12-15-2019

Empirical Justification for Supportive Other Involvement in Collegiate Athletes' Mental Health Intervention

Elena Gavrilova

EMPIRICAL JUSTIFICATION FOR SUPPORTIVE OTHER INVOLVEMENT IN COLLEGIATE ATHLETES' MENTAL HEALTH INTERVENTION

By

Elena Gavrilova

Bachelor of Arts – Psychology
University of Nevada, Las Vegas
2016

A thesis submitted in partial fulfillment
of the requirements for the

Master of Arts – Psychology

Department of Psychology
College of Liberal Arts
The Graduate College

University of Nevada, Las Vegas
December 2019

UNLV | GRADUATE COLLEGE

Thesis Approval

The Graduate College
The University of Nevada, Las Vegas

August 19th, 2019

This thesis prepared by

Elena Gavrilova

entitled

Empirical Justification For Supportive Other Involvement in Collegiate Athletes' Mental Health Intervention

is approved in partial fulfillment of the requirements for the degree of

Master of Arts – Psychology
Department of Psychology

Bradley Donohue, Ph.D.
Examination Committee Chair

Kathryn Hausbeck Korgan, Ph.D.
Graduate College Dean

Michelle Paul, Ph.D.
Examination Committee Member

Daniel Allen, Ph.D.
Examination Committee Member

Jennifer Pharr, Ph.D.
Graduate College Faculty Representative

Abstract

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By

Elena Gavrilova

Dr. Bradley Donohue, Examination Committee Chair
Professor of Psychology
University of Nevada, Las Vegas

Student-athletes have been identified to evidence similar or higher rates of mental health difficulties and lower levels of mental health engagement as compared with non-athlete peers. Along these lines, sport-specific mental health intervention has been justified by researchers, yet only one randomized clinical trial has been conducted in collegiate student-athletes who have been formally assessed for mental health disorders (i.e., a family behavior therapy as compared with traditional campus counseling as usual; Donohue et al., 2018a). Results of this outcome study demonstrated greater improvements for participants who received the family-based intervention up to 8-months post-randomization. In this clinical trial, the potential influence of supportive others' (i.e., family, coaches, teammates, intimate partners) on athletes' mental health was not assessed for the family-based intervention. Participation of the supportive others varied based on the desire of athlete participants to include them and their availability; and occurred in-person, through telephone, and/or video-conference. In the proposed study, the association between supportive others' participation in athletes' family behavior therapy and mental health and sport performance outcomes was examined. As hypothesized, results indicated that the number of family behavior intervention sessions attended by athletes was significantly associated with factors that interfere with sport performance. The number of family behavior therapy sessions attended by supportive others with the athletes was not associated with intervention

outcomes after the athletes' attendance to family behavior sessions was considered. However, the number of supportive other types (family, coaches, teammates, intimate partners) involved throughout intervention was significantly correlated with mental health. These results suggest the number of supportive other types involved in athletes' family behavior therapy, and not their cumulative session attendance to family sessions per se is most important to athletes' mental health and sport performance.

Keywords: athlete mental health, supportive others in therapy, performance optimization

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Chapter 1

Literature Review

Collegiate student athletes are an at-risk population for mental health difficulties due to unique stressors, such as pressure to perform at high levels in multiple life domains, high risk for injury, and frequent travel (Evans, Weinberg, & Jackson, 1992; Masland, 1983; Moreland, Coxe, & Yang, 2017; Parcover, Mettrick, Parcover, & Griffin-Smith, 2009; Putukian, 2016; Rice et al., 2016; Stillman, Ritvo, & Glick, 2013). Athletes have been found to demonstrate relatively high rates of suicide, eating disorders, and sleep problems (Dietze, Fitzgerald, & Jenkinson, 2008; O'brien, Blackie, & Hunter, 2005; O'brien, Ali, Cotter, O'shea, & Stannard, 2007; Rice et al., 2016; Stack, 2013), and substance misuse (Kutscher, Lund, & Perry, 2002; Lisha & Sussman, 2010), and they often reject traditional mental health treatments (Donohue et al., 2016; Gulliver, Griffiths, & Christensen, 2012; Putukian, 2016; Stillman et al., 2013).

There appears to be a connection between social relationships and mental health treatment outcomes (Gauze, Bukowski, Aquan-Assee, & Sippola, 1996; Parker & Asher, 1993). However, the influence supportive others have on athletes' mental health has been rarely examined (Ullrich-French & Smith, 2006). Turrisi, Mastroleo, Mallett, Larimer, and Kilmer (2007) discovered parental disapproval of alcohol use resulted in lower alcohol use in their children, who were collegiate athletes. Social support generally appears to minimize risk factors for a variety of mental health conditions (Barefield, & McCallister, 1997; Brewin, Andrews, & Valentine, 2000; Clement & Shannon, 2011; Finch, Okun, Pool, & Ruehlman, 1999). For instance, strong social support has been found to reduce state anxiety post injury (Covasssin et al., 2014; McLeod, Fraser, & Johnson, 2017), and lower stress (Barrera, 1986; Cohen & Wills, 1985; Udry, Gould, Bridges, & Tuffey, 1997). Social support may influence mental health help-

seeking in athletes (Gulliver et al., 2012; Putukian, 2016). In contrast, lack of social support has been linked to a variety of mental health conditions (Lakey & Cronin, 2008; Raffaelli et al., 2012). Supportive others of collegiate athletes (i.e., parents, coaches, teammates, athletic trainers) have been shown to facilitate or inhibit athletes' attitudes, behaviors, and opinions toward mental health services (Moreland et al., 2017), including engagement of collegiate athletes into mental health intervention services (Donohue et al., 2018a). Eisenberg, Hunt, and Speer (2012) found that almost 80 percent of general collegiate students with mental health issues seek initial support from friends and family, including the majority of students who evidence suicidal ideation.

Increased social support of supportive others has been found to assist athlete sport performance, facilitate athletes in developing talents, increase their mental skills (Butt, Weinberg, & Culp, 2010; Horn & Horn, 2007; Kaye, Frith, & Vosloo, 2015; Tamminen & Holt, 2012; Ullrich-French & Smith, 2006), and facilitate motivation and commitment to continue sport participation (Green, 2005; Ullrich-French & Smith, 2006). Supportive others have also been identified as essential figures to support athletes' goal setting and monitoring, which appears more impactful when supportive others are trained along these lines (Green, 2005). For instance, more than any other supportive other, athletes have been indicated to attribute their sport success to their parents (Donohue, Miller, Crammer, Cross, & Covassin, 2007a), and have cited their parents (Covassin et al., 2014) and coaches (Yang, Peek-Asa, Lowe, Heiden, & Foster, 2010) as critical aids in injury rehabilitation. This is important because evidence suggests that injured athletes are predisposed to a variety of mental health conditions (Palisch & Merritt, 2018; Putukian, 2016). Social support is associated with positive response to injury, including improvements in depressive symptoms associated with injury (Clemen, Arvinen-Barrow, &

Fetty, 2015). A social network gives student athletes another dimension by which to define themselves and find self-worth, which can lessen the blow of removal from sport performance.

The impact of social support on collegiate athletes' mental health has proven to be invaluable, with some researchers promoting interventions that focus on increasing social support for injured athletes to reduce negative psychological responses associated with injury (Rees, Mitchell, Evans, & Hardy, 2010). It is important to recognize that athletes' sport-related stressors do not occur in isolation; rather they occur within the broader context of interrelated layers of relationships (Dunn & Thomas, 2012; Stillman et al., 2013; Tamminen & Holt, 2012). Each of these relationships has potential value in mental health intervention to connect all aspects of the collegiate athletes' life.

