pre-intervention assessment results for the SIC to identify Vanessa's strengths and elevated goal-worthy items in preparation for establishing goals in the Dynamic Goals and Rewards intervention. Vanessa's item elevations clustered around the program's global goals of maintaining optimum mental wellness, maintaining optimum relationships with others, and maintaining optimum effort in school-related activities. Further, Vanessa and her Mother emphasized goals surrounding optimum effort in sport-related activities, given her motivation to play volleyball at the collegiate level. Initially, specific goals for maintaining optimum mental wellness included maintaining optimum focus, maintaining a positive perspective, maintaining optimum sleep, and eating well. Specific goals that were initially developed for maintaining optimum relationships with others included being uplifting to teammates at practice, spending quality time with friends and family, and being praiseworthy to others. Specific goals that were initially developed for maintaining optimum effort in school-related activities included turning in schoolwork on time, asking teachers and peers for help if needed, utilizing a planner on scheduled days, and researching potential colleges to apply to. Finally, specific goals that were initially developed for maintaining optimum effort in sport-related activities included injury prevention, practicing breathing, and consistently working out. Vanessa and her Mother both agreed on quality time (e.g., game night) as a reward for future goal accomplishment.

Appreciation Exchange (Meeting 3; Vanessa, mother, and father). Appreciation Exchange was implemented in Meeting 3 with Vanessa's mother and father to develop Vanessa's communication skills in expressing appreciation. Notably, Vanessa's father only spoke Spanish; therefore, Vanessa and her mother acted as translators during that meeting. The family emphasized that they do not usually communicate these appreciative thoughts and expressed that it was a positive experience to directly hear appreciation from one another. Vanessa reflected that this interaction significantly improved her mood.

Self-Control (Meeting 4-5; Vanessa, mother, and coach). Self-Control (SeC) was implemented to teach Vanessa to recognize and manage triggers (e.g., thoughts, images, feelings, and behaviors) that lead to undesired, impulsive behaviors and thoughts. Vanessa learned to identify triggers of undesired behaviors through backward chaining. Backward chaining is used

to break down the steps leading up to an undesired behavior until the first instance of the trigger for the behavior is identified (Donohue & Azrin, 2012). Then, to effectively avoid the undesired impulsive behavior, she utilized strategies like thought stopping, considering the negative consequences for self and others, relaxation strategies (e.g., diaphragmatic breathing), generating alternative solutions, reviewing pros and cons of these solutions, and engaging in imagery for the selected alternative. Vanessa chose to practice SeC to assist her management of errors or mistakes in games. After a practice trial, Vanessa and the provider evaluated her skills during the trial (on a 0-100% optimization scale), discussed what was liked about each skill and what could be enhanced. Vanessa then assessed the likelihood of an undesired behavior prior to using Self-Control and immediately after performing the trial. Vanessa reported that solution generation was the most effective step in helping her recover after making a mistake, and the provider encouraged her to emphasize this step in subsequent trials. The following meeting Vanessa reported utilizing self-control in practices. She emphasized that diaphragmatic breathing was the most helpful step in recovering after making an error. The provider and the client's mother and coach descriptively praised the client for her implementation of SeC.

Performance Timeline (Meeting 6; Vanessa, mother, and coach). The performance timeline was implemented again in meeting 6. Vanessa chose the performance scenario of recovering after making mistakes in games again because she was interested in further establishing her skills. Vanessa visualized out loud in first person optimal thoughts and behaviors while recovering after making a mistake. Her coach, mother, and provider descriptively praised her for her rehearsal.

Goal inspiration (Meeting 7; Vanessa, mother, and aunt). Goal Inspiration focuses on the positive consequences of achieving specific goals to help adolescents increase their motivation to achieve those goals (Donohue & Azrin, 2012). Vanessa chose maintaining optimal hydration. Vanessa, her mother, aunt, and her provider collaboratively brainstormed immediate and delayed positive consequences that would arise from maintaining optimal hydration. For example, Vanessa initially expressed that maintaining optimum hydration would improve her overall energy. She said that having increased energy would increase her motivation to engage in training, improve her overall physical wellness, and help her focus better in school. She reported overall that the sequence of generating additional positive consequences for achieving her goal increased her overall inspiration to maintain optimum hydration. Vanessa stated that the goal inspiration approach would help her achieve other goals that she was less motivated to achieve in the future.

