## **2014 NCAA Innovations Grant**

# **Final Report**

University of Michigan

Developing and Evaluating a Model Program for Supporting the Mental Health of Student Athletes



P.I.: Daniel Eisenberg, Ph.D.
Associate Professor
School of Public Health and Institute for Social
Research, University of Michigan







#### **Research In-Brief: Athletes Connected**

Many student athletes experience mental health problems such as depression and anxiety, but they are often reluctant to seek help for a variety of reasons. A random sample of approximately 7,000 students at nine colleges and universities in 2014 showed that use of mental health services was much lower among intercollegiate athletes as compared to students overall, with only 10% of athletes with depression or anxiety utilizing mental health services, as compared to 30% of students overall. To address this issue, the University of Michigan applied for and received a NCAA Innovations in Research and Practice Grant to create the *Athletes Connected* initiative (www.athletesconnected.umich.edu).

Athletes Connected is a collaborative, multi-faceted program developed by the U-M School of Public Health, Depression Center, and Athletic Department to increase awareness of mental health issues, reduce stigma, and promote coping skills among student athletes. The program features three key elements:

- Brief, engaging videos to reduce stigma, encourage help-seeking and promote coping skills;
- Informational presentations for all coaches and athletes; and
- Informal, drop-in support groups offered on a bi-weekly basis, designed to specifically address the unique concerns of student athletes.

The videos feature two former Michigan athletes - football player Will Heininger and swimmer Kally Fayhee - who have successfully addressed their mental health struggles. These videos were shown to every U-M coach and athletic team as part of a presentation focusing on:

- how to recognize the signs and symptoms of depressive illnesses;
- strategies for prevention, self-care, and help-seeking;
- how to support teammates who may be struggling;
- information on the *Athletes Connected* support groups and other campus mental health resources.

After viewing the videos, 99% of the student athletes indicated that they found the videos engaging and relevant to themselves or other student athletes (from a post-presentation survey). Following the team presentations, 96% of the student athletes reported they were likely to use the information. In addition,

- o 63% of the student-athletes reported that emotional or mental health issues had affected their athletic performance in the last 4 weeks.
- 40 student athletes indicated that they would like to set up an appointment with an athletic counselor to address immediate concerns.

Following participation in the support groups, 92% of student athlete attendees reported that they expect to apply the lessons or coping skills that they learned during the groups. Below are quotes from participants:

- o "Everyone can have difficulties, and mental illnesses can be similar to physical ailments."
- "I learned the importance of creating a balance of healthy and fun activities outside of school and athletics."
- o "I learned that my sport doesn't define who I am."
- "I loved attending tonight's session!"
- o "Just learning to share and talk about things that were upsetting me was a big thing that I took away from the group."

As of January 9, 2015, we are nearing the completion of a randomized trial to assess the effectiveness of the videos illustrating coping skills (deep breathing and cognitive reframing), as compared to web articles on the same topics from reputable sources (NPR and Psychology Today). The preliminary results are encouraging: five weeks after viewing the articles or videos, students were more likely to report remembering the videos well, more likely to report using the self-care strategies from the videos, and more likely to have talked with a health professional about mental health.

Given these encouraging results, the *Athletes Connected* research team is now working to identify funding sources to continue and expand the initiative on the University of Michigan campus, and to create an "Athletes Connected Toolkit" - including customizable videos, presentation templates, and guidelines - which will allow campuses across the country to adapt and replicate the program with their student athletes.

#### **Problem Statement/Literature Review**

In college student populations mental health problems are highly prevalent (Eisenberg, 2007), appear to be increasing (Twenge, 2010), and are typically untreated (Blanco, 2008). Roughly one-third of undergraduates screen positive for a mental health problem including depression, anxiety disorders, suicidal ideation, and self-injury (Eisenberg, 2013).

These issues are also highly prevalent among student athletes. Specifically, over 20% report symptoms indicative of depression, and there are several factors that might exacerbate the risks beyond that of a typical college student (Yang et al., 2007). Athletes face intense pressure, both externally and internally imposed, to succeed not only in the classroom but also in athletic competition. The sports culture of toughness and fighting through pain can also heighten stigma and impede help-seeking, preventing athletes from receiving support until mental health problems develop into crises (Watson, 2006). In a random sample of approximately 7,000 students at nine colleges and universities in 2014, use of mental health services was much lower among intercollegiate athletes as compared to students overall. Among students with significant depression or anxiety symptoms, only 10% of athletes used mental health services, as compared to 30% of students overall (Lipson and Eisenberg, 2014).