Much of the research examining the influence of supportive others in therapy within the general population has underscored family-based approaches, usually involving intimate supportive others, such as spouses and/or parents. The inclusion of a variety of supportive others have been identified to be particularly valuable for student-athletes who feel disconnected from the university community (Gill, 2008). However, when considering unique populations for psychological intervention, such as collegiate athletes, it is important to parsimoniously consider which relationships are most impactful. For instance, collegiate athletes spend a lot of time with their coaches and teammates, are not typically married, and are likely to spend less time with their parents than in years past (Donohue et al., 2018a; Ford, 2008). Their relationships with coaches and teammates may become increasingly intimate and impactful while they experience changes in their relationships with parents as they strive for independence. Each of these supportive other types has a unique contribution that impacts athletes' wellness. However, the

relative contribution of relationship types to the welfare of collegiate athletes has yet to be systematically examined (Hagiwara, Iwatsuki, Isogai, Van Raalte, & Brewer, 2017).

Family has a significant influence on athletic performance across the developmental spectrum (Gould, Lauer, Rolo, Jannes, & Pennisi, 2008; O'Rourke, Smith, Smoll, & Cumming, 2011; Sebire, Standage, & Vansteenkiste, 2009; Smoll & Smith, 2002; Ullrich-French & Smith, 2006). Parents, in particular, are in prime position to impact athletes' motivation and decision making (Brustad, 1993; Hellstedt, 1990; O'Rouke et al., 2011; Woolger & Power, 1993), and in adolescent athletes have been reported to be more influential to sport performance than coaches and teammates (Donohue et al., 2007a). Sport performance goals of parents have been shown to impact the emotional development of their children (Kaye et al., 2015), and in collegiate athlete samples, poor adjustment in moving away from home has been shown to influence stress and poor sport performance (Giacobbi Jr., Lynn, Wetherington, & Jenkins, 2004). Therefore, family members are very likely to impact the well-being of collegiate athletes. Indeed, sport specific problems in collegiate athlete relationships with their family have been shown to predict psychiatric concerns (Hussey, Donohue, Barchard, & Allen, 2019). Ritvo and Glick (2005) emphasized the importance of developing comprehensive mental health disorder treatments for athletes and their families, yet until recently (see Donohue et al., 2018a), no family-based interventions have been developed in collegiate athletes (Raffaelli et al., 2012).

The mental health of collegiate athletes is heavily influenced by the athletic system (Zimmerman, Protinsky, & Zimmerman, 1994). Indeed, coaches have been identified to assist athletes' mental health engagement (Bapat, Jorm, & Lawrence, 2009; Biggin, Burns, & Uphill, 2017; Mazzer & Rickwood, 2015; Pierce, Liaw, Dobell, & Anderson, 2010; Putukian, 2016), mental health management (Rice at al., 2016), and goal development outside of sports (Jowett &

Cockerill, 2003). However, studies have indicated that coaches often feel incompetent in the identification of mental health symptoms (Vaughan, King, & Cottrell, 2004) and sometimes minimize mental health difficulties (Nowicka, Eli, Ng, Apitzsch, & Sundgot-Borgen, 2013). Along this vein, most coaches agree that their role in athletes' mental health should be limited to identification of mental health symptoms and assistance with appropriate referral (Ferguson, Swann, Liddle, & Vella, 2018). However, there is evidence to suggest that when coaches are involved in the initial stages of consultation, their athletes are more likely to continue participation (Zimmerman & Protinsky, 1993). Coaches have also been found to influence athletes' decision making related to sport, such as use of performance enhancing drugs (Donovan, Egger, Kapernick, & Mendoza, 2002), physical and psychosocial development (Jowett & Cockerill, 2003; Martens, 2012; Smith & Smoll, 1996), and ability to overcome mental challenges (Johnson et al., 2011). Supportive coaching style and overall positive relationships with coaches have been identified to increase athletes' positive self-talk, confidence, anxiety control, and competency (Hardy, Jones, & Gould, 1996; Zourbanos, Hatzigeorgiadis, Tsiakaras, Chroni, & Theodorakis, 2010). Coaches also have the ability to influence athletes' emotional state (Campo, Mellalieu, Ferrand, Martinent, & Rosnet, 2012), and criticism from coaches is linked to stress and negative emotions in athletes (Dunn, Gotwals, Dunn, & Syrotuik, 2006; Nicholls, Jones, Polman, & Borkoles, 2009). Therefore, the participation of coaches in psychological intervention seems to be important, although the impact of coach involvement in mental health programming has yet to be examined.

Teammates have been established as an integral relationship to athletes' overall wellbeing and sport performance (Butt et al., 2010; Raabe, Zakrajsek, & Readdy, 2016). Extant research has examined how peers influence mental health in collegiate athletes, and most of this

literature fails to differentiate teammate peers from non-teammate peers (Cooker, & Caffey, 1984; Hagiwara et al., 2017). Athletes' circle of friends tends to be relevant to their sport in some way, with the majority of their friends being teammates (Heyman, 1986). Teammates have been shown to influence one another's alcohol consumption (Dams-O'Connor, Martin, & Martens, 2007; Turrisi et al., 2007), emotional support (Clement, & Shannon, 2011), and sport performance (Butt et al., 2010). By including teammates in programming that is focused on communication skills and team goal-setting, improvements in cohesion (Johnson et al., 2011; Sullivan, 1993) and subsequent sport performance have been found to occur to some extent (Carron, Bray, & Eys, 2002; Carron, Colman, Wheeler, & Stevens, 2002; de Jong, Curşeu, & Leenders, 2014). However, the impact of teammates on mental health treatment in athletes has yet to be examined.

The engagement of intimate partners in athletes' family-based treatment has yet to be formally evaluated. Including intimate partners in family behavior therapy has been shown to consistently improve mental health symptoms in the general population (e.g., Azrin, Donohue, Besalel, Kogan, & Acierno, 1994; Donohue et al., 2014b), and when intimate partners are involved in the psychological intervention of athletes' mental health, care providers have been reported to be more aware of important family dynamics (Ritvo & Glick, 2005), assist maintenance of stable relationships (Heyman, 1986), and facilitate optimal balance between personal relationships and competitive sport participation (Jowett & Cramer, 2009).

In conclusion, most collegiate athletes receive psychologically-based treatment in campus counseling centers (Voight, & Callaghan, 2001; Wrisberg, Withycombe, Simpson, Loberg, & Reed, 2012; Zakrajsek, Martin, & Wrisberg, 2016), and despite overwhelming evidence showing various supportive others contribute to the mental health of collegiate athletes, mental health

service delivery is almost exclusively based on the individual format (LeViness, Bershad, & Gorman, 2017; Smith et al., 2007; Stillman et al., 2013). It is also evident that athletes notoriously underutilize psychological interventions (Neal et al., 2013) and there is a lack of intervention-based research targeting mental health and well-being in athletes (Beauchemin, 2014; Donohue et al., 2014a; Moreland et al., 2017; Rice et al., 2016). The aforementioned review suggests the influence of family, coaches and teammates of athletes should be examined within the context of psychological intervention, including the extent to which athletes are interested in having these persons involved in their psychological intervention.

In helping to address this need, Donohue and colleagues (2018) conducted a randomized controlled outcome trial comparing campus counseling services as usual (SAU) with a sport specific family behavior therapy (coined The Optimum Performance Program in Sports; TOPPS). Results of this outcome study demonstrated greater improvements in mental wellness for 36 participants assigned to TOPPS as compared with 38 participants assigned to campus counseling as usual up to 8-months post-randomization. The role of supportive others (persons engaged in the family behavior therapy intervention to support the participants, including parents, non-parent family members, intimate partners, coaches, teammates, and non-teammate friends) during intervention sessions included assisting in brainstorming solutions to problems, developing goals, modeling skills, and encouraging homework assignment completion. Participation of supportive others varied based on availability and desire of participants and occurred in-person, through telephone, and/or video-conference. The influence of supportive others on treatment outcomes was not examined in this study. Therefore, in the proposed study, the association between supportive others' participation in the aforementioned family behavior therapy and study outcomes will be examined. It is hypothesized that the number of sessions

attended by supportive others (in person, via telephone, or video conference) and the number of supportive other types engaged during intervention will be associated with improvements in intervention outcomes specific to mental health and factors that interfere with sport performance, while considering the attendance of athletes.

