

**Chronic Stress in the Lives of College Students:
The Generalizability and Adaptability of the CCLSS**

A Senior Studies Report

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Abstract

Towbes and Cohen (1996) proposed the development of the CCLSS, a measure of the degree of the chronic life stress experienced by college students. Convalidation and test-retest reliability have been examined in two additional surveys also conducted by them with samples of undergraduate college students. The purpose of this investigation was to determine the generalizability of their results. Twenty-one college sophomores at Saint Meinrad College were administered the CCLSS, MHI, and EPQ-N. Concurrent validity indicators were examined and compared with the Towbes and Cohen findings.

Chapter 1

Introduction

Stress is a fact of life with which we all must contend. It ravages our lives in many different forms and with different intensities. There are the common everyday things like deadlines, misplaced items, or annoying people which conspire to ruin an otherwise cheerful day, or make an already bad one worse. Then there are the major crises such as the death of a loved one, loss of a job, etc. which take a great deal of energy to recover from, if we are even that lucky.

Stress can be defined as the body's response to any demand for adaptation (Maxmen and Ward, 77). In this context, the demand on the body is known as the stressor (Maxmen and Ward, 77). Stressors, such as environmental conditions, viruses, bacteria, or lack of exercise, offset the homeostasis of the body which it must right again. The same is true of the mind.

The mind has its own version of homeostasis by which it tries to balance its own intricate systems. For example, psychoanalytic theory refers to mental homeostasis as a perfect balance between id, ego, and superego. A stressor is a conflict, which the mind tries to balance with defense mechanisms.

Behavioral models show stress as an intricate dynamic that ranges from the stressor to the behavioral reaction, along a chain of sequential responses (Maxmen and Ward, 78). Such a behavioral formulation indicates whether the patient's difficulties are or were encouraged (positively reinforced), or discouraged (negatively reinforced) and punished by the environment (Maxmen and Ward, 79). Thus, it provides a heuristic model of explanation, with specific treatment implications.

Despite the differences in both the theory as well as the intervention techniques, there is one thing that can be generally agreed on: some sort of behavioral or psychic imbalance or disjunction in the mind which prevents an individual from coping properly. Usually, there are two causes of such an imbalance. The first, and most recognizable of these, is a dramatic life event. These are sudden life changes, which can be either positive or negative, which demands the individual adapt to new circumstances.

Second, of course, would be a chronic stressor, on in which no immediate balance can be achieved. Towbes and Cohen (1996) suggest that such chronic stress can take one of two forms. The first type of chronic stressor consists of an ongoing, and unresolved difficulty which stems from a discrete event that occurred at a specific point in time (Towbes and Cohen, 1996). An example of this would be financial difficulties created by a job loss (Towbes and Cohen, 1996). The second type of chronic stressor consists of an ongoing stressful process that has little or no grounding in a discrete event (Towbes and Cohen, 1996). An example of this would be a pervasive feeling of being unattractive, or uncertainty about career goals (Towbes and Cohen, 1996).

While there is a very large literature on the detrimental effects of a stressful life event, recent data suggests that the risk factor of chronic stress is at least as important as discrete events (Towbes and Cohen, 1996). For example, descriptive surveys of adults (Mattlin et al., 1990) and pre-adolescents (Lewis et al., 1984) have repeatedly demonstrated that chronic situations are reported more frequently than discrete events as major determining and defining sources of personal stress (Towbes and Cohen, 1996).

Thus, there is a need for specific research into the psychological aspects of chronic stress for an important reason: chronic stress is an essential etiological factor. It is considered to be such because, if a stressful situation has endured for some time, it is likely that, by definition, coping efforts have been unsuccessful (Towbes and Cohen, 1996). When coping efforts have failed, stressors are likely to be appraised as threatening and uncontrollable, and thus caused by stable and internal factors (Towbes and Cohen, 1996). Such negative internal attributions can lead to psychological distress, especially depression (McGonagle and Kessler, 1990).

Considering this, the justification for the research of chronic stress in the lives of college students requires one more piece of evidence. This is the consideration that populations in a developmental transition are thought to be especially vulnerable to the effects of stressful processes (Cohen et al., 1987). There are at least four major developmental tasks that confront late adolescent college students: (1) achieving emotional independence from family, (2) choosing and preparing for a career, (3) preparing for a relationship commitment and family life, and (4) developing an ethical system (Chickering and Havighurst, 1988). These tasks require the college student to develop new social roles and modify old ones, changes that can result in role strain, which is a major aspect of chronic stress (Pearlin, 1989).