Although college settings present an ideal opportunity to promote help-seeking behavior and link students to supportive resources, there is limited evidence about which types of community-level programs and interventions are most effective (Eisenberg et al., 2012). Evidence specific to student-athlete populations is even more limited. In light of this gap, this project aimed to *develop and rigorously evaluate a multi-faceted program designed to increase help-seeking behavior and supportive bystander behaviors among student athletes*. The project is a multidisciplinary partnership at the University of Michigan between the Depression Center, the School of Public Health, and the Department of Athletics.

The program, called "Athletes Connected," consists of three primary and integrated components:

- 1. Brief, engaging videos based on the stories of two student athletes, Will Heininger (defensive lineman for the Michigan football team, 2007-2011) and Kally Fayhee (swimmer, and captain during her senior year, for the Michigan women's swim team, 2009-2013). Their stories provide a positive example of help-seeking, and help to reduce stigma and promote coping skills among student athletes.
- 2. Educational presentations for all coaches and each athletic team, with information on:
  - how to recognize the signs and symptoms of depressive illnesses;
  - strategies for prevention, self-care, and help-seeking;
  - how to support teammates who may be struggling;
  - campus mental health resources, including the drop-in support groups for student athletes.
- 3. Informal, drop-in Athletes Connected support groups, offered twice per week on a biweekly basis. These groups are run by a clinical social worker and are designed to teach positive coping strategies and specifically address the unique concerns of student athletes.

## **Conceptual Framework**

The Transtheoretical Model of Behavior Change (TTM) and motivational interviewing (MI) served as the underlying principles for the support groups and video intervention. The TTM posits that behavior change unfolds through a series of stages, ranging from precontemplation (no intention to take action) through maintenance (engaged in the behavior for at least six months), and that *processes of change* are internal and external activities that individuals engage in to progress

through the stages (Prochaska, Redding, and Evers, 2008). Both the videos and support groups can facilitate these processes of change, such as *consciousness raising* (increasing awareness of depression, resources, and management strategies), *dramatic relief* (personal testimonies), *self-reevaluation* (healthy role models, imagery), *counterconditioning* (learning healthier behaviors), and *helping relationships* (peer social support provided in the support groups). MI theory was also used to increase individual's readiness to change (i.e., seeking help and engaging in self-management techniques). MI has a strong and growing research base supporting its effectiveness in promoting behavior change (Miller and Rollnick, 2013), and emphasizes intrinsic motivations for change as in Self Determination Theory (Deci and Ryan, 1985; Janz, Champion, and Strecher, 2002).

The videos present engaging and real stories about protagonists who experience MI-consistent listening and encouragement from a peer or other trusted figure, such as an athletic trainer, which then leads to a successful experience in mental health care. Research shows that this type of modeling of appropriate support by a peer or other bystander can encourage and assist students in providing more supportive gatekeeper (bystander) behaviors to their teammates, as well as encouraging students to seek help for themselves. (99% of student athletes who viewed the videos during the team presentations stated that the videos were relevant to themselves, or other student athletes). Finally, pairing the videos with a support group facilitator, who also adheres to the principles of MI, helped to further increase student motivation and progression through the stages of change.

## **Methodology and Data Collection**

## **Focus Groups**

To inform the development of the videos and support groups, we solicited extensive feedback through focus groups with a diverse group of student athletes (8) and athletic trainers (7). Informal meetings/discussions were held with three additional student athletes. Participation in the groups was strictly voluntary.

The focus groups occurred in two phases. During the first phase over the summer, the research team met with the groups to discuss areas of concern related to student-athlete mental health, including barriers to help-seeking. This feedback helped to inform the content for the videos as well as the protocol and format for the support groups. We also conducted a brief online survey with a different group of student athletes (9) regarding the timing, location, and promotion of the support groups.

During the second phase, in December, the research team met with a group of student athletes (7) who had participated in the Athletes Connected support groups, and also received input from students who completed an online survey (9). This feedback informed our plans to continue and expand the support group model during the upcoming semester.