Chapter 2

Aims of The Study

The primary aims of this study are to (a) determine what supportive other types are most likely to attend family-based psychological intervention on behalf of collegiate athletes; (b) determine if there is a significant association between the number of intervention sessions supportive others attend on behalf of athletes and athletes' therapeutic outcomes (i.e., mental health, factors that interfere with sport performance); and (c) determine if there is a significant association between the number of supportive other types (e.g. parents, coaches) attending family-based psychological intervention and athlete participants' therapeutic outcomes (mental health, factors that interfere with sport performance).

Chapter 3

Method

Participants

Participants were 36 collegiate student-athletes from a Division I southwestern university who were interested in participating in goal-oriented psychological programming to assist sport performance and performance in life in general. Participants represented a diverse ethnic background (White = 42%, African-American = 22%, Hispanic/Latino = 17%, Asian = 8%, Multiple = 8%, Pacific Islander = 3%). Approximately half of the participants were women (47%) between 18 and 24 years of age (mean = 20.4 years). Most participants were juniors or seniors (28% each), NCAA athletes (61%), and single (97%). To enhance external validity (Kessler, McGonagle, & Zhao, 1994), participants were not required to evidence psychiatric diagnoses, and the participants were not excluded due to dual or multiple mental health diagnoses. Along these lines, fifteen (42%) of the participants evidenced current psychiatric diagnoses, and twenty nine (81%) evidenced current or past psychiatric diagnoses, according to the results of a validated semi-structured interview for the DSM-IV (First, Spitzer, Gibbon, & Williams, 2002) that was administered approximately one week after study consent.

Inclusionary Criteria

Inclusionary criteria were that the participant is (a) at least 18 years of age; (b) enrolled in the university while formally participating in sports (i.e., NCAA, Club, Intramural); (c) identified as having used illicit drugs or alcohol in the past 4 months; (d) expected to be enrolled at the university for the next 8 months; (e) not currently receiving any formal psychotherapy; (f) and having at least one adult supportive other (e.g., family member, coach, friend) who athletes were

interested in inviting to all or some of the intervention sessions and who would be willing to assist athlete during intervention.

Procedures

Data for this study were obtained from a subset of participants who were randomly assigned to receive a sport-specific, modified version of Family Behavior Therapy in a randomized controlled outcome study (referred to as The Optimum Performance Program in Sports or TOPPS; Donohue et al., 2018a). Participants were recruited through the university athletic department (*n* = 4; 11%), class presentations promoting goal-oriented programming for student athletes (*n* = 14; 39%), coaches and teammates (*n* = 10; 28%), and to obtain research credit for study participation (*n* = 8; 22%). During the initial intake, if athletes were interested in participating in a psychological intervention to assist sport performance and life performance in general, they were screened for inclusionary/exclusionary criteria, consented if qualified, and scheduled for baseline assessment approximately one week later. Following baseline assessment, participants were randomly assigned to either TOPPS or traditional campus counseling as usual. Only participants who were assigned to the TOPPS were examined in this study due to the absence of family-based intervention in campus counseling setting. The study was approved by the university's Institutional Review Board.

Intervention

The Optimum Performance Program in Sports (TOPPS) was developed with support from the National Institute on Drug Abuse (NIDA) in a series of uncontrolled and controlled studies (see Donohue et al., 2018a for a review of some of these studies). Although participants were permitted to attend sessions on practice fields, almost all sessions occurred in offices decorated to celebrate sport, culture and healthy lifestyle. During the first session of TOPPS,

participants received a formal orientation, including the structure and format of meetings (e.g., 12 sessions, 60 minutes each), goals for sport and life after sport, participation in semi-structured interviews to address sport culture, and intervention content.

Engagement of supportive others in programming. Supportive others were conceptualized to be important change agents to assist the participants' goal accomplishment. Therefore, providers made an effort to engage supportive others in each intervention session either in person, via telephone, or video-conference. First, during the orientation session providers reviewed who the participants would most want respect from, and who some of the people are that would most likely have the participants' back in crisis. They were informed that these supportive others (i.e., family, intimate partner, coaches, teammates, non-teammate friends) are important to assisting goal accomplishment, and that they could be involved in all or some sessions to model skills, generate solutions, reward and encourage goal accomplishment, and provide motivation. They were also informed that they could be involved strategically in particular exercises and might need to be excluded in some sessions, or parts of sessions. They were then prompted to brainstorm how others might be valuable contributors to skill development during sessions. Guidelines and including confidentiality limits, were discussed (See Appendix C). Participants were assured content from providers would never reflect past events unless requested explicitly by participants. The participants were asked to sign written releases of information for providers to communicate with engaged supportive others, and supportive others provided verbal consents for their role as supportive others to participants after reviewing limits of confidentiality at the start of their first session (See Appendix B). Supportive others and participants were also prompted to review how supportive others could assist programming at the start of each session, and participants were prompted to indicate who, if

anyone, they would like to involve during all upcoming sessions. It is important to note that providers encouraged athletes to invite supportive others with whom they are in conflict to facilitate problem resolution in a safe environment. Therefore, supportive others were not limited to only positive relationship types.

When supportive others disclosed psychopathology, a referral was provided to traditional campus counseling. There were no limits on the number of supportive others student-athlete could include during intervention sessions.

Session Agenda. Providers initiated formalized agendas at the start of every session. Planned interventions were reviewed, including expected duration and how each component was expected to optimize the participants' performance plan. Participants and their supportive others were prompted to indicate how each might contribute to the participants' goal development.

Dynamic Goals and Rewards. Providers reviewed participants' assessment results and determined goal worthy areas. Participants and supportive others engaged in brainstorming to generate ideas of how supportive others could assist participants in goal accomplishment. Supportive others were encouraged to support participants any time and provide rewards contingent on goal completion. Participants brainstormed methods of supporting and rewarding supportive others for their efforts. Contingencies were reviewed weekly and monitored on a worksheet.

Performance Planning. Participants and supportive others were prompted to prioritize intervention components from a menu of intervention options. Sum rank scores were created to develop a performance plan.

Goal Inspiration. This intervention was designed to increase motivation for goal attainment by reviewing negative consequences for not achieving goals, and positive

consequences associated with goal achievement. Supportive others were invited to help brainstorm consequences.

Environmental Control. In this intervention participants and supportive others were taught to identify goal consistent and inconsistent stimuli. Participants identified ways to manage these environmental stimuli so more time is spent doing things that enhance optimum performance in sports and in life, while spending less time doing things that interfere with optimum performance. Supportive others assisted in generating solutions, modeling skills, and providing encouragement.

Self Control. This intervention was designed to teach participants to identify antecedents to problem behaviors and subsequently engage in a prescribed sequence of skills, including emphasizing focus, relaxation, solution generation, reviewing pros and cons of generated potential solutions, imagining optimal performance, and imagining optimal reactions to performance. Supportive others assisted in modeling, solution generation and encouragement.

Achieving Optimum Relationships & Communication. To improve positive communication and enhance relationships, participants were taught to make positive requests and express appreciation. Supportive others were involved in the interactions, sometimes portraying the role of others and other times acting as themselves in genuine scenarios.

Financial Management. This intervention was used to assist participants in reviewing sources of income and expenses to create a budget, identify areas to save money, and identify ways to make more money. Supportive others were encouraged to assist in generating methods of decreasing expenses and increasing income.

Job-Getting Skills Training. Participants were taught skills specific to gaining employment, such as job interviewing skills development. Supportive others assisted in networking and interviewing skill development through modeling and encouragement.

Dream Job Development. Participants were taught to review resources to gain employment ideas and self-generate life aspirations that were consistent with their dream job. Participants disclosed important aspects of a desired career and supportive others assisted participants in generating qualifications and/or education required, how those requirements could be acquired, and ways in which supportive others could help participant in dream job attainment.

Session Conclusion. At the end of each session providers initiated a structured conclusion that included discussion of skills learned during the session, methods of assuring assignment completion (if relevant), and plans for supportive other inclusion during the next session.

