

ADDRESSING EMOTIONAL AND RESILIENCE INEQUALITY AMONG COLLEGE STUDENTS VIA AN ONLINE ACADEMIC RESILIENCE COURSE

Moria Golan^{1,2}, & Dor Cohen-Asiag¹

¹Department of Nutrition, Tel-Hai College (Israel)

²Shahaf, Community Services for Eating Disorders (Israel)

Abstract

Transitioning from high-school to university challenges young adults to develop greater self-reliance in order to fulfill their needs, engage in relationships, plus adhere to general self-care, and other healthy behaviors. High-intensity emotions due to difficulties or failure to achieve these goals may result in poor decision-making and impaired self-care (disordered eating, substance abuse, other unfavorable behaviors).

This presentation will describe the effects of taking a 13-modules of computerized resilience academic course with a mandatory 1-2 personal assignments for each module. The course effectiveness was assessed via a controlled trial comparing the 124 students that chose to take this elective course and 150 socio-demographic matched controls that did not choose to take this course.

At baseline, participants in the research group demonstrated statistical significance lower values compared to the comparison group in the following measures: self-resilience (measured by the Connor-Davidson Resilience Scale-CD_RISK), self-esteem (measured by Rosenberg Scale), global scores of emotional statuses (measured by depression, anxiety, and pressure scores -Dass-21) and body esteem (measured by the Body Esteem Scale -BES). Thus, all the baseline values were entered as covariates to the ANCOVA Repeated Measures analysis to assess the differences between the intervention and the comparison group along the 4 assessments time: baseline, course termination (after 3.5 months), 3 & 6 months, post-termination.

Results revealed a statistically significant superiority to the intervention group in the improvement of all these variables with small effect sizes. At the 6 month's post course termination, the mean scores of participants in the intervention group reached equality in most variables compared to the mean scores of the comparison group. In some variables they even demonstrated higher scores. The mediating effect of the year that the course was taken and the ethnicity (minorities vs. others) were not statistically significant. Nevertheless, the improvement in minorities' resilience and self-esteem was double compared to the improvement among all others. The improvement in self-resilience and self-esteem among first year students was 1.5 times higher than that of the 2nd and 3rd years students. The promising results indicate that emotional and resilience inequality may be addressed via an academic self-learning online-course.

Keywords: Resilience, academic course, emotional inequality, intervention online course.

1. Introduction

Transitioning from high-school to academic studies challenges emerging adults (ages 18-29) to rely more on themselves. In addition to the stress related to the academic burden, they must build growing independence and autonomy, engage in matured self-care, healthy behaviours and relationships, as well as other competing demands of university life (Webb & Shmidt, 2020).

Resiliency building in young people may help to protect against emotional instability, risky health behaviours, improve well-being as well as academic attainment. All these can act as a protective factor against adversity and therefore build resilience against developing depression, anxiety, eating disorders and other physical and mental health problems (Conley et al., 2015). Resilience is the process of adapting well in the face of adversity, threat, stressors or trauma (Olsson et al., 2003). It is a dynamic protecting factor that can be enhanced through prevention programs (Windle et al., 2011).

Since most students hesitate to seek help due to their perceptions, anonymity needs, harm avoidance patterns, stigma and other reasons, online services were advised (Ebert et al., 2019). Growing evidence supports the effectiveness of internet-based prevention programs to reduce risk behaviors and increase resilience and well-being (Atkinson & Diedrichs, 2021). Yet, effectiveness outcomes are inconsistent (Dyrbye et al., 2017; Atkinson & Diedrichs, 2021).

This manuscript presents the feasibility and effectiveness outcome of “Favoring Resilience”, a semi-self-guided offline academic course. It was developed to address the vital need of a well-rounded program to reduce the inequality in resilience and emotional status of emerging adults at academic institutions. Its content addresses multi-dimensions which were suggested by Deci and Ryan’s (2008) self-determination theory as well as by the BASIC PH - multi-dimensional resilience model (Lahad, 2006).