### **Team Presentations**

Providing presentations for all coaches and every athletic team was not part of our original proposal, because we did not think it would be logistically possible. However, through our focus group discussions with student athletes and athletic trainers, as well as meetings with Athletic Department administration, it became clear that an educational presentation for all coaches and every team would be a crucial component for the success of the program.

To this end, an informational presentation was made to all of the coaches in early September. This was followed by 9 educational presentations over the course of six weeks in October-November, for a total of approximately 900 student-athletes (attendance at the individual presentations ranged

from 30 to 100 athletes), representing the entire student-athlete population at the University of Michigan. Attendees were surveyed before and after the presentations to measure changes in knowledge, stigma, and help-seeking.

## **Support Groups**

We developed and offered education and support groups tailored to student athletes, in a non-clinical and low stigma setting (a meeting room in an Athletic Campus facility). Data from the focus groups helped to inform the content and format of the groups. The groups were offered twice per week on a bi-weekly basis, and were run by a clinical social worker. The support groups were promoted to student athletes during the presentations to every athletic team, as well as via email messages and flyers. Attendance was voluntary and non-incentivized (other than the provision of food during the groups).

Group attendance was recorded as one measure of feasibility. All attendees completed a pre- and post-evaluation survey to measure changes in knowledge/awareness of mental health resources; stress-management and self-care skills; barriers to help-seeking; intentions to engage in self-care activities; and readiness to seek formal mental health care if needed.

In addition, a focus group was held in December with a volunteer sample of 7 support group attendees, to learn more about their perceptions of the beneficial aspects of the groups, reasons why they attended and perceived reasons why some of their fellow athletes did not attend, and input on how the groups could be improved.

#### **Videos**

Because the videos also have potential for impact as a standalone intervention (as of 1/5/15, there have been 8026 views of the videos, with additional views continuing daily) we also conducted a pilot randomized control trial (RCT) of the brief coping skills videos. One video featured Kally describing her use of cognitive reframing to counter negative thoughts (e.g., "What would your best friend say to you?") and the other featured Will describing his use of deep breathing as a way to become more mindful and defuse stress and negative thoughts. The videos can be seen at <a href="https://www.athletesconnected.umich.edu">www.athletesconnected.umich.edu</a> (under "More Videos").

The RCT was conducted online beginning in early December 2014, and the invited sample included all student athletes (n=974) at the University of Michigan. The student athletes were recruited by email, and after a brief (2-minute) baseline survey assessment participants were randomized to a web page with the videos or a web page with links to text articles on similar topics from well-regarded sources (NPR and Psychology Today). A total of 215 students (23%) participated in the baseline screen and intervention. These students were randomly assigned to each of four conditions: 1) Kally's video; 2) article on cognitive reframing (Psychology Today); 3) Will's video; 4) article on deep breathing (NPR).

Approximately five weeks after viewing the videos or text articles (beginning January 7), participants were recruited again by email (with \$20 incentives) to complete a brief online assessment. The primary outcomes were whether students used the coping skills and whether they met with a health professional to discuss their emotional health.

#### **Findings**

## **Focus Groups**

During the summer, the project team convened two formal focus groups with student athletes from a variety of sports (8 student athletes), one formal focus group with athletic trainers (7 athletic

trainers), and two additional informal meetings (3 student athletes) to gather information that helped to inform the development of the videos and support groups. Findings included:

- Major barriers to help-seeking included lack of time (for formal help-seeking as well as for general self-care), self-stigma, and fear of negative repercussions or of being perceived as weak (e.g. loss of playing time, loss of respect from teammates and coaches).
- Students thought it would be helpful to receive information or tools to manage stress, and strategies for how to balance being both a student and an athlete.
  - o "You're expected to be mentally tough, but you aren't given any information or tools to know what that really means or how to achieve that."
- Balancing the role of student and the role of athlete is a major stressor. Most students decide to come to the University of Michigan for the academic degree, but have a hard time balancing that goal with the expectations of their sport.
  - o "You have to put everything into the sport then it's over...now what? Did I get as much out of the university as I could have?"
- Coaches have a critical role to play in student athlete help-seeking.
  - o "Having coaches be supportive in making mental health a team priority would be huge."
- Students thought it would be most effective to offer broad educational sessions for each individual team. However, they wanted the support groups to be comprised of athletes from different teams, rather than team specific.
  - "It could be easier to share openly with people that you don't see every day, and it's
    interesting to discover that other student athletes have similar struggles. Each team thinks
    they're unique, but there are common struggles."
- In all presentations to both student-athletes and to coaches, it is important to emphasize the link between good mental health and athletic performance, and to also include information on how to help others.