Measures

A large battery of measures was administered during baseline assessment, 4-months post-baseline assessment, and 8-months post-baseline assessment. In this study, only the participants' mental health (SCL-90R) and factors that interfere with sport performance in training and competition (SIC) were examined.

Demographics Form. Demographic information of participants was collected, including participant's age, gender, ethnicity, marital status, level of sport participation (i.e., NCAA, Club, or Intramural), year in school, and referral type (i.e., athletic department, class presentation, research subject pool, or coach/teammate).

Participant Session Attendance. Participant session attendance was monitored.

Supportive Other Session Attendance. Supportive other session attendance was monitored for in-person, telephone, and video conference across six relationship types: (a) parent; (b) non-parent family members; (c) intimate partners; (d) teammates; (e) coaches; and (f) non-teammate peers.

Mental Health. The Global Severity Index of Symptom Checklist 90 – Revised (SCL-90-R GSI; Derogatis, Rickels, & Rock, 1976) was utilized as a self-report measure of broad range of psychological problems and symptoms. SCL-90-R GSI consists of ninety items that assess overall psychological distress over the past 7 days. Each item can be rated from 0 to 4 (0 = Not at all, 4 = Extremely) with higher scores indicating greater severity. The Global Severity Index (GSI) was calculated by summing the scores of all items and then divided by the total number of responses. SCL-90-R demonstrated acceptable internal consistency and test-retest reliability (Derogatis, 1979).

Factors that Interfere with Sport Performance. The Sport Interference Checklist (SIC; Donohue, Silver, Dickens, Covassin, & Lancer, 2007) was utilized as a measure of sport performance in training and competition. SIC assesses student-athlete's mental health associated factors that may be negatively affecting training and competition performance (e.g., "How often does being too critical of yourself interfere with your performance in…" training; competition). Each subscale (Training and Competition) includes 26 items that are rated on a 7-point Likert-scale (1 = never, 7 = always) and summed to obtain total scores for each subscale with higher scores indicating greater interference. SIC has been found to be a reliable and valid measure in collegiate athletes (Donohue et al., 2007), and its total scores in Training and Competition have both been found to be effective mental health screens in collegiate athletes (Donohue et al., 2019) and circus performers (Donohue et al., 2018b).

Statistical Plan and Approach

Study Design. The proposed study outcomes (SCL-90-R and SIC) were assessed at three time-points: baseline, 4-month post-assessment, and 8-months follow-up assessment.

Outcome improvement. Outcome difference scores for each measure were derived by subtracting the post-assessment score (4-month post-assessment) score for each measure from its respective baseline score. Higher scores indicate greater symptom severity for all measures, thus positive difference scores indicate improvement and negative scores indicate worsening.

Data Screening. Before performing correlational analyses to test study hypotheses, preliminary data screening was conducted. Means and standard deviations for all independent (Participant Session Attendance, Supportive Other Session Attendance, Number of Supportive Other Types Involved in Intervention) and dependent variables (SCL-90-R GSI, SIC Training, and SIC Competition) were calculated and inspected for normality. Skewness values less than +/-1 and kurtosis values less than +/-1.5 were considered to be normally distributed (Tabachnick & Fidell, 2013). Variables that were not normally distributed were transformed using logarithmic transformations, based on recommendations by Tabachnick and Fidell (2013).

Assumptions of Pearson correlation were examined. For the first assumption, the relationship between the independent variables and the dependent variable must be linear, necessitating examination of scatterplots of the respective variables. The second assumption assumes that the variance of the residuals is constant (homoscedasticity). Plot of standardized residuals and standardized predicted values was reviewed for signs of funneling.

A third assumption requires values of the residuals to be normally distributed. The P-P plot for the model was examined and compared to a straight line. The closer the data points lie on the diagonal straight line, the closer to normal the residuals are distributed. Last assumption

concerns with the influential cases or outliers biasing the model. Data was inspected for significant outliers, high leverage points, or highly influential points using Mahalonobis Distance test. When present, outlier scores were adjusted to one unit greater than the next most extreme outlier (Tabachnick & Fidell, 2013). Cook's Distance test to assess for outliers was also performed. Cook's Distance value above 1 would suggest a case that influences the model.

Descriptive statistics for demographic variables (i.e., age, gender, ethnicity, marital status, sport status, year in school, and referral type) were performed to thoroughly present the sample.

Correlational Analyses. To identify the most common supportive others who are willing to participate in intervention, simple frequency and percentage were calculated across participants and all sessions. Additionally, frequencies and percentages were calculated to examine most common session attendance by supportive others, including no attendance, single supportive other attendance, and multiple supportive others in one session attendance. Lastly, most common supportive other participation method (in-person, via telephone, or video-conference) was examined.

A bivariate Pearson correlation was performed to examine the relationship between participants session attendance and participants mental health and factors that interfere with sport performance outcome measures. A partial correlation was conducted to examine the relationship between supportive other session attendance and mental health and factors that interfere with sport performance outcome measures, while partialling out participant session attendance. Additional partial correlations were conducted to examine the relationship between number of supportive other types involved in intervention and mental health and factors that interfere with sport performance outcome measures, while partialling out participant session attendance. In

both partial correlation analyses Participant Session Attendance was utilized as a covariate to identify unique contribution of other independent variables.

Hypotheses. It was hypothesized that (a) athlete participant session attendance will be positively related to improvement in mental health (SCL-90-R) and factors that interfere with sport performance (SIC-Training, SIC-Competition) outcome measures; (b) supportive other attendance of intervention sessions will be positively associated with improvement in mental health (SCL-90-R) and factors that interfere with sport performance (SIC-Training, SIC-Competition) outcome measures of athlete participants; and (c) number of supportive other types involved throughout the 4 months of intervention will be positively related to improvements in mental health (SCL-90-R) and factors that interfere with sport performance (SIC-Training, SIC-Competition) outcome measures of athlete participants.

Chapter 4

Results

Data Screening

Statistical Package for Social Sciences (SPSS) Version 24.0 was utilized for data analysis. Data screening revealed that variables were, in general, normally distributed. Descriptive statistics were calculated for the SCL-90-R, SIC Training and Competition scales. These subscales were approximately normally distributed, and no univariate outliers were identified. The pair-wise relationships between all variables were linear and the variance of the residuals was constant, representing homoscedasticity. There were no multivariate outliers, high leverage points, or influential data points.

Descriptive Analyses

Athlete Participant Session Involvement. A total of 36 participants were considered for inclusion in the analyses, after examining the data for correlation assumptions, all of the participants were included in the analyses. Session attendance ranged from two to fourteen and on average, participants completed 10 sessions.

Supportive Other Session Involvement. Descriptive analyses revealed parents were the most common supportive other type to participate across all participants (n = 22; 61%; Table 2). The results suggest over sixty percent of athletes had a parent involved at least once throughout the 4 months of intervention, while non-teammate friends were the least common supportive other type to be engaged (n = 5; 14%).

In examination of supportive other participation across all 372 sessions that the 36 athletes attended, parents were present more frequently than any other supportive other figure (n = 66; 18%; see Table 3). Coaches and non-teammate friends were the least frequent session

attendees (*n* = 24; 6% each). Although most athletes (*n* = 17; 47%) engaged their teammates at least once, teammates were less likely to attend multiple sessions throughout intervention, as compared with parents who most commonly came at least once and attended sessions most frequently.

Only 3 of the 36 athlete participants did not involve any supportive other throughout intervention. The majority of participants (*n* = 29; 81%) had at least one session where multiple supportive other types were present (Table 4).

Examining supportive other engagement across all 372 sessions that the athlete participants attended, half (*n* = 186; 50%; Table 5) of all sessions were attended by at least one supportive other.

Supportive Other Method of Attending Sessions. Supportive others attended sessions in person most frequently (*n* = 85; 23%; Table 6), followed by telephone participation (*n* = 51; 14%), and video-conferencing (*n* = 19; 5%). Out of all 372 sessions, fifteen (4%) utilized multiple methods of supportive other engagement in the same session (i.e., in-person, and telephone or in person and video-conference).