Literature Review

It was for these compelling reasons that Drs. Lynn Towbes and Lawrence Cohen (1996) developed the 54-item College Chronic Life Stress Survey (CCLSS). The first objective of the authors of the CCLSS was the development of a chronic stress scale for college students (Towbes and Cohen, 1996). Although there are specific college student scales to measure life events and/or hassles (i.e., small daily events), none of these measure were designed to assess chronic stress, in which a stressor or issue persists over time (Towbes and Cohen, 1996). The authors conceptualized chronic stress as the incremental accumulation of ongoing strain across several life domains e.g., school performance, peer relations, etc.

The extant literature reveals two variations of this “accumulation model” (Towbes and Cohen, 1996). One strategy is to assess discrete life events, and then to decide that events of a certain duration are chronic stressors (McGonagle and Kessler, 1990). However, by definition, this measurement of chronic stress is post hoc and restricted to those items that were originally included on a major events checklist (Towbes and Cohen, 1996).

With the second strategy of this “strain accumulation” model, items are pre-selected for scale inclusion if they represent ongoing concerns and/or problems (Timko et al., 1993). Consequently, items were selected a priori which appeared to sample stressful processes across several life domains (Towbes and Cohen, 1996).

Thus, a pilot study of 486 college undergraduates was conducted for item generation (Towbes and Cohen, 1996). Sample characteristics were as follows: 67% were women, 93% were white, and 51% were first year undergraduate students (Towbes and Cohen, 1996). The procedure for item generation was based on Lewis et

al.'s (1984) research with pre-adolescents (Towbes and Cohen, 1996). Subjects were group administered a standardized form that asked them to list up to five experiences that they had in the past month that made them "feel stressed, upset, or worried on a regular basis, that is, at least tow or three times a week for the past month" (Towbes and Cohen, 1996).

A total of 2,164 responses were generated (Towbes and Cohen, 1996). Items were excluded if they were redundant, obvious manifestations of psychopathology, and/or indicative of a discrete event (Towbes and Cohen, 1996). This resulted in the 54-item CCLSS (see Table I.). These 54 items represent 77% of the total responses, and they describe stressful processes within six major domains of college life: (1) academic performance, (2) peer relationships, (3) family relations, (4) romantic relationships, (5) lifestyle, and (6) physical appearance and health (Towbes and Cohen, 1996).

With the scale for college students compiled and the first objective accomplished, the second objective of the authors' research project was to use the CCLSS to test the relationship between chronic stress and psychological distress (Towbes and Cohen, 1996). Overall, the project consisted of three studies of college students (Towbes and Cohen, 1996). In the first study, a factor analysis was conducted to determine whether the relative utility of sub-test scores. This analysis was also used to evaluate the reliability and validity of the CCLSS total test score. In addition, the authors examined the endorsement of specific CCLSS items as a function of gender and college year (Towbes and Cohen, 1996).

The results of this study demonstrated the CCLSS's test-retest reliability and concurrent validity (best friend corroboration of specific items) (Towbes and Cohen,

1996). The test-retest correlations ranged from .88 to .90, despite the use of a semioverlapping time frame between tests (Towbes and Cohen, 1996). The concurrent validity was corrected for chance agreement by using the kappa statistic (Towbes and Cohen, 1996). To the knowledge of the authors, this study was the first to use the kappa statistic (to control for chance agreement) to assess the validity of college students' self-reported life stress (Towbes and Cohen, 1996). However, in the absence of alternative methodology, it is regarded as an approximate test of validity (Towbes and Cohen, 1996). Although the kappa was moderately low, the authors note that the uncorrected agreement rates for the CCLSS items were consistent with, or better than, those obtained in other validity studies of other college stress measures (Towbes and Cohen, 1996).

The CCLSS scores were higher for first-year students than for other more advanced undergraduates. This is consistent with the notion that the first year of college is usually the most stressful. There were also several items that were differently endorsed as a function of gender. The most notable of these were items pertaining to weight, dieting, and physical appearance in general (Towbes and Cohen, 1996).

In the second study, the authors used a prospective design to test the relations between chronic stress and psychological distress, with statistical control of recent discrete life events and several demographic variables (Towbes and Cohen, 1996). The findings of this study supported the authors' hypothesis that the CCLSS would be a significant predictor of college students' distress.