2. Methods

2.1. Participants and procedures

The feasibility and effectiveness of “Favoring Resilience” was assessed via a controlled trial but condition assignment was not randomized, since it was carried out within the real-world university setting. During the academic year of 2019-2020, every first and second-year undergraduate student at Tel Hai College, Israel, received an invitation to attend the elective course “Favoring Resilience”, an unsynchronized two-weekly hrs. course.

A comparison group of 150 matched students were recruited from the same faculties, years of study and gender via a public call to all students that did not take this course. All subjects provided written informed consent before completing the study protocol and were compensated \$15 per survey time point. Students were not compensated for completing the intervention. The Tel Hai Academic College Institutional Review Board approved the research protocol (8/2019) which was pre-registered as NCT04129892 (17.10.2019). Both groups completed the same surveys electronically, at four time points: baseline, course completion, and two follow up questionnaires (3 and 6 months from course conclusion). The author was blind to participants surveys, data management and analysis.

The total sample included 302 students, aged 25 yrs. ($SD= 3.4$). Seventy five percent were female, 40% from the Science faculty and the rest from Humanities & Social Sciences faculty, 90% were Jews and 10% Arabs, 50% were on their first year. No statistically significant differences were noted between the intervention and the comparison groups at baseline in respect to sociodemographic characteristics. Nevertheless, the baseline questionnaires indicated that the mean score of students in the intervention group (those who chose to take the course) were inferior compared to the comparison group.

2.2. Intervention

“Favoring Resilience” is an elective course that was developed and designed by the author of this manuscript. It has a duration of one semester (thirteen weeks) and includes 11 on-line unsynchronized modules. Each week one module and its assignments are opened. The tasks are related to specific personal events that demonstrate the challenge students faced, including how they coped and how it impacted their self-perception, regarding to each of the resilience components introduced in the course. Tasks are uploaded by students at appointed times. None of the assignment were checked or scored since their goal was to encourage participants to observe and self-investigate their past, experience their roots and belongings, as well as their strengths and weaknesses. The journey required self-regulation and self-discipline, employing and experiencing autonomy and self-observation.

The modules topics targeted both protecting and risk factor and included: A frontal/zoom introduction meeting; components of emotional resilience; development of resilience; self-esteem and self-image; social impact (belonging and connectedness); media literacy; emotion regulation; managing stress and anxiety; self-control; body image; managing with crises and emergency and existing prevention models and programs.

2.3. Outcome measures

Standardized instruments to measure the program's effect were: Connor-Davidson Resilience Scale (CD-RISC) total score of all 25-items (Connor & Davidson, 2003); Depression, Anxiety and Stress Scale (DASS-21) (Lovibond & Lovibond, 1995); The Rosenberg 10 item Self Esteem Scale (Rosenberg, 1986); The 23 items Body Esteem Scale (Mendelson et al., 2001; Franzoi, 1994); The Eating Attitudes Test (Eat-26) (Garner, 1982); The 'Pressures by Media' subscale of the Sociocultural Attitudes Towards Appearance Questionnaire-4 (SATAQ-4) (Schaefer et al., 2015). All included scales are validated Hebrew-translated versions. Measures were administered via Qualtrics' survey links. All scales showed acceptable psychometric results and high internal validity.

2.4. Statistical methods

SPSS (version 23, IBM Corp.) was used to perform formal statistical analyses, with significance considered at the $p<0.05$. Only those that filled all four surveys (124 students in the intervention group and 150 in the comparison group) entered the statistical analysis. Baseline differences between the groups

were assessed using independent t tests and Chi-squared tests. Differences between groups along the study assessment points were performed with ANOVA repeated measures **with baseline scores as covariates**. The impact of the year of study and ethnicity as mediating variables on the change in variables, was performed by ANCOVA with baselined values as covariates.