Correlational Analyses

Hypothesis 1: Participant Session Attendance, Mental Health, and Sport Performance. Table 7 demonstrates results of Bivariate Pearson Correlation analyses that show the association between participant session attendance, mental health (SCL-90-R), and factors that interfere with sport performance (SIC-Training & SIC-Competition). As hypothesized, results indicate strong positive associations between participant session attendance and factors that interfere with sport performance in training ($r(36) = .46$, $p = .002$) and competition ($r(36) =$

.36, p = .014). Participant session attendance did not significantly correlate with mental health (p = .25).

Hypothesis 2: Supportive Other Session Attendance, Mental Health, and Sport Performance. Table 8 shows results of partial correlation analyses examining the association between supportive other session attendance, mental health (SCL-90-R), and factors that interfere with sport performance (SIC-Training & SIC-Competition) while partialling out participant session attendance (to permit examination of supportive other session attendance to intervention outcomes while excluding variance due to participants). These results were not significant (*ps*. > .05).

Hypothesis 3: Number of Supportive Other Types Involved in Intervention, Mental Health, and Sport Performance. Table 9 shows results of partial correlation analyses examining the association between number of supportive other types involved in intervention, mental health (SCL-90-R), and factors that interfere with sport performance (SIC-Training & SIC-Competition) while partialling out participant session attendance. As hypothesized, results indicate that after controlling for participant session attendance, the number of types of supportive others involved throughout the 4 months of intervention is associated with improvements in mental health (SCL-90-R; (r(36) = .32, p = .03). Number of supportive other types involved in intervention did not significantly correlate with factors that interfere with sport performance in Training (p = .09) or Competition (p = .08). Overall, the results suggest that including a variety of supportive other types in intervention significantly contributes to improvements in mental health above and beyond participant session attendance.

Chapter 5

Discussion

The vast majority (81%) of student-athletes in the examined sample engaged two or more supportive others throughout the 4 months of intervention. Only 8 percent of athlete participants did not involve any supportive other throughout intervention. Upon closer examination, it was determined that three athlete participants who did not include any supportive others dropped out of the program prematurely (5, 4, and 2 sessions). All three athletes provided releases to contact at least two supportive others. One athletes indicated no desire to involve supportive others in the program. For two other athletes, providers made multiple attempts to involve supportive other by asking athlete to invite supportive others and contacting supportive others directly. Additionally, at least half of all intervention sessions were attended by one or more supportive others. Athlete participants were most likely to involve parents to participate in their psychological intervention, and parents were determined to attend more sessions than any other relationship type. Teammates and intimate partners were also frequently invited to attend intervention sessions, while non-teammate friends and to a lesser extent coaches were least frequently involved.

Throughout intervention, supportive others were most frequently involved in person, although a substantial number of supportive others utilized telephone and video-conferencing. Collectively, the results indicate sport-specific family-based interventions for collegiate athletes, such as TOPPS, are capable of achieving involvement of parents, intimate partners, teammates, and to a lesser extent coaches and non-teammate friends in their psychological intervention. These results also suggest supportive others are most likely to attend therapy in person, and less often through video and telephone conferencing.

It was hypothesized that as sessions attended by participants increase, athletes' mental health will improve and factors that interfere with sport performance will be minimized. This hypothesis was partially supported. Correlational analyses showed that athlete participant session attendance minimizes negative factors that interfere with sport performance in training and competition (Table 7), such that the more sessions participants attend, the less factors interfere with athletes' sport performance. However, participant session attendance was not associated with improvements in mental health.

It was hypothesized that supportive other attendance of intervention sessions will be positively associated with improvement in mental health and factors that interfere with sport performance outcome measures of athlete participants. Partial correlation analyses demonstrated that supportive other session attendance was not significantly associated with outcome measures, when considering participant session attendance.

The results also revealed a significant association between number of supportive other types involved in intervention and mental health improvement of athletes but not factors that interfere with sport performance. These findings suggest that it is important to invite a variety of supportive other types to assist athletes' intervention.

Collectively, the aforementioned results suggest it is important to motivate athletes to attend more sessions of TOPPS in order to decrease interferences with their sport performance in training and competition, while motivating them to invite a variety of supportive others throughout their intervention to improve their mental health. It may be that inviting multiple supportive others to family-based intervention may help these persons to increase their familiarity with sport specific goals of athletes, permitting them to work together strategically. We believe parents and other family (i.e., intimate partners), were frequent attendees, and most

likely to discuss intimate issues specific to the athletes' mental health, while bringing in additional supportive others (i.e., coaches and teammates) complemented the athletes' goals that were specific to sports; providing therapeutically natural combinations of support that were functionally related to outcomes. It is clear from the literature that supportive others, and strong social support in general, are essential in the wellbeing of athletes. These results support a connection between social relationships and improvements in mental health and sport performance through family-based optimization programming.

Very few studies have been conducted by scientists to systematically examine mental health interventions in collegiate athletes, and to our knowledge no research has previously examined how attendance of athletes' teammates, coaches and family influence their psychological intervention outcomes. Therefore, the results of this study represent a significant advancement in sport-specific mental health intervention development and show potential benefits of supportive others in the TOPPS model. The study results also provide a framework in which similar programs can be developed in clinical trials and expanded into different contexts, such as youth athletics, professionals, sports, music, theatre, and other populations that share unique cultures and specialized skill sets. Examination of the influence of supportive others on athletes' mental health intervention outcomes in these populations with more participants will assist in supporting, or potentially disconfirming, the results of this study.

Appendix A: Tables

Table 1

Participant Demographic Characteristics with Numbers Shown as Mean (SD; Range) or Frequency (%), (N = 36).

Demographics	Total (N = 36)		
	M	*SD*	*Range*
Age in Years	20.42	1.42	(18-24)
Participant Attendance	10.33	3.00	(2-14)
SO Session Attendance	5.19	3.35	(0-11)
# of SO Types Involved in Intervention (e.g., parent, coaches, teammates)	1.97	1.06	(0-4)
	λ	*%*	
Gender			
Male	19	52.8	
Female	17	47.2	
Ethnicity			
White/Caucasian	15	41.7	
Black/African-American	8	22.2	
Hispanic/Latino	6	16.7	
Asian/Asian American	3	8.3	
Other (multiple or not listed)	3	8.3	
Pacific Islander	1	2.8	
Marital Status			
Single	35	97.2	
Cohabitating	1	2.8	
Level of Sport Participation			
NCAA	22	61.1	
Intramural	11	30.6	
Club	3	8.3	
Year in School			
Freshman	7	19.4	
Sophomore	9	25.0	
Junior	10	27.8	
Senior	10	27.8	
Referral Type			
Athletic Department	4	11.1	
Presentation	14	38.9	
Coach/Teammate	10	27.8	
Class Credit/Subject Pool	8	22.2	

Note. SO = Supportive Other.

Table 2

Frequency and Percentage of Participants Who Involved Supportive Other Types in at Least One Session Throughout 4-Months of Intervention (N = 36).

Supportive Other Types Involved Throughout 4-Months of Intervention	Participant (N = 36)	
	λ	%
Parent	22	61.11
Teammate	17	47.22
Intimate Partner	10	27.78
Coach	9	25.00
Non-Parent Family Member	8	22.22
Non-Teammate Friend	5	13.89

Table 3

Frequency and Percentage of Sessions Attended by at Least One Member of the Various Supportive Other Types in Sessions Throughout 4-Months of Intervention.

Supportive Other Types Involved in Sessions Throughout 4-Months of Intervention	Participant Sessions (372 attended by participants)	
	λ	*%*
Parent	66	17.74
Intimate Partner	40	10.75
Teammate	37	9.95
Non-Parent Family Member	34	9.14
Coach	24	6.45
Non-Teammate Friend	24	6.45

Table 4

Frequency and Percentage of Supportive Other Involvement Throughout the 4-months of Participants' Intervention (N = 36).

