

Supplemental Material

CBE—Life Sciences Education

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Modified School Burnout Inventory (SBI) – based on Salmela-Aro et al., 2009

Please choose the alternative that best describes your situation (estimation from previous month)

Scale:

- 1 = Completely disagree
- 2 = Partly disagree
- 3 = Disagree
- 4 = Partly agree
- 5 = Agree
- 6 = Completely agree

Items:

- 1. I feel overwhelmed by my graduate program (EXH1)
- 2. I feel a lack of motivation in my graduate program and often think of giving up (CYN1)
- 3. I often have feelings of inadequacy in my graduate program (INAD1)
- 4. I often sleep badly because of matters related to my graduate program (EXH2)
- 5. I feel that I am losing interest in my graduate program (CYN2)
- 6. I'm continually wondering whether my graduate program has any meaning (CYN3)
- 7. I brood over matters related to my graduate program a lot during my free time (EXH3)
- 8. I used to have higher expectations of my graduate program than I do now (INAD2)
- 9. The pressure of my graduate program causes me problems in my close relationships with others (EXH4)

Note. EXH = exhaustion at graduate program; CYN = cynicism toward the meaning of graduate program; INAD = sense of inadequacy at graduate program.

Patient Health Questionnaire-9 (PHQ-9) – Kroenke et al., 2001

Over the past 2 weeks, how often have you been bothered by any of the following problems?

Scale:

0 = Not at all

1 = Several days

2 = More than half the days

3 = Nearly every day

Items:

1. Little interest or pleasure in doing things

2. Feeling down, depressed or hopeless

3. Trouble falling asleep, staying asleep, or sleeping too much

4. Feeling tired or having little energy

5. Poor appetite or overeating

6. Feeling bad about yourself - or that you're a failure or have let yourself or your family down

7. Trouble concentrating on things, such as reading the newspaper or watching television

8. Moving or speaking so slowly that other people could have noticed. Or, the opposite - being so fidgety or restless that you have been moving around a lot more than usual

9. Thoughts that you would be better off dead or of hurting yourself in some way

10. If you checked off any problems, how difficult have those problems made it for you to do your work, take care of things at home, or get along with other people?

0 = Not difficult at all

1 = Somewhat difficult

2 = Very difficult

3 = Extremely difficult

Pearlin Mastery Scale (Mastery) – Pearlin et al., 1981

How strongly do you agree or disagree with these statements about yourself?

Scale:

- 1 = Strongly disagree
- 2 = Somewhat disagree
- 3 = Somewhat agree
- 4 = Strongly agree

Items:

1. There is really no way I can solve some of the problems I have. (RC)
2. Sometimes I feel that I'm being pushed around in life. (RC)
3. I have little control over the things that happen to me. (RC)
4. I can do just about anything I really set my mind to.
5. I often feel helpless in dealing with the problems of life. (RC)
6. What happens to me in the future mostly depends on me.
7. There is little I can do to change many of the important things in my life. (RC)

Note. RC represents negatively worded items that require reverse coding prior to scoring.

Multidimensional Scale of Perceived Social Support (MSPSS) – Zimet et al., 1988

We are interested in how you feel about the following statements. Read each statement carefully. Indicate how you feel about each statement.

Scale:

- 1 = Very strongly disagree
- 2 = Strongly disagree
- 3 = Mildly disagree
- 4 = Neutral
- 5 = Mildly agree
- 6 = Strongly agree
- 7 = Very strongly agree

Items:

- 1. There is a special person who is around when I am in need. (SO)
- 2. There is a special person with whom I can share my joys and sorrows. (SO)
- 3. My family really tries to help me. (Fam)
- 4. I get the emotional help and support I need from my family. (Fam)
- 5. I have a special person who is a real source of comfort to me. (SO)
- 6. My friends really try to help me. (Fri)
- 7. I can count on my friends when things go wrong. (Fri)
- 8. I can talk about my problems with my family. (Fam)
- 9. I have friends with whom I can share my joys and sorrows. (Fri)
- 10. There is a special person in my life who cares about my feelings. (SO)
- 11. My family is willing to help me make decisions. (Fam)
- 12. I can talk about my problems with my friends. (Fri)

Note. SO = social support from significant other; Fam = social support from family; Fri = social support from friends.

References

- 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*(9), 606-613.
<https://doi.org/10.1046/j.1525-1497.2001.016009606.x>
- Pearlin, L. I., Menaghan, E. G., Lieberman, M. A., & Mullan, J. T. (1981). The stress process. *Journal of Health and Social behavior, 337-356*. <https://doi.org/10.2307/2136676>
- Salmela-Aro, K., Kiuru, N., Leskinen, E., & Nurmi, J. E. (2009). School burnout inventory (SBI) reliability and validity. *European journal of psychological assessment, 25*(1), 48-57.
<https://doi.org/10.1027/1015-5759.25.1.48>
- Zimet, G. D., Dahlem, N. W., Zimet, S. G., & Farley, G. K. (1988). The multidimensional scale of perceived social support. *Journal of personality assessment, 52*(1), 30-41.
https://doi.org/10.1207/s15327752jpa5201_2