3. Results

3.1. Feasibility

Nightly-five percent of participants reported that they will recommend their friends to take this course. “Favoring Resilience” is the largest **elective** course in our sciences faculty. It has no size participation limit. Feedbacks reports defined it as an interesting, although not emotionally easy course. This is a course that offers students the high potential to obtain a high grade due to the fact that 40% is a given grade if all assignments are submitted on time. The mixed population from the faculty of science and the faculty of humanities and social science also makes the course appealing. Although cost-effectiveness was not calculated, it seems that the course maintenance expenses are lower than most other courses in the faculty.

3.2. Intervention effects

Results revealed a statistically significant superiority to the research group in the improvement of most variables with small effect sizes. At the 6 month’s post course termination, the mean scores of participants in the research groups reached equality in most variables compared to the mean scores of the comparison group. In some variables they even demonstrated higher scores. The year that the course was taken (first academic year or later) and the ethnicity (minorities vs. others) were not statistically significant. Nevertheless, the improvement in minorities’ resilience and self-esteem was double than the improvement among all others, and the improvement in self resilience and self-esteem among first year students was 1.5 times higher than that of the 2nd years students.

Table 1. Differences between the intervention and the comparison group in scores over measurement times. (Means, standard deviation, significance, and effect size).

Outcome variable	Time	No course (N=150) Mean ± SD	Intervention group (N=124) Mean ± SD	Effect, F (df)	Partial eta square ¹	
Resilience score	T1	97.47±9.99	92.65 ±13.62	Group 0.66 (1,271)	0.00	
	T2	96.16±10.74	97.30±13.29	Time 2.75 (3,813)*	0.01	
	T3	96.19 ±10.24	96.83 ±12.87	TXG 14.77 (3,813)***	0.05	
	T4	95.64±10.95	96.51±13.30			
Emotional status	T1	13.81±9.42	17.38 ±11.80	Group 1.03 (1,271)	0.00	
	T2	13.35±9.63	13.53±10.75	Time 5.52 (3,813) ***	0.02	
	T3	14.16±10.20	12.77 ±9.84	TXG 6.92 (3,813) ***	0.02	
	T4	14.38±10.12	14.52±11.54			
Self-esteem	T1	32.04±4.67	30.35 ±5.28	Group 0.80 (1,271)	0.00	
	T2	31.56±4.74	32.27±5.21	Time 5.76 (3,813)***	0.02	
	T3	32.12 ±4.58	31.98 ±5.12	TXG 13.03 (3,813)***	0.05	
	T4	31.80±4.67	31.99±5.19			
Influenced by media	T1	2.92±0.61	3.05 ±0.66	Group 2.06 (1,271)	0.01	
	T2	2.91±0.63	2.92±0.67	Time 9.45 (3,813)***	0.03	
	T3	2.84±0.61	2.89 ±0.70	TXG 3.05 (3,813)*	0.01	
	T4	2.89±0.65	2.88±0.68			
Body Esteem	T1	3.51±0.65	3.31±0.83	Group 5.22 (1,271)*	0.02	
	T2	3.49 ±0.61	3.49 ±0.77	Time 6.91 (3,813)***	0.02	
	T3	3.52±0.63	3.50±0.78	TXG 7.52 (3,813)***	0.03	
	T4	3.52±0.67	3.47±0.79			
EAT-26		Time effect	Time effect	p (Group effect)		
	T1	9.70±8.07	p=0.0001	9.68±11.38	p=0.0002	0.81 (0.07) ²
	T2	8.70±8.08	(0.11) ³	9.82±7.91	(0.04) ³	0.59 (0.10) ²
	T3	8.15±7.09		8.40±7.28		0.99 (0.03) ²
T4	8.09±6.68		8.74±9.63		0.59 (0.03) ²	

p<0.05 **p<0.01 *** p<0.001 TXG= Time X Group interaction

¹Partial eta square - 0.01 small 0.06 medium 0.14 Large

² Group effect (Wilcoxon Two-Sample Test) Wilcoxon effect size: <0.3 (small effect)

³Time effect (Friedman’s Chi-Square Test): < 0.3 (small effect), < 0.5 (moderate effect), > 0.5 (large effect)

4. Discussion

This manuscript reports on the feasibility and effectiveness of “Favoring Resilience”, a non-synchronized internet-based academic course that targets students’ resilience, emotional status, self-esteem, body esteem, media literacy and eating disorders perceptions and behaviors.