Supportive Other Attendance	Participant (N = 36)	
	λ	*%*
Two or more SOs involved in intervention	29	80.56
Only one SO involved in	4	11.11
No SOs involved in intervention	3	8.33

Note. SO = Supportive Other.

Table 5

Frequency and Percentage of Supportive Other Session Attendance Throughout the 4-months of Participants' Intervention.

Supportive Other Attendance	Participant Sessions (372 attended by participants)	
	λ	*%*
# of sessions no SOs were present	186	50.00
# of sessions only one SO was present	140	37.63
# of sessions two or more SOs were present	46	12.37

Note. SO = Supportive Other.

Table 6

Frequency and Percentage of Supportive Other Session Participation Method Throughout the 4-months of Participants' Intervention.

Supportive Other Participation Type	Supportive Other Sessions (186 attended by SO)*	
	λ	*%*
SO engaged in person	85	45.70
SO engaged via telephone	51	27.42
SO engaged via video-conference	19	10.22
Multiple types of engagement in one session	15	8.06

Note. SO = Supportive Other. *Only includes 170 out of 186 sessions where supportive other was present for whom data was available.

Table 7

Correlations between Participant Attendance and Improvements in Mental Health and Factors that Interfere with Sport Performance from Baseline to Post-Intervention (N=36).

Variable	1	2	3	4	5	6
1. Participant Session Attendance	-					
2. SO Session Attendance	.66**	-				
3. # of SO Types Involved in Intervention	.58**	.67**	-			
4. SCL-90-R Baseline to Post Difference	.12	.05	.33*	-		
5. SIC Training Baseline to Post Difference	.46**	.31*	.44**	.69**	-	
6. SIC Competition Baseline to Post Difference	.36*	.28	.40*	.72**	.88**	-

Note. SO = Supportive Other, SCL-90-R = Symptom Checklist-90-Revised, SIC = Sport Interference Checklist. $N = 36$. * $p < .05$; ** $p < .01$ (1-tailed).

Table 8

Partial Correlations between Supportive Other Session Attendance and Improvements in Mental Health and Factors that Interfere with Sport Performance from Baseline to Post-Intervention, partialling out Participant Attendance (N=36).

Variable	Supportive Other Session Attendance
1. SCL-90-R Baseline to Post Difference	-.04
2. SIC Training Baseline to Post Difference	.00
3. SIC Competition Baseline to Post Difference	.05

Note. SCL-90-R = Symptom Checklist-90-Revised, SIC = Sport Interference Checklist. $N = 36$.

* $p < .05$ (1-tailed).

Table 9

Partial Correlations between Number of Supportive Others Involved in Intervention, Improvements in Mental Health and Factors that Interfere with Sport Performance from Baseline to Post-Intervention, partialling out Participant Attendance (N=36).

Variable	# of Supportive Other Types Involved in Intervention
1. SCL-90-R Baseline to Post Difference	.32*
2. SIC Training Baseline to Post Difference	.24
3. SIC Competition Baseline to Post Difference	.25

Note. SCL-90-R = Symptom Checklist-90-Revised, SIC = Sport Interference Checklist. $N = 36$.

* $p < .05$ (1-tailed).

Appendix B: Supportive Other Acknowledgement Checklist

Worksheet 1.2. Supportive Other Acknowledgement Checklist

SUPPORTIVE OTHER ACKNOWLEDGEMENT CHECKLIST
(ATHLETE & SUPPORTIVE OTHER)

- **Attend meetings w/ ATHL & Provider through video conferencing, telephone, or live.**
  - Meetings are focused on assisting athlete in goal achievement relevant to:
    - Sport & life performance
    - Optimum relationships with family, friends, coaches, and teammates
    - Optimum thoughts, feelings, and behaviors
- **Performance programming may involve:**
  - Setting and maintaining personal goals
  - Communication skills training
  - Self-control skills training
  - Environmental management
  - Problem solving skills training
  - Effectively managing thoughts and feelings to be positive
  - Sport performance skills training
  - Relaxation skills training
  - Financial management, job-getting, academic, and professional skills training
- **Participation may vary, but will always be focused on supporting the ATHL in:**
  - Goal attainment and performance programming assignments
  - Providing encouragement, rewards and support for goal attainment
  - Generating solutions
- **Participation is completely voluntary and SO may withdraw at any time.**
  - Personal & identifying information, including name, will not be included in program records except regarding contact information
- **Meetings**
  - **Duration:**
    - Up to 12 meetings, last 4 months, 60-90 min long, once or twice per week
  - **Location:**
    - Program office
    - **Or** another place on the UNLV campus that is desired by the ATHL
  - Meetings may be **audio recorded** to evaluate provider, and destroyed after evaluation is complete.
- **The provider will keep information confidential.**
  - **Exception:** threats to **harm** self or others, or as mandated by a judge in a court of law.
- **SO is responsible for ensuring personal privacy and privacy of ATHL**.
  - Maintain all information that is reviewed in the meetings confidentially
- **For concerns contact:**
  - **Provider** (see business card)

Provider's signature assuring all guidelines have been presented to SO.

Name of Provider: _____ Date:_____

Appendix C: Communication Guidelines Handout

Worksheet 1.4. Communication Guidelines Handout

COMMUNICATION GUIDELINES HANDOUT

1. **Avoid interruptions**. Instead, wait for the person to pause, or ask if it is O.K. to speak.

2. **Avoid talking for more than a minute.**

3. **Avoid saying "no" when someone asks for something**. Instead, tell the person what you can do.

4. **Avoid rolling eyes or using negative facial expressions.**

5. **Avoid swearing, shouting, sarcasm, or statements that are hurtful.**

6. **Talk openly about progress toward goals attainment.**

7. **Avoid talking about past problems or weaknesses, including those of others.** Instead, suggest solutions and talk about strengths. This maintains positive energy and karma.

8. **Talk about things you want, do not give criticisms about the negative attitudes you dislike**.

9. **Speak in a soft and conversational tone of voice.**

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Curriculum Vitae

Date: July 2019

Elena Gavrilova

Email: lena.rin14@gmail.com

EDUCATION

Ph.D., Clinical Psychology, University of Nevada, Las Vegas (APA-Accredited) Expected 2022

B.A., Psychology; Minor in Sociology, University of Nevada, Las Vegas May 2016

RESEARCH EXPERIENCE

Family Research & Services Summer 2015-Present
Program Coordinator Advisor: Brad Donohue, PhD.
University of Nevada, Las Vegas
Las Vegas, NV

Study: Evaluation of Family Behavior Therapy in collegiate athletes (NIDA funded R01 grant, 1R01DA031828)

- As Recruitment & Data Coordinator, responsible for recruitment and engagement of participants entering into the study, maintaining the master list, presenting bi-weekly status reports in staff meetings, creating and updating a flowchart of participant throughout the study, monitoring data collection, storage, and ensuring the legal and ethical standards are met.
- Other responsibilities include 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.
- 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.
    - Sub-study: Controlled evaluation of a method of recruiting participants into treatment outcome research (Alcohol Beverage Medical Research funded; recruitment into R01 grant, 1R01DA031828)
        - Performing consent procedures with participants, data collection, entry and analysis.
- Assisted in preparation and presentation of an annual Data Safety and Monitoring Plan meeting of an ongoing randomized control trial funded by NIH.

Study: Development of cost-effective performance programs for Cirque du Soleil & National Circus School (Cirque du Soleil and National Circus School funded)

- Research Assistant, responsible for data entry for a study examining the efficacy of The Optimum Performance Program in Circus (TOPP-C).

Study: Controlled Evaluation of Goal Inspiration

- As a Project Coordinator, assisting in development and implementation of a randomized controlled trial examining the efficacy of two sessions to improve motivation for various behaviors that are low in motivation, such as exercising, healthy eating, getting enough sleep, avoiding smoking or alcohol, and studying, in college students.
- Developing Qualtrics assessments, maintaining master list and participant records, scheduling participants and assigning participation credit through SONA System.