Environmental Control (Meeting 8; Vanessa, mother, and aunt). The Environmental Control (EnvCo) intervention involved altering Vanessa's environment to spend more time with goal-compatible cues and less time with goal-incompatible cues. During the initial meeting, the provider explained that certain environmental cues make goal attainment more or less likely to occur. Then, Vanessa, her aunt, mother, and her provider collaboratively developed a list of cues (i.e., people, places, situations, emotions) that facilitated Vanessa's goal attainment and a list of cues that inhibited her goal attainment. For example, Vanessa identified certain family members who were facilitative of her goals, while excessive social media use was identified as a cue incompatible with her time management goal. Once these cues were established, Vanessa and her significant others brainstormed strategies to spend more time with cues associated with goal

attainment and to decrease time with cues that were incompatible with goal accomplishment. Vanessa and the provider monitored these cues in subsequent meetings.

Positive request (Meeting 9; Vanessa, mother, and uncle). The Positive Request intervention was utilized to teach Vanessa how to make requests respectfully and skillfully (e.g., succinct requests for specific actions, when actions are desired, offers to assist, statements of appreciation, acceptable alternatives). The provider first modeled the Positive Request steps for Vanessa, and then Vanessa engaged in role-playing scenarios with her mother and uncle. Examples included, making requests of her mother and father, asking her coach for help, and asking college coaches about the potential for recruitment. Vanessa mentioned using the positive request outside of sessions, such as asking her coach for help after practice.

Dream job development (Meeting 10; Vanessa, mother, and aunt). The Dream Job Development (DJDev) intervention is designed to prepare athletes for their dream career. The provider, Vanessa, her aunt, and mother discussed important aspects of the most desirable career (e.g., financial situation, benefits, travel) and generated important educational prerequisites, qualifications, and people (including significant others) who could assist in achieving the dream job. Certain steps of DJDev (such as researching career options and colleges relevant to her career goals) were added to Vanessa's goal worksheet. After the meeting, Vanessa mentioned she successfully contacted family members about potential career opportunities and researched colleges that would be a good fit for achieving her career goals.

Discussion about choice culture (Pre-Intervention/Meeting 11; Vanessa, mother, and aunt). The Semi-Structured Interview for Choice Culture in Therapy Scale (CCS) Donohue et al. (2020**)** a modified version of the Semi-Structured Interview for Ethnic Consideration in Therapy Scale (Donohue et al., 2006), was performed pre-intervention with Vanessa. The CCS is used to facilitate engagement, inform the provider about her cultural concerns/strengths, and increase the provider's awareness of the cultural factors that may impact implementation of the intervention, which has shown to be important in treatment outcomes and engagement for ethnic/racial minorities (Whaley & Davis, 2007). The CCS was performed again during Meeting 11 with her significant others to reinforce the positive qualities of her culture. Vanessa emphasized the importance of being Latina as her choice culture, including the heavy emphasis on family values and unique culture traditions regarding food, music, and religion. The provider facilitated positive conversation, such as how admirable it is for her to use her family values as a source of inspiration for both school and sports as well as being a woman of color in athletics. Vanessa's mother and aunt also provided insight on the importance of her identity as a Latina. They mention that embodying a caretaking role is embedded in their family values as Latina women. Vanessa has explicitly taken on this role in many areas of her social support, such as taking care of her younger brother and maintaining strong bonds with her teammates. Vanessa described having conflicts with others about being Mexican and a woman in sports, where she reported having experienced both racist and sexist comments in the past. Vanessa and her significant others described Vanessa as "strong" where she disregarded these comments respectfully and continued to take pride in her identities. The provider and significant others descriptively praised Vanessa for her commitment to embracing her Latina culture.