In this study, the subject group was administered: the CCLSS, a demographic scale that assessed parental education, the Mental Health Inventory (MHI; Veit and Ware, 1983), and the College Student Life Events Schedule (CSLES; Sandler and

Lahey, 1982). Two of these tests were used to help control for both demographic variables, and negative events, respectively. The MHI was used to assess the anxiety, depression, and the loss of behavioral and emotional control (LOC). The analysis focused on the ability of the CCLSS to predict these distress scores on the MHI (Towbes and Cohen, 1996). Statistical analysis demonstrated that the CCLSS was a significant or near-significant predictor of anxiety and LOC (Towbes and Cohen, 1996).

The third study's analyses served as a partial replication of the second study, with the addition statistical control of neuroticism (Towbes and Cohen, 1996). The original hypothesis of the authors was that the CCLSS would serve as a significant predictor of distress, and that the CCLSS effects would withstand a prospective analysis and the statistical control of neuroticism (Towbes and Cohen, 1996).

The results of Study 3 (see Table II.) suggested that, although neuroticism conflated the relationship between CCLSS chronic stress and distress, it does not account for this relationship (Towbes and Cohen, 1996). The MHI was once again used as a basis for comparison in this study. With one exception, the CCLSS explained about 8% of the MHI scales' variance (Towbes and Cohen, 1996). Thus the authors were encouraged that the CCLSS impact was a near-significant predictor of depression (Towbes and Cohen, 1996).

The purpose of this study is to determine if the data it obtains is consistent with the original study, even with a refinement in the target population. It is also hypothesized that there will be a difference in the data due to the refinement in the target population, and that the CCLSS can be adequately adapted for this difference. Hence, the study attempts to generalize the application of the CCLSS to another, slightly different undergraduate population.

Chapter 2

Method

Subjects

The subjects used for this research consisted of 21 sophomores at Saint Meinrad College. There were 19 white subjects, 1 Asian, and 1 Hispanic. All the subjects were male, whose ages ranged from 17 to 31. The subjects participated in the study as part of a psychology course.

Measures and Procedure

Each subject was given a copy of the CCLSS, MHI, the short form of the Neuroticism Scale of the Eysenck Personality Questionnaire, and demographic questionnaire to complete, thus replicating the third section of the original Towbes and Cohen study (1996). The subjects were administered all these instruments during their regular 55 minute class. All of the subjects participated in the study.

Results

Correlational Analyses

Table III presents the zero order and partial correlations between the CCLSS and the three MHI scales. The partial correlations reflect relationships that were obtained after statistical control of the EPQ-N scores. Even with this control, the CCLSS scores were insignificantly and negatively related to the MHI scales in every instance except one: the relationship to depression. Although this scale was positively correlated to the CCLSS, the result remained insignificant.

Principal Components Analysis

Table IV presents the component loading after varimax rotation. This analysis explains 96% of the variance between the CCLSS, MHI, and EPQ-N scores. There

was only one significant relationship between the CCLSS and any one of the MHI scales. This was found in the first iteration and shows that a relationship between a very low CCLSS score and a mild score on the anxiety scale of the MHI. This relationship alone explained 85.6% of the variance. Another significant relationship was found in the second iteration between two of the MHI scales. These were the anxiety and depression scales, and it explains 6.3% of the variance and shows a relationship between a mild score on the anxiety scale of the MHI and a very low score on its depression scale. The final significant relationship was found in the third iteration and explains 6.3% of the variance. This is a relationship between a mild score on the EPQ-N and a very low score on the depression scale of the MHI.

Chapter 3

Discussion

The results of this study are precisely the inverse of its hypothesis. While the original study showed significant positive relationships with almost all of the MHI criteria for mental distress, this one showed insignificant negative relationships between these two items. It is possible that the insignificance of the relationship can be understood in two ways. The first is the small sample size. The smaller the size of any sample, the more it is affected by the diversity in its scores thus making it difficult for any significant relationships to become apparent. The original study had a sample size of 41, twice the size of this study. Consequently, it was much less affected by diversity in its scores, due to the Law of Weak Numbers.

The second possible reason for the insignificance of the relationships might be as a result of homoskedasticity. The subjects in the sample are relatively similar in background, beliefs, and academic standing. In fact, all of the subjects were undergraduate sophomores. This, coupled with the fact that all in the sample were subject to the same comprehensiveness of the development program in the college they attended exposes all of them to the same stressors and causes of mental distress. Thus, the result is a collection of roughly similar scores with a few extremes in a very small sample making it very difficult to determine if there is a relationship between the stress and mental distress experienced by the subjects. This says something about the CCLSS itself, but that will be included with the concluding thoughts.