GRANT INVOLVEMENT

Family Behavior Therapy for Youth Athletes (PA-18-055)
Controlled Evaluation of an Optimization Approach to Prevention and Intervention of Substance Use Disorders in Ethnically/Racially Diverse Youth in Low Income Neighborhoods Who Participate in Community-Based Sport Organizations (i.e., YMCAs or Police Athletic League)
Assisted with preparation and submission of grant proposal to National Institutes on Drug Abuse (2019).

Family Behavior Therapy for Collegiate Athletes (1R01DA031828)
Recruitment Coordinator & Research Assistant
Funding Agency: National Institutes on Drug Abuse. Principal Investigator: Brad Donohue, Ph.D.
$1,998,000.

Development of Cost-Effective Performance Programs for Cirque du Soleil & National Circus School
Research Assistant
Funding agencies: Cirque du Soleil and National Circus School. Principal Investigator: Brad Donohue, Ph.D.
$30,000.

Great Plays: Effect of Recruitment Strategies on Enrollment into Treatment Outcome Research
Recruitment Coordinator
Funding Agency: Alcohol Beverage Medical Research. Principal Investigator: Brad Donohue, Ph.D.
$10,000.

CLINICAL PRACTICA

Psychology Trainee, VA Southern Nevada Healthcare System, July 2019 - Present
Evidence-Based Psychotherapy Program Supervisor: Michelle Flores, Ph.D.
Las Vegas, NV 12 to 16 hours per week

- Implemented evidence-based treatments (e.g., CPT, PE, CBT for Insomnia) with Veterans suffering from PTSD and other co-occurring psychological diagnoses and health conditions.
- Involved in an interprofessional collaborative mental health program team consisting of psychology, psychiatry, social work, and nursing.
- Implemented screening and treatment monitoring assessments (e.g., PHQ-9, BDI-II, PCL-5, ISI).
- Utilized the integrated Computerized Patient Record System (CPRS) for diagnostic interviews, treatment planning, and session notes.
- Received weekly individual supervision, including in-vivo observations and audiotape review.

Psychology Trainee, Department Community Mental Health Clinic July 2018-Present
University of Nevada, Las Vegas Supervisors: Carolina Meza-Perez, Ph.D.,
Las Vegas, NV Rachele Diliberto, Ph.D., & Michelle Paul, Ph.D.
12 to 16 hours per week

- Provided individual, family, & group skill-based interventions for clients in tele-therapy and in-person formats with a caseload of approximately 4 clients per week in an outpatient psychology department-sponsored mental health training clinic.
- Diagnoses included affective disorders, anxiety disorders, obsessive-compulsive disorders, conduct disorders, trauma-related disorders, ADHD. Primary theoretical approaches utilized included CBT, DBT, ERP, and FBT.
- Received weekly individual and group supervision with digital video review. Attended weekly practicum seminars, which included didactic, group supervision, and case conference components.
- The PRACTICE was the 2019 recipient of the Association of Psychology Training Clinic's (APTC) Clinic Innovations Award - Training; this national award recognizes one training clinic annually for its leadership in innovations that impact students training.

Psychology Trainee, Department Psychological Assessment & Testing Clinic Aug. 2018-Present
University of Nevada, Las Vegas, NV Supervisor: Michelle Paul, Ph.D.

- Conducted psychodiagnostic and neuropsychological assessments in an outpatient department-sponsored mental health training clinic using a flexible battery of psychometrically validated tests and measures with adults and children referred from the community with a range of referral questions.
- Further responsibilities included interviewing, scoring, interpretation, integrated report writing, differential diagnosis, and provision of feedback to clients.
- Supervision consisted of weekly individual and group meetings with digital video review, reviewing cases, training in case conceptualization, joint determination of evidence-based assessment battery and interpretation of results, integrated report revisions, and discussion of feedback.

AWARDS & SCHOLARSHIPS

- Patricia Sastaunik Scholarship, Grad. College, UNLV (2019-2020) $2500
- College of Liberal Arts Doctoral Student Summer Research Stipend, UNLV (2019) $3000
- Outstanding Poster Presentation (2nd place), GPSA Research Forum, UNLV (2019) $125
- Graduate & Professional Student Association Book Scholarship, UNLV (2019) $150
- Rebel Research & Mentorship Program Awards, Grad. College, UNLV (2018-2019) $2500
- Graduate Funds Access Award, UNLV (2017-2018) $4000
- Outstanding Poster Presentation (2nd place), NPA Conf. (2017) $100

OUTSTANDING HONORS & ACCOMPLISHMENTS

- Two Division I University Swimming Records, UNLV 2016
- Mountain West Scholar-Athlete 2014-2015
- The Honorable Mention Scholar All-American 2014
- Student-Athlete Academic Achievement 2014
- Undergraduate Dean's Honor List 2013-2016
- Full Athletic Scholarship, UNLV 2013-2016
- Academic All-Mountain West 2013-2015
- Russian National Silver Medalist, Swimming 2010

PUBLICATIONS & PRESENTATIONS

Peer-Reviewed Journal Publications

3) Donohue, B., Gavrilova, Y., Galante, M., **Gavrilova, E**., Loughran, T., Scott, J, … & Allen, D. (2018). Controlled evaluation of an optimization approach to mental health and sport performance. *Journal of Clinical Sport Psychology,* 1-42.

2) Gavrilova, Y., Donohue, B., Galante, M., & **Gavrilova, E.** (2018). 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? *Motivation Science.* https://doi.org/10.1037/mot0000118

1) Donohue, B., Gavrilova, Y., Galante, M., Burnstein, B., Aubertin, P., **Gavrilova, E**., … Benning, S. D. (2018). Empirical development of a screening method for mental, social, and physical wellness in amateur and professional circus artists. *Psychology of Aesthetics, Creativity, and the Arts.* https://doi.org/10.1037/aca0000199

Manuscripts Submitted or In Progress

3) Donohue, B., **Gavrilova, E**., Strong, M. (2019). *A Sport-Focused Optimization Approach to Mental Wellness For Youth in Low-Income Neighborhoods.* Manuscript submitted for publication.

2) Donohue, B., **Gavrilova, E**., Danlag, A., Perry, J., Rae, C., Allen, D., & Benning, S. (2019). *A Comprehensive Examination of Collegiate Athletes' Utilization of Goal Oriented Psychological Assessment and Intervention Services*. Manuscript submitted for publication.

1) Gavrilova, Y., Hussey, J., **Gavrilova, E**., Scott, J., & Donohue, B. (Manuscript in preparation). Self-Protection: Evidence-supported method of addressing suicide risk.

Conference Verbal Presentations

2) Donohue, B., **Gavrilova, E**., Kowal, I. (2019, January). *A reliable and valid method of assessing, conceptualizing, and addressing problems that interfere with sport performance.* Workshop to be conducted at the annual conference of the Center for Performance Psychology, National University's Sanford Education Center, Carlsbad, CA.

1) Gavrilova, Y., Galante, M., Phillips, C., **Gavrilova, E**., & Donohue, B. (2017, January). *The Semi-Structured Interviews for Sport and Ethnic Culture in mental health and sport performance programming: A rapid method of enhancing athletes' engagement.* Workshop conducted at the annual conference of the Center for Performance Psychology, National University's Sanford Education Center, Carlsbad, CA.

Other Verbal Presentations

6) Donohue, B., **Gavrilova, E**., & Aladjova, M. (2018, November). *Establishing and committing to team guidelines.* Workshop conducted with the Volleyball Team of Basic Academy of International Studies.

5) Gavrilova, Y., & **Gavrilova, E**. (2016, November). *Pre-performance and post-performance mindset training.* Workshop conducted with the Tennis Team at UNLV.

4) Gavrilova, Y., & **Gavrilova, E**. (2016, November). *Motivational Statements: Learning how to optimally motivate yourself and teammates.* Workshop conducted for the Tennis Team at UNLV.

3) **Gavrilova, E.,** & Reeves, J. (2016, October). *Positive Request: Learning to optimally settle disagreements and request things so people are more motivated to do what you want.* Workshop conducted at Women's Development Center, Las Vegas, NV.