Both feasibility and effectiveness results are encouraging. Results revealed that participants’ depression, anxiety, and stress status as well as self-esteem and resilience scores, were statistically improved. This is in opposed to other resilience initiatives that reported no improvement in these dimensions (Conley et al., 2015; Akeman et al., 2019; Dyrbye et al., 2017). Effect sizes for the current intervention were similar to that found for previous interventions with college populations (Conley et al., 2015). Although the effect sizes are small, these relative numbers could be clinically relevant in absolute terms (avoided depression, increases quality of life and cost reduction) if preventive interventions are scalable to a large number of people at risk (Regabert et al., 2020).

The results reinforce the ability to improve protective and risk factors for resilience and mental health in the young-adult population at a sensitive time in their lives. First-year students reported that it helped them to fit in, integrate into academic life, and cope better with the COVID-19 crisis.

Although the results are encouraging, the study has several limitations that limit the unbiased intervention effect and the ability to generalize study results. Usage of a convenience sample and lack of random allocation (participants present selective populations). It seemed like, those that selected to participate in the course (the intervention group) were disadvantage in respect to resilience, emotional status, body esteem and self-esteem at baseline. This may affect the results since higher intervention effects are frequently observed among those with “pathological features”. Cuijpers (2022) claims that universal interventions often do not examine preventive effects, if participants a priori have problems. In the current study, only a few participants reached pathological scores in one or two measures, thus their ability to override real improvement is assumed to be minimal. Moreover, the baseline values were taken into consideration by using them as covariates. Acknowledging these limitations, there are several strengths. The research used measures with high psychometric qualities, no missing data, low dropout and high response rate which prevent statistical errors.

5. Conclusion

Today, when minority issues are taking center-stage, academic resilience course which may reach large number of individuals in an easy manner, has low maintenance costs and provides large toolbox to enhance students’ resilience and decrease inequality is a pertinent resource to address the challenge of increased mental health in academic institutions.

The promising results indicates that emotional and resilience inequality may be addressed via an academic self-learning online-course, but future research should assess this initiative with randomized controlled study design and larger sample size.

References

- Akeman, E., Kirlic, N., Clausen., AN., Cosgrove, K.T., McDermott., T.J., Lisa D. Cromer, L.D., Paulus, M.P., Yeh., Hung-Wen, Aupperle., R.L. (2019). A pragmatic clinical trial examining the impact of a resilience program on college student mental health. *Depress Anxiety*,1–12. DOI: 10.1002/da.22969.
- Atkinson, M. J., & Diedrichs, P. C. (2021). Examining the efficacy of video-based microinterventions for improving risk and protective factors for disordered eating among young adult women. *The International journal of eating disorders*, 54(5), 708–720. <https://doi.org/10.1002/eat.23460>
- Conley, C. S., Durlak, J. A., & Kirsch, A. C. (2015). A meta-analysis of universal mental health prevention programs for higher education students. *Prevention Science*, 16(4), 487–507.
- Connor, K. M., & Davidson, J. R. T. (2003). Development of a new Resilience scale: The Connor-Davidson Resilience scale (CD-RISC). *Depression and Anxiety*, 18(2), 76–82. <https://doi.org/10.1002/da.10113>
- Cuijpers, P. (2022). Why primary prevention often is no prevention at all. *European Neuropsychopharmacology*, 58, 1–3. <https://doi.org/10.1016/j.euroneuro.2022.01.004>
- Dyrbye, L.N., Shanafelt, T.D., Werner, L. et al. (2017). The Impact of a Required Longitudinal Stress Management and Resilience Training Course for First-Year Medical Students. *J Gen Intern Med*, 32,1309–1314. <https://doi.org/10.1007/s11606-017-4171-2>