Final Meeting Intervention (Meeting 12; Vanessa, mother, and aunt). During the final meeting, generalization was implemented to review the positive aspects of Vanessa's efforts over the last few months and assist her in looking towards the future with optimism. Generalization has been shown to solicit additional positive affect through the emphasis of skill development (Donohue & Azrin, 2012). Additionally, generalization helped Vanessa realize the extent of her improvements and competency in being able to manage potential obstacles. The generalization intervention included the following components:

1. ***Reviewing overall progress in optimizing performance in relationships, factors specific to performance, and mental health.*** First, Vanessa and her significant others commented on how she had increased frequency and consistency with family communication. Vanessa specifically expressed she felt more connected with her siblings. Second, Vanessa described feeling stronger physically by indicating that her stamina and energy had increased since the start of the program due to her consistency in maintaining optimum effort in her sport related activities (e.g., taking 10,000 steps daily, staying consistent with physical rehabilitation for her injured ankle, maintaining optimum hydration). Third, Vanessa expressed feeling more self-confidence, motivation, and enjoyment because of keeping a positive perspective (e.g., focusing on the positives, diaphragmatic breathing), increasing quality social interactions through development of social skills (e.g., assertiveness), and implementing dynamic goals.
2. ***Establishing ways Vanessa can maintain goal progress after TOPPS.*** The provider, Vanessa, and her significant others brainstormed ways Vanessa could maintain her goal progress moving forward. These methods included utilizing a planner to plan out her weekly tasks, asking for help from coaches when needed, maintaining consistency in her athletic training, and focusing on the positives and utilizing thought stopping and solution generating when triggered.
3. ***The provider and significant others offering descriptive praise for Vanessa's effort and strategies utilized and brainstormed to maintain goal progress after TOPPS.*** The provider commented on Vanessa's desire to utilize her dynamic goals worksheet to monitor and update her goals. Additionally, her mother and aunt commended Vanessa for her motivation to continue working towards optimizing her sport performance, academics, and relationships.
4. ***The provider, Vanessa, and significant others exchanging what was loved, admired, respected, or appreciated about Vanessa's optimization process.*** Vanessa's aunt and mother specifically emphasized that they admired Vanessa's commitment to developing into a "strong woman in the family." Vanessa told her mother and aunt that she appreciated them for providing motivation and helping her brainstorm in sessions, as well as helping her practice the skills she learned outside of sessions. Vanessa and her significant others told the provider that they appreciated his commitment to helping Vanessa grow and learn new skills and his continuous positivity throughout the process. The provider told Vanessa's mother and aunt how much he admired the love and commitment they have towards helping Vanessa optimize her life in every area. Lastly, the provider told Vanessa that he admired her effort and care that she has towards her family and willingness to try each week to strive for optimization in all areas of her life.

Vanessa said that her participation in TOPPS "improved her mindset, skills, and motivation," by providing her skills to overcome present and future challenges. In addition, both Vanessa and her supportive others expressed gratitude for the opportunity to learn skills relevant

to sport performance and mental health optimization and increased connection with each other because of participating in TOPPS.

Post-intervention and 1-month Follow-up Assessment

The reliable change index (RCI; Jacobson & Truax, 1991) was used to consider the significance of pre-intervention to post-intervention assessment score improvements for the SCL-90-R and SIC (primary outcomes). The RCI helps determine if the clinical change is significant beyond the standard error of measurement. It considers a participant's pre-and post-test change while considering general measure reliability and standard error of measurement. RCI scores greater than 1.96 reflect changes in scores that are meaningful. As per the Reliable Change Index, the participant evidenced significant and meaningful reductions in his SIC Training and Competition total scores both pre- to post-intervention and pre- to 1-month follow-up. She also evidenced significant and reliable reductions in the SCL-90-R Global Severity Index pre- to post-intervention. Because the client had elevations on her BDI score in the pre-intervention assessment, a reliable change index was calculated for post-intervention and follow-up and demonstrated significant and meaningful reductions in her BDI scores. Reliable Change Index scores are listed in Tables 1 and 2.

A post-intervention KSADS interview was conducted to determine if the participant still evidenced current MDD criteria. The post-intervention KSADS interview indicated no indication of clinically significant current MDD symptoms. A blind rater conducted the 1-month follow-up KSADS interview. Symptom improvements were sustained. Eyeballing procedures (Byrne, 2017) were used to get a rough estimate of magnitude of effect for all secondary measures (TLFB, YSR, SPS, SARI, and Overall Happiness with Coaches, Teammates, and Family) from pre- to post-test and pre-test to 1-month follow-up. Post- and follow-up outcome measures demonstrated improvements from baseline for these measures (See Tables 1 and 2). More notably, the client was below the cutoff on the SPS, indicating no evidence of clinically significant levels of suicidal ideation post- and follow-up.