#### **Team Presentations**

As mentioned, in addition to a presentation to all coaches, a total of 9 informational presentations were given to a total of approximately 900 student-athletes, representing the entire student-athlete population at the University of Michigan.

Attendees were surveyed before and after the presentations to measure changes in knowledge, stigma, and help-seeking. Both quantitative and qualitative findings were encouraging. Pre- and post-survey data collected from 662 student athletes showed significant differences (p<.05) in several measures. Specifically, following the presentations, student athletes indicated that they were:

- More comfortable discussing mental health issues with their teammates;
- More confident in their ability to identify a teammate who may be struggling with mental health:
- More confident in their ability to help a teammate access mental health care/other support services on campus;
- More likely to consider seeking help if they were having a personal problem that was bothering them;
- More knowledgeable about depression;
- More willing to accept someone who has received mental health treatment as a close friend.

#### Other notable findings include:

• 99% of student athletes found the videos to be engaging and relevant to themselves or other student athletes.

- 96% of student athletes reported that they are likely to use the information from the presentations.
- 63% of student athletes reported that emotional or mental health issues had affected their athletic performance in the last 4 weeks.
- Over the course of the presentations, 40 students indicated that they would like to set up an appointment with an athletic counselor to address immediate concerns.

Qualitative responses from student-athlete surveys shed additional light on the value of the Athletes Connected programming. Some of the most common responses to the following questions are listed below.

## Q: Please list at least one thing that you learned from today's presentation:

- "Depression is treatable; anyone can suffer from depression."
- "It's okay to talk about problems and seek help."
- "Mental health problems are an actual illness and should be treated like injuries."
- "Depression is more common than I thought, especially among student-athletes."
- "It's the worst thing you can do to try and fight it yourself."
- "We are more than just athletes!"

## Q: What was the most useful or valuable portion of today's presentation?

The most frequently cited responses included the videos, question-and-answer session, and hearing from the student-athlete presenters:

- "Videos. They humanized the illness."
- "The stories that Will and Kally told during and after the video."
- "Get help if it's needed. Look for people that are suffering."
- "Will & Kally's openness and realness."
- "Talking to people that actually experienced these things."
- "The fact that I know there are people there for athletes."

## Q: Please feel free to share any additional comments/suggestions that you may have.

- "Just broke up with girlfriend, plan on talking to someone because I'm worried it has been affecting my performance. Can't sleep, not hungry."
- "I really liked the videos!!! It helped to understand that you need to seek out for help to actually get better!"
- "Just really enjoyed listening to Will and Kally they were great! It's nice to finally talk about this and be open about depression and eating disorders and not keeping them in the dark. As a student athlete it's hard to admit you're not perfect."
- "Coaches need to be taught about this more. Not sure they're fully aware of our mental health."
- "Great and useful presentation. Personally, I have family members and friends that struggle with depression, and I think it's a good idea to educate others."
- "I think what you are doing is great so many people struggle with mental issues under the surface, and it's great to spread the word that it's not something to be ashamed of."
- "Very useful program! Keep up the work! You are changing and bettering lives!"
- "Making this athlete specific is very helpful."

Finally, in addition to the responses written on evaluation forms, some of the student athletes wrote questions on notecards during the presentations. Below are some of the questions that were discussed during the Q & A session with Will and Kally:

- What types of signs/symptoms told you that you had a mental illness?
- How do you tell the difference between depression and just overwhelming stress from multiple external factors?
- Will, you stated that your trainer saw you in distress and got you help. Do you think you would have gotten help if your trainer couldn't see you needed it?
- If a friend is struggling with depression, what can you do or should you do to help?
- Did they make you take prescription drugs? Were you scared of that?
- How fast was the recovery process for you?
- Once you got help did you open up to your team or did you still hide it?
- What was your best technique/way to compartmentalize your emotions?
- What if you reach out to a friend and they feel like you are patronizing them?
- Why is it so hard for people to say I am struggling and to open up?
- Is there a plan to share these videos with more people?