However, what is most interesting about these results is not so much that they are insignificant, but that their correlation trends are negative. It would seem plausible that chronic stress would have some effect on mental distress, and that however

insignificant, the trends would at least be positive. It is possible that an explanation for this lies in the first iteration after the varimax rotation. The fact that a relationship between a very low CCLSS score and a mild score on the anxiety scale of the MHI explains 86% of the variance might be an indication that the sources of anxiety, or perhaps mental distress in general, for this sample are not measured by the CCLSS. This surely has a bearing on the generalizability and adaptability of the CCLSS.

Conclusion

The fact that this study produced results that did not correspond with the original does not entirely indicate a fault in the CCLSS itself, but rather in the sample on which it was used. The CCLSS items were generated from a pilot study of 486 college undergraduates that were diversified among sex, race, and grade level, and background. The subsequent studies that were used to test the CCLSS had much smaller samples, but still a good degree of diversification. The sample used in this study was rather homogeneous regarding all of these factors. Also, the nature of the special formation program of the institution which they attend produces demands on the student which are not strictly academic, and affects all aspects of student life. It is conceivable that these stressors are not present at other less specialized schools, where at one of which the original study was presumably conducted. Thus, there are possibly different sources of mental distress for this sample than for the originals, the latter of which the CCLSS was more designed to predict.

This has a direct bearing on the generalizability and adaptability of the CCLSS. Concerning generalizability, it would seem that the CCLSS is easily generalized to populations of what can be termed "normal" college students. The fact that the original study achieved the results that it did using many different samples of the same

population supports this. It would seem, however, that the CCLSS is not easily generalized to *all* college students. The students in the sample at Saint Meinrad College, while being college students, are not "normal" college students. Because of the specialization of Saint Meinrad College with its emphasis on male Catholic spirituality and special formation program, it is likely that it attracts a certain type of student. Thus, these students are rather homogeneous in their sex, race, background, and susceptibility to certain stressors; stressors which the CCLSS was not designed to register.

Concerning adaptability, it should be possible to adapt the CCLSS to accommodate college students who attend specialized institutions like Saint Meinrad College. This would be a matter of generating items for a variation of the CCLSS that would be better able to register stressors experienced by such students that would otherwise not be experienced by "normal" college students. Such a task would require additional research on the items of the CCLSS itself. Meaning, it is possible that there are some items which are experienced by all college students, specialized or not. This research should entail, first, discovering whether or not such items in fact exist. Secondly, they must be separated from the other items, and thirdly items should be generated which are specifically oriented towards measuring chronic stress at the specialized institution in question.

One thing which is apparent is that although people's reaction to stress may be similar, what acts as a stressor is not. It is possible that stress is a matter of perception, what is one person's molehill may be another's mountain. It might be impossible, then, to develop a measure of stress which is universal and applicable in all cases, the CCLSS is an example of this. While it might do an excellent job of measuring the chronic stress

of the *majority* of college students, there are always those which slip through the cracks. In this case, the cracks are smaller, more specialized colleges which present different challenges to different students than most mainstream colleges and universities. While this does not damage the validity of the CCLSS in any way, it does suggest that it could be adapted slightly to account for these other challenges and different students which may not necessarily be considered mainstream.

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Appendix
Table I.
Characteristics of CCLSS Items