- Deci, E. L., & Ryan, R. M. (2008). Self-determination theory: A macrotheory of human motivation, development, and health. *Canadian Psychology/Psychologie Canadienne*, 49(3), 182. [https://doi.org/10.1037/a00128010366\(19\)30275-5](https://doi.org/10.1037/a00128010366(19)30275-5).
- Ebert, D. D., Mortier, P., Kaehlke, F., Bruffaerts, R., Baumeister, H., Auerbach, R. P., Alonso, J., Vilagut, G., Martínez, K. I., Lochner, C., Cuijpers, P., Kuechler, A. M., Green, J., Hasking, P., Lapsley, C., Sampson, N. A., Kessler, R. C., & WHO World Mental Health-International College Student Initiative collaborators (2019). Barriers of mental health treatment utilization among first-year college students: First cross-national results from the WHO World Mental Health International College Student Initiative. *International journal of methods in psychiatric research*, 28(2), e1782. <https://doi.org/10.1002/mpr.1782>
- Franzoi, S.L. (1994). Further evidence of the reliability and validity of the body esteem scale. *Journal of Clinical Psychology*, 50, 237-239.
- Garner, D. M., Bohr, Y., & Garfinkel, P. E. (1982). The Eating Attitudes Test: Psychometric features and clinical correlates. *Psychological Medicine*, 12(4), 871-878. <https://doi.org/10.1017/S0033291700049163>
- Lahad, M. (2017). From Victim to Victor: The development of the BASIC PH model of coping and resiliency. *Traumatology*, 23(1), 27-34. 1085-9373/17/\$12.00 <http://dx.doi.org/10.1037/trm0000105>
- Lovibond, S.H. & Lovibond, P.F. (1995). Manual for the Depression Anxiety & Stress Scales (2nd Ed.). Sydney: Psychology Foundation
- Mendelson BK, Mendelson MJ, White DR. (2001). Body-esteem scale for adolescents and adults. *J Pers Assess*. 76,90-106. doi:10.1207/S15327752JPA7601_6.
- Olsson CA, Bond L, Burns JM, Vella-Brodrick DA, Sawyer SM. (2003). Adolescent resilience: A concept analysis. *Journal of Adolescence*, 26(1),1-11. 10.1016/S0140-1971(02)00118-5
- Rigabert, A., Motrico, E., Moreno-Peral, P., Resurrección, D. M., Conejo-Cerón, S., Cuijpers, P., Martín-Gómez, C., López-Del-Hoyo, Y., & Bellón, J. Á. (2020). Effectiveness of online psychological and psychoeducational interventions to prevent depression: Systematic review and meta-analysis of randomized controlled trials. *Clinical Psychology Review*, 82, Article 101931. <https://doi.org/10.1016/j.cpr.2020.101931>
- Schaefer LM, Burke NL, Thompson JK, Dedrick RF, Heinberg LJ, Calogero RM, et al. (2015). Development and validation of the Sociocultural Attitudes Towards Appearance Questionnaire-4 (SATAQ-4). *Psychol Assess*, 27, 54-67. doi:10.1037/a0037917.
- Webb, H., & Schmidt, U. (2021). Facilitators and barriers to supporting young people with eating disorders during their transition to, and time at, university: An exploration of clinicians' perspectives. *European eating disorders review: the journal of the Eating Disorders Association*, 29(3), 443-457. <https://doi.org/10.1002/erv.2795>
- Windle, G., Bennett, K.M. & Noyes, J. A. (2011). methodological review of resilience measurement scales. *Health Qual Life Outcomes*, 9, 8. <https://doi.org/10.1186/1477-7525-9-8>