## **Support Groups**

Findings from the Athletes Connected drop-in support groups demonstrated similarly positive outcomes. As an initial feasibility measure, a total of 35 student-athletes attended one of the 8 groups held throughout October and November, with an average of 7.25 students attending the sessions on the most convenient evening of the week (Wednesdays).

Stated reasons for attending the Athletes Connected support groups varied, and included:

- "A teammate was also attending."
- "Curiosity."
- "Depression worsening."
- "Help with my introverted personality, mild depressions and anxiety that's sports related."
- "Wanted to see what it was and figure out ways to cope with my current state of feelings."
- "Interested in being more positive and being less stressed."
- "A teammate recommended it."

Although 94% of attendees stated that emotional or mental health difficulties affected their athletic performance in the four weeks prior, more than half of attendees were not currently receiving mental health treatment. When asked about barriers to seeking formal mental health treatment, "not having enough time to see a clinician" was by far the most frequently listed response. The most common lifestyle factors that attendees cited as barriers to managing their mental health in college included lack of sleep, too many academic obligations, too many athletic obligations, and too many social obligations/pressures.

Pre- and post-survey data showed the following:

- Attendees reported improved mood following participation in the groups
  - Words to describe mood prior to group: anxious, sad, frustrated, overwhelmed, tired, stressed;
  - Words to describe mood following the group: clear-headed, connected, content, excited, inspired, positive, relieved.
- Following the group, attendees were more likely to speak with the following people if they were experiencing serious emotional distress: Professional clinician, teammate, support group.
- Group participation increased attendees' readiness to seek further information about available mental health support services.
- 92.3% of attendees expect to apply lessons or skills learned in the group.

- 67% of respondents to a follow survey reported that they had implemented one or more strategies learned in the group examples include meditation, relaxation, positive thinking, and communication.
- 2/3 of respondents to a follow up survey either currently receive mental health treatment, accessed informal support services since participating in the group, or plan to make an appointment with a mental health professional in the near future.

Finally, those attending the groups were asked to list one thing they learned about mental health during the session. A sample of the responses is below.

- "Confirms more that more people are going through struggles and that there are resources and people there for you."
- "Everyone can have difficulties, and mental illnesses can be similar to physical ailments."
- "Everyone's perspectives share some congruency."
- "How to talk about my feelings."
- "I learned the importance of creating a balance of healthy and fun activities outside of school and athletics."
- "It's ok to talk to people."
- "Just really nice to talk to people!"
- "Make time for myself even when I feel overwhelmed."
- "I learned that my sport doesn't define who I am."

At the end of the semester, a focus group was convened with seven student athletes who had participated in one or more support group sessions during the fall. Below are some of their comments about why they decided to attend, and perceived benefits of the group.

- "I initially decided to go because I wanted to get involved in more things but then the first time I went I realized that I really needed advice and people to talk to so it evolved into a space where I could share anything."
- "The first time, one of my teammates asked me to come, but the reason I came back was
  because it was cool to see people from other teams and hear about what is going on with
  them, instead of being in our own bubble. It was good to hear that there were common
  experiences that other people were going through similar things."
- "A teammate asked me to come with them but then I came back the next time because it was a place where it is an appropriate time to talk about something that is going on, instead of bringing it up in a random conversation with a friend."
- "I felt like they gave us things that I could use: looking at negative thoughts versus positive thoughts, apps that I could use for sleeping strategies that were easy to apply to my real life, and I would think about throughout the week very usable stuff."
- "The group is your time to talk to each other... It's good to hear different perspectives of the other students."
- "I had tried meditation before these groups, but since going to them I have tried it more."
- "(I learned about) Naming a negative thought, acknowledging it, and then dispelling it. Just acknowledging the fact that you're having a negative thought and bringing it to your attention can help make it go away."
- "It's nice to talk to other people that have the same goals and aren't going to derail you."
- "In general it can be difficult because this is such a large institution, and it's hard to maintain good mental health all the time you have to do well in your sport and academically, and sometimes it's hard to find that group of people that you can talk to . It's nice to have a group of people that you can connect with, and it makes the University feel a little bit smaller."