<u>Item</u>	<u>Test-Retest %</u>	<u>Validity %</u>	<u>% Total</u>	<u>% Men</u>	<u>% Women</u>	<u>% First Year</u>	<u>% Advanced</u>
Roommate Conflict	88	67	33	28	37	33	34
Homesick	88	41	25	23	27	38	18
Friend Conflict	73	22	35	32	37	44	29
Writing Papers	92	28	40	35	44	44	38
Dieting	78	43	39	16	54	44	37
Money	92	36	56	57	55	52	58
Long-distance Relationship	92	80	26	26	26	22	27
Juggle School/Job	87	78	30	28	31	22	34
Time-extracurricular Activity	87	67	22	20	24	21	24
Noisy Dorm	87	40	21	22	21	34	13
No Car	83	33	33	39	30	40	30
Underweight	95	28	6	12	3	6	7
College Major	93	51	30	32	29	41	25
Miss Distant Friends	87	25	41	44	39	54	33
Poor Classwork	85	38	55	61	51	58	53
Car Trouble/commuting	93	41	17	24	13	11	20
Family Illness	90	43	16	21	13	20	15
Not Having a Lover	92	63	38	47	33	42	38
Job Pressure	93		8	9	7	6	9
Privacy	90	22	24	23	25	30	20
Not Enough Sex	93	46	26	43	15	26	25
Friend With Problem	83	47	30	29	32	41	24
Behind in Schoolwork	80	33	46	56	40	46	47
Dislike Appearance	90	23	32	27	36	34	32
New Living Conditions	88	6	10	10	9	18	5
Problem With Lover	80	30	23	22	24	30	18
Parental Pressure	87	19	33	36	31	40	28
Not Having Enough Friends	92	19	16	22	13	17	16
Time Management	70	20	63	63	62	66	61
Studying	77	5	66	65	68	74	62
Not Enough Exercise	80	29	55	54	55	56	54
Conflict With Parents	82	36	16	18	16	21	14
Academic Performance	90	8	83	79	86	90	80
Poor Job Performance	98	4	5	5	4	2	6

Table I. (contd.)
Characteristics of CCLSS Items

Overweight	88	43	30	18	38	33	28
Amount of Sex with Lover	85	2	18	17	19	19	16
Don't Fit In	85	9	20	20	21	21	20
Missing Classes	85	26	18	21	17	20	18
Drug/Alcohol Concerns	95	9	11	15	8	16	7
Schoolwork Overload	80	29	57	49	63	60	55
Conflicts in Dorm	87	27	19	23	16	30	12
Parents Have Problems	88	25	23	21	24	26	21
Tuition/Bills Money	87	44	27	23	30	26	26
Sports Performance	91	58	14	19	12	16	14
Ex-Lover Conflict	85	41	29	21	29	31	27
Study and do Poorly	90	21	34	31	36	49	25
Being Sick	87	19	15	16	15	16	15
Sibling Conflict	87	22	14	17	13	18	12
Where Live?	82	52	26	28	24	27	25
Time with Lover	85	44	24	23	25	24	24
Difficult Class	85	23	34	30	37	42	30
Weight Gain	90	30	30	12	41	42	23
Unsure of Job Future	85	18	57	60	55	51	60
Not Enough Sleep	73	30	60	61	60	70	54

Table II.
Zero-Order and Partial Correlations for Third Part of Original Towbes and Cohen Study

<u>Time 1</u>	<u>Variable</u>				
<u>Variable</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
CCLSS		0.55	0.55	0.37	0.37
Anxiety	0.45		0.67	0.61	0.67
Depression	0.44			0.82	0.6
Loss Control	0.16				0.73
Neuroticism					

<u>Time 2</u>	<u>Variable</u>				
<u>Variable</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
CCLSS		0.64	0.65	0.63	0.53
Anxiety	0.42		0.73	0.71	0.79
Depression	0.45			0.82	0.7
Loss Control	0.46				0.63
Neuroticism					

Correlations above the diagonal are zero order correlations. Numbers in the first column are partial correlations, controlling for neuroticism.

Table III.
Zero-Order and Partial Correlations for Saint Meinrad Study

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<u>Variable</u>	<u>1</u>	<u>2</u>	<u>Variable</u> <u>3</u>	<u>4</u>	<u>5</u>
CCLSS		-0.26	-0.21	-0.29	0.27
Anxiety	0.5		0.29	0.13	-0.31
Depression	0.98			0.04	-0.75
Loss Control	0.33				-0.011
Neuroticism					

Correlations above the diagonal are zero-order correlations, Numbers in the first column are partial correlations, controlling for neuroticism.

Table IV.
Principal Components Analysis After Varimax Rotation

Variance by Components (Eigen Values):	244.01	17.743	12.351	6.865	4.127
Percentage of Total Variance by Components:	85.589	6.223	4.332	2.408	1.447
<u>Component Loading:</u>					
CCLSS	-15.529	0.105	0.062	-0.036	0.031
Anxiety	1.102	4.137	-0.318	0.052	-0.121
Depression	0.668	0.568	-3.071	-0.027	-0.398
Loss of Control	0.803	0.143	0.052	2.616	0.074
Neuroticism	0.751	-0.524	1.676	0.137	1.987

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