2) **Gavrilova, E.,** & Andrewjeski, K. (2016, September). *Reciprocity Awareness: Intervention aimed at enhancing interpersonal relationships.* Workshop conducted at Women's Development Center, Las Vegas, NV.

1) **Gavrilova, E.,** Corral, A., & Stevenson, E. (2016, August). *HEARD (Hear, Empathize, Ask, Review, Decide): Interpersonal communication skills training to resolve conflict.* Workshop conducted at Women's Development Center, Las Vegas, NV.

Conference Poster Presentations

4) **Gavrilova, E**., Kalita, J., & Donohue, B. (2019). *Influence of significant others in sport and mental health optimization programming.* Poster presented at the annual convention of the Western Psychological Association, Pasadena, CA.

3) Gavrilova, Y., Stucki, K., Galante, M., **Gavrilova, E**., Danlag, A., Bricker, M., & Donohue, B. (2018). *A controlled examination of motivational strategies: Reviewing positive consequences for goal accomplishment, negative consequences for undesired behavior, and a relaxation exercise.* Poster presented at the annual convention of the Western Psychological Association, Portland, OR.

2) Galante, M., Gavrilova, Y., **Gavrilova, E**., Danlag, A., Stucki, K., Bricker, M., & 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.

1) Plant, C. P., Gavrilova, Y., Pitts, M., Galante, M., Andrewjeski, K., **Gavrilova, E**., & Donohue, B. (2016, October). *Controlled evaluation of a method of recruiting participants into treatment outcome research.* Poster presented at the 50th Annual Meeting of the Association of Behavioral and Cognitive Therapies, New York, NY.

Invited Radio Interviews Relevant to Professional Expertise

1) Easter, M. (Producer). (2018, November 10). *Nevada Health with Michael Easter: Assessing the mental health of student athletes*. Las Vegas, NV.

EDITORIAL EXPERIENCE

Editorial Assistant, June 2019 - Present
Journal of Child and Adolescent Substance Abuse

RELEVANT TRAINING RECEIVED

Interprofessional Education Day Spring 2019, 8 hours
University of Nevada, Las Vegas, NV Supervisor: Michelle Paul, Ph.D.

- 8-hour event aimed at increasing awareness of interprofessional education, practice concepts, roles, responsibilities, and myths for the participating professions, as well as initiating an understanding of how interprofessional teams should function to provide a comprehensive patient care.

Rational Emotive Behavior Therapy (REBT) Fall 2018, Spring 2019, 4 hours
Debbie Joffe Ellis, Ph.D.
University of Nevada, Las Vegas

- An introductory lecture on core concepts of REBT.

Introduction to Acceptance and Commitment Therapy (ACT) Fall 2018, 16 hours
Steven C. Hayes, Ph.D., sponsored by Praxis CET and the Institute for Better Health

University of Nevada, Las Vegas
Las Vegas, NV

- Two-day workshop with ACT co-founder Steven C. Hayes, Ph.D establishing an understanding of:
  - An experiential understanding of the six basic processes of ACT's Psychological Flexibility Model.
  - The relationship between the six basic processes and Relational Frame Theory (RFT).
  - How to apply the Psychological Flexibility Model to case conceptualization and treatment planning.
  - Practical skills for meeting clients where they are and fostering their willingness and openness to change.
  - Ways to assess, observe, and influence client processes in session.

Regression Workshop Spring 2017, 18 hours
Andrew Freeman, Ph.D., University of Nevada, Las Vegas, NV

- Comprehensive 6-day workshop on regression and use of R statistical programming for data analysis.

Developing Healthy Academic Writing Habit: Writing with POWER Spring 2016, 8 hours
Patricia Goodson, Ph.D., hosted by University of Nevada, Las Vegas,
Sponsored by Textbook & Academic Authors Association (TAA)
Las Vegas, NV

- All-day live workshop. Promoting Outstanding Writing for Excellence in Research (POWER) provides motivational and instrumental support for graduate students' and faculty's academic writing.

Pathways to Prevention Workshop: Advancing Research to Prevent Youth Suicide Spring 2016
National Institute of Health (NIH)
E-workshop

- Summary of suicide prevention from Federal perspective. Overview of identified gaps in suicide prevention. Review of opportunities for ways forward to enhance and harmonize data efforts in the area of suicide prevention. Review of existing research demonstrating the potential impact of family and community-based preventive interventions on future suicidal behavior. Overview of future directions and opportunities.

Responsible Conduct of Research Training Fall 2015, 8 hours
Office of Research and Integrity, Division of Research and Economic Development
University of Nevada, Las Vegas
Las Vegas, NV

- Live training on professional development and various ethical issues in conducting research in accordance with federal requirements, including General Ethical Responsibilities in Research, Mentor/ Trainee Responsibilities, Research Misconduct, Collaborative Research, Peer Review, Publication Practices and Responsible Authorship, Conflicts of Interest and Commitment, and Acquisition, Management, Sharing, and Ownership of Data.

National Institute of Health (NIDA) Annual Training Fall 2015, 6 hours
Family Research & Services Supervisor: Brad Donohue, Ph.D.
University of Nevada, Las Vegas
Las Vegas, NV

- Comprehensive trainings in the context of an ongoing NIDA trial on assessment and appropriate reporting of: adverse events (AEs) & serious adverse events (SAEs) that may arise in working with athletes, suspected child maltreatment, suicidal ideation, and substance withdrawal symptoms.

TEACHING AND TRAINING EXPERIENCE

Guest Lecturer 2018
University of Nevada, Las Vegas, NV Supervisor: Brad Donohue, Ph.D.

- Undergraduate classroom of Child Behavior Disorders course (Psychology).
  - Lecture on Oppositional Defiant Disorder & Conduct Disorder.

Teaching Assistant Summer 2017, 2018
University of Nevada, Las Vegas Instructor: Brad Donohue, PhD.
Las Vegas, NV

- Assisted instructor with 2 sections of online Child Behavior Disorders course.
- Assisted students with questions concerning class material.
- Monitored students' progress throughout the course.
- Managed online platform of the course.
- Assisted in grading exams.
- Created announcements & reminders to students through the online platform of the course.

LEADERSHIP, MENTORSHIP, AND SERVICE

Graduate Student Mentor, Research and Mentorship Program 2018 - 2019
Graduate College, UNLV Supervisor: Brad Donohue, Ph.D.

- Collaborated weekly with an undergraduate student to increase their knowledge and research skills critical for graduate education and professional development.

President, Registered Student Organization Summer 2018 - Present
Family Research & Services (FRS), UNLV Supervisor: Brad Donohue, Ph.D.

- FRS is a non-profit applied research laboratory that hosts several cutting-edge research projects that are supported by NIH and other federal agencies. FRS won Outstanding New Student Organization of the Year in 2014 and Outstanding New Program in 2013.
- Provided day-to-day oversight of ongoing projects, outreach efforts, & charity events.

PROFESSIONAL AFFILIATION

- Association for Contextual Behavioral Science (ACBS) 2018-Present
- Association for Behavioral and Cognitive Therapies (ABCT) 2016-Present
- Center for Performance Psychology 2017-Present
- Association for Applied Sport Psychology (AASP) 2017-Present
- Nevada Psychological Association (NPA) 2017-Present
- Association for Psychological Science (APS) 2017-Present
- Western Psychological Association (WPA) 2017-Present

SKILLS

Proficient at Qualtrics Survey Software
Proficient at WordPress & Wix website building tools
Fluent at Statistical Package for the Social Sciences (SPSS) and R

INTERCOLLEGIATE ATHLETICS

Division I Women's Swimming Team Spring 2012-Spring 2016

University of Nevada, Las Vegas — 20 hours per week
Team Captain — Fall 2014-Spring 2015

- Received full athletic scholarship.
- Devoted 20 hours per week to athletics while carrying full course load.
- Gained valuable leadership and team-building experience.

LANGUAGES

English, Bilingual Proficiency
Russian, Native Proficiency

REFERENCES

References are available upon request.