#### **Videos**

Data collection for the randomized trial is still underway, but already 140 (66%) of baseline participants have completed the follow-up assessment. A preliminary analysis indicates promising findings. Specifically, when comparing the two video groups to the two article groups, the groups assigned to videos were:

- More likely to report remembering the intervention (video or article) well: 52% versus 23%, p=0.006
- More likely to report having met with a mental health professional in previous 5 weeks (since the baseline intervention): 22% versus 12%, p=0.12
- More likely to report having used the self-care strategy from the video/article: 36% versus 23%

There was not a significant difference in mental health symptoms, measured by the PHQ-4 (for depression and anxiety), across groups, but this is not surprising given the very small "dose" of the intervention. Most importantly, these results suggest that the videos can be part of a larger intervention to promote coping skills and help-seeking behavior. As we complete the data collection and analyses, we will report these findings in greater detail.

## **Implications for Campus Level Programming**

The success of the Athletes Connected pilot program – in particular, demonstration of the feasibility of engaging student athletes in activities related to supporting their mental health, and the incredible outpouring of interest and support from student athletes around the country – leads our research team to believe that this pilot program has potential to become a model for replication on other campuses. The findings from our research indicate a willingness and interest on the part of student athletes to engage with these programs, and hence the potential for widespread effectiveness of mental health-related programming for student athletes, and students in general.

In order to optimize the positive impact of a program designed to raise awareness and reduce stigma, the format(s) in which the mental health information is presented and distributed must be taken into careful consideration. During our pilot program at the University of Michigan, the following factors were integral to the success of the Athletes Connected initiative, both logistically and in terms of effectiveness:

- A diverse, collaborative project team consisting of members from the Athletic Department, the School of Public Health, the Comprehensive Depression Center, and a clinical social worker with a private practice in the community. Collectively our team brought together several essential skills: education and outreach, mental health counseling and support, and research methods.
- Support from Senior Athletic Department Administration, including permission to use Athletic Department facilities for video production, research team meetings, focus groups, and the support groups.
- Input from focus groups and informal discussions with athletic trainers and student athletes.
- Mandatory education of all coaching staff.
- Engaging, relevant content featuring student athletes.
- Input from licensed clinicians regarding the design and dissemination of mental healthrelated content.

It may not be necessary for campus level mental health programming to include all of these factors in order to have a positive impact on the student athlete population, but if the ultimate goal is to increase awareness, reduce stigma, and promote help-seeking for mental health issues among student athletes, the process by which the programming is developed must be carefully constructed with these goals in mind.

To this end, we are in the process of developing a long-term plan and funding model for a comprehensive and sustainable program for the University of Michigan campus, including expansion to other campuses. This would include development of materials – e.g., customizable videos, presentation templates, and program guidelines/best practices – which could be utilized by campuses across the country to adapt and replicate the Athletes Connected program with their student athletes.

## **Next Steps**

Overall, the Athletes Connected initiative has been enthusiastically embraced and supported by University of Michigan student athletes, coaches, athletic trainers, and Athletic Department administration (including the new Athletic Director), and has also generated widespread interest from individuals and institutions across the country.

Given the success of this pilot program, we are planning to continue the collaboration between the School of Public Health, Depression Center, and Athletic Department in order to develop and implement a comprehensive, long-term, and sustainable model. To this end, as mentioned we are currently in the process of creating a framework and proposal for this initiative which ideally will include the following elements (among others):

- Research on the link between emotional health, and athletic and academic performance;
- Enhancement of educational outreach (e.g., new and targeted videos, and additional presentations/trainings), and continuation/expansion of the support group intervention;
- Empowerment and engagement of student athletes in program planning and implementation;
- Facilitation of access to mental health treatment providers for student athletes;
- Integration of well-being strategies and support into daily lives of student athletes.

In order to support this work, we are exploring both short and long-term funding strategies including donor support and additional research grants.