Complicating Factors

Vanessa initiated intervention with considerable motivation to improve her sports performance, motivation, and confidence. However, she initially was ambivalent to include significant others in treatment. To encourage her motivation to include significant others, the provider emphasized that Vanessa could choose the significant other that her and her mother both decided would best fit the intervention component being implemented for the day. Additionally, the provider emphasized how the research shows the more significant others involved, the increased likelihood of optimal outcomes. After each additional significant other was involved, the provider queried to Vanessa the positive consequences of involving the significant other. Overall, Vanessa emphasized that involving various significant others expanded her perspective, inherently allowing her to optimize different cognitive and behavioral skills in both sports and life outside of sports.

Vanessa’s initial risk assessment warranted informing her mother about safety planning and monitoring for suicidal ideation. Vanessa was receptive to the provider letting her Mother know about her suicidal ideation and her mother expressed gratitude for being informed. In addition, both Vanessa and her mother described improved communication and connectedness

after Vanessa's suicidal ideation was reviewed and Vanessa was provided enhanced support from her family.

Access and Barriers to Care

As a method of reducing COVID-19 contraction, video-conferencing was utilized. There were benefits of video-conferencing. For instance, video-conferencing eliminated travel to attend sessions, reduced costs associated with gasoline, and permitted the participant and provider to concurrently, on separate computers, search for resources on the internet in real-time. An important barrier to care was that the participant and her family did not have printers at home. The provider addressed limited access to printers by e-mailing virtual documents before the meetings and using the screen share feature for worksheets and homework during meetings. Another barrier was that the screen occasionally froze for a few seconds.

However, the provider addressed this by having the participant's phone number as a backup if the software glitched. Despite these precautions, both the provider and participant's mother contracted COVID-19 at different points in treatment, necessitating delays in treatment provision. During this quarantine, video-conferencing permitted the provider and mother to continue meetings during respite without risk of spreading the disease to others.

Treatment Implications of the Case

This case study permitted an evaluation of the effectiveness of a sport-specific Family Behavior Therapy (FBT) with a Latina adolescent athlete diagnosed with MDD. Post and follow-up tests revealed substantial reductions in depressive symptoms and increased optimal relationships with others. These findings suggest that dynamic goal setting, increasing optimal thoughts, and monitoring, evaluating, and rewarding desired behaviors with the inclusion of significant others is effective for adolescents with MDD in developing effective skills to address depressive symptoms. Vanessa was highly engaged in treatment, as she attended 100% of her scheduled sessions, and rated the program as extremely helpful, thus TOPPS may be engaging for Latina adolescent athletes with MDD.

Additionally, TOPPS was able to be delivered fully through video-conferencing, which was consistent with recommendations from Boelen et al. (2020). This indicates that TOPPS is adaptable and effectively minimizes risks of contracting COVID-19 (Zhou et al., 2020). The lack of mental health interventions available for ethnic/racial minority and low-income youth athletes demonstrates a continued need for intervention development to address this healthcare disparity (Donohue *et al.*, 2021). As previously mentioned, mental health providers from different training backgrounds (e.g., clinical social workers, counseling psychologists, clinical psychologists, licensed mental health counselors) can implement TOPPS interventions. Therefore, creating opportunities for mental health providers from diverse backgrounds to learn TOPPS interventions may be useful in addressing the service gap for diverse youth athletes (Donohue et al., 2020). Lastly, these preliminary results support the need to examine TOPPS in randomized clinical trials (Rounsaville et al., 2009).