## **Conclusion**

We are grateful to the NCAA Innovations in Research grant program for providing the impetus for our development of the Athletes Connected initiative. Through Athletes Connected, we aim to change the culture regarding the mental health and well-being of our student athletes at the University of Michigan, and beyond. Utilizing a comprehensive approach involving student engagement, targeted interventions, and scientific research, we will equip student athletes with the evidence-based skills and support they need to increase their emotional health and be successful in athletics, academics, and all other aspects of their lives.

#### References

- Blanco, C., et al. (2008). Mental Health of College Students and Their Non-College-Attending Peers. *Archives of General Psychiatry*, 65, 1429-1437.
- Deci, E. L., & Ryan, R. M. (1985). Intrinsic Motivation and Self-determination in Human Behavior. New York: Plenum.
- Eisenberg, D., Gollust, S.E., Golberstein, E., Hefner, J.L. (2007). Prevalence and Correlates of Depression, Anxiety and Suicidality among University Students. *American Journal of Orthopsychiatry*, 77, 534-542.
- Eisenberg, D., Hunt, J., Speer, N., & Zivin, K. (2011). Mental Health Service Utilization among College Students in the United States. *Journal of Nervous and Mental Disease*, 199, 301-308.
- Eisenberg, D., & Chung, H. (2012). Adequacy of Depression Treatment in College Student Populations. *General Hospital Psychiatry*, 34, 213-220.
- Eisenberg, D., Hunt, J. B., & Speer, N. (2013). Mental Health in American Colleges and Universities: Variation Across Student Subgroups and Across Campuses. *Journal of Nervous and Mental Disease*, 201, 60-67.
- Janz, N. K., Champion, V. L., & Strecher, V. J. (2002). The Health Belief Model. In K. Glanz, B. K. Rimer, F. M. Lewis (Eds.). *Health Behavior and Health Education*. San Francisco: John Wiley and Sons.
- King, C.A., Eisenberg, D., Zheng, K., Czyz, E., Kramer, A., Horwitz, A., Chermack, S. (2014). Online Suicide Risk Screening and Brief Intervention with College Students: A Pilot Randomized Controlled Trial. *Journal of Consulting and Clinical Psychology* (in press).
- Kroenke, K., Spitzer, R. L., & Williams, J. B. (2001). The PHQ-9: Validity of a Brief Depression Severity Measure. *Journal of General Internal Medicine*, 16, 606-13.
- Lipson, S.K. and Eisenberg, D. (2014). Unpublished results from the Healthy Bodies Study (www.healthybodiesstudy.org)
- Lipson, S.K., Speer, N., Brunwasser, S., Hahn, E., Eisenberg, D. (2013). Gatekeeper-training for Mental Health at Colleges and Universities: Results of a Multi-campus Randomized Control Trial. *Manuscript submitted for publication*.
- Miller, W. R., & Rollnick, S. (2013). Motivational Interviewing: Helping People Change (3rd edition). New York, NY: Guilford Press.
- Prochaska, J., Redding, C., & Evers, K. (2008). The Transtheoretical Model and Stages of Change. In K. Glanz, B. Rimmer, & K. Viswanath (Eds.), *Health Behavior and Health Education Theory, Research and Practice, 4th Edition* (pp. 97-117). San Francisco, CA: John Wiley & Sons, Inc.
- Spitzer, R. L., Kroenke, K., Williams, J. B. W., & Löwe, B. (2006). A Brief Measure for Assessing Generalized Anxiety Disorder: The GAD-7. *Archives of Internal Medicine*, 166, 1092-1097.
- Twenge, J. M., Gentile, B., DeWall, C. N., Ma, D., Lacefield, K., & Schurtz, D. R. (2010). Birth Cohort Increases in Psychopathology among Young Americans, 1938-2007: A Cross-Temporal Meta-Analysis of the MMPI. *Clinical Psychology Review*, 30, 145-154.
- Watson, J. C. (2006). Student-Athletes and Counseling: Factors Influencing the Decision to Seek Counseling Services. *College Student Journal*, *40*, 35-42.
- Yang, J., Peek-Asa, C., Corlette, J. D., Cheng, G., Foster, D. T., & Albright, J. (2007). Prevalence of and Risk Factors Associated With Symptoms of Depression in Competitive Collegiate Student Athletes. *Clinical Journal of Sports Medicine*, *17*, 481-487.