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Table 1
Pre-, Post- and Follow-up Assessments of Mental Health

Scale	Pre-Intervention	Post-Intervention	1-Month Follow Up	Post-Intervention Reliable Change Index	1-Month Follow Up Reliable Change Index
The Symptoms Check-List-90-Revised (SCL-90-R; Derogatis, Rickels, & Rock, 1976; T scores).					
Psychoticism	65	33	39		
Obsessive-Compulsive	72	42	39		
Paranoid Ideation	60	41	37		
Interpersonal Sensitivity	71	36	28		
Anxiety	59	32	32		
Phobic Anxiety	69	50	46		
Depression	69	45	40		
Hostility	53	39	39		
Somatization	60	47	38		
Global Severity Index	69	40	33	5.71**	6.52**
Beck Depression Inventory-II (BDI-II; Beck et al., 1996)					
Total Score	34	4	1	12.61**	13.87**
Suicide Probability Scale (SPS; Larzelere, Smith, Batenhorst, & Kelly, 1996)					
Probability Score	21	11	10		
Total T-Score	63	49	33		
Timeline Follow back	0	0	0		
Youth Self Report					
Total Problems	55	44	48		
Externalizing Problems	46	38	46		
Aggressive Behavior	50	50	50		

Rule-Breaking Behavior	52	50	51
Internalizing Problems	48	47	54
Anxious/Depressed	66	50	50
Withdrawn/Depressed	64	50	58
Somatic Complaints	54	51	57
Non-internalizing & Externalizing problems			
Social Problems	55	61	55
Thought Problems	51	50	50
Attention Problems	53	50	50
Total Competence	37	54	42
Social	35	53	50
Activities	34	50	37

Note. Reliable Change Index (RCI) > 1.96 is considered significant. Significant RCIs are signified with an asterisk*.

Table 2
Pre, Post- and Follow-up Assessments of Factors Interfering with Sport Performance

Scale	Pre-Intervention	Post-Intervention	1-Month Follow Up	Post-Intervention Reliable Change Index	1-Month Follow Up Reliable Change Index
SIC Training					
Total	111	77	63		
Thoughts and Stress	5.50	2.67	2.00	6.30**	7.78**
Academic	3.00	1.67	2.67	1.90	0.48
Injury	2.33	2.00	1.33	0.32	0.97
Team Relationships	1.00	1.00	1.50	0.00	0.69
SIC Competition					
Total	126	82	64		
Thoughts and Stress	5.38	2.88	3.62	6.44**	4.60**
Academic and Adjustment	2.33	1.33	1.33	1.60	1.60
Motivation	1.25	1.50	1.25	0.48	0.00
Overly Confident/Critical	2.00	2.00	2.50	0.00	0.65
Injury	5.50	2.50	2.00	7.02**	6.14**
Pain	2.00	1.50	1.50	0.75	0.75
SIC Outside of Sport					
Total	111	83	59		
Yes Responses to Seeing a Professional	-Difficulty thinking positively after negative thoughts have occurred. -Overly concerned or worry too much about what others think about my performance -Hard to recover mentally once errors are made -Inability to motivate or push myself -Feeling stressed out -Worrisome thoughts about past injuries -Feeling depressed Severe anxiety, panic attacks, obsessive thoughts, doing seamless behavior repeatedly -Difficulty maintaining weight at an acceptable level to me or others				
SARI Teammates					
Relationships and Support	4.17	2.17	1.33		
General Pressure	2.50	1.75	1.75		
Team Playing and Competitiveness	4.00	4.00	2.50		

Relationships	3.75	1.00	1.00
Pressure to drink& interfere during competition	2.50	2.00	1.50
Total	63	36	27
SARI Family			
Poor Relationship and Lack of Support	1.80	1.00	1.00
General Pressure	3.00	1.50	1.50
Pressure to Quit or Continue Unsafely	1.33	1.00	1.00
Comments and Negative Attitude	3.00	2.50	2.50
Total	38	25	23
SARI Coaches			
Relationships and support	2.00	1.33	1.33
Teamwork and Safety	1.00	1.00	1.00
Involvement	2.00	1.75	2.50
Experiencing Demands	4.33	2.00	2.00
Total	42	38	33
SARI Peers			
Poor Relationship and Lack of Support	3.00	1.43	1.00
Use of Recreational and Performance-enhancing Substances	1.00	1.00	1.00
Total	26	13	10
Overall Happiness with Family, Coaches, Teammates and Peers			
Family	90%	100%	100%
Coaches	80%	100%	100%
Teammates	80%	80&	80%`
Peers	90%	100%	90%

Note. Reliable Change Index (RCI) > 1.96 is considered significant. Significant RCIs are signified with an asterisk*.