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Relationship between Sense of Coherence and Procrastination among a Group of Undergraduate Dental Students in Chennai City - An Observational Study

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Abstract

Background: Procrastination is considered problematic when it affects normal day-to-day functioning. It can serve as a deterrent among undergraduate dental students both for their academic and career growth. Behaviour modifications are required to change this negative behaviour and Sense of Coherence is one such approach. **Aim:** To assess the relationship between Sense of Coherence and Procrastination among a group of undergraduate dental students in Chennai city. **Material and Methods:** A cross sectional questionnaire study was conducted among 358 undergraduate dental students. Thirteen item Sense of Coherence scale and Lay's Procrastination scale were used to collect data about Sense of Coherence and Procrastination among undergraduate dental students respectively, using google forms. One-way ANOVA and Independent T test were used to test for difference in mean scores between groups based on year of study and gender, respectively. Pearsons correlation coefficient followed by Simple Linear Regression was performed to test for association between Sense of Coherence and Procrastination. **Results:** The overall mean Sense of Coherence score of the study participants was 49.52 ± 8.13. The overall mean Procrastination score of the study participants was 56.58 ± 10.02. Pearson's Correlation Coefficient revealed a negative correlation (r = -.255) between Sense of Coherence and Procrastination (p = .000) indicating that with an increase in Sense of Coherence, Procrastination decreases. In tandem, the third year students with lowest Sense of Coherence score showed highest procrastination. **Conclusion:** Procrastination is negatively associated with Sense of Coherence and hence behaviour modification interventions based on Sense of Coherence are required, to be customized and incorporated in dental curriculum to reduce procrastination among undergraduate dental students.

Keywords: Behaviour Modification, Dental, Procrastination, Sense of Coherence, Students, Undergraduates

1. Introduction

Procrastination is a behavioural tendency to avoid a task that needs completion and postponing to a later time[1]. Derived from the Latin word "pro," meaning forward and "crastinus," meaning tomorrow, procrastination is a self-handicapping behaviour which inadvertently results in loss of productivity, poor performance, increased stress, anxiety, low self-esteem and efficacy[2]. When allowed to become lifestyle behaviour, procrastination is potentially harmful[3].

Procrastination is a word that is omnipresent in multiple fields, from finance to healthcare and academic procrastination is the most researched domain[4]. Ellis and Knaus reported that almost 95% of students procrastinate at some point, while Solomon and Rothblum reported that 50% of students procrastinate making it a consistent problem[5]. "Perfectionism, fear of failure and task aversiveness" are some of the factors that have an influence on procrastination among college student[6].

Recent studies have assessed procrastination among dental students[7,8] and have found that they are no

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exception. Dental students must balance their pre-clinical, clinical and academic activities simultaneously and thus are under constant psychological pressure and stress. Inefficient time management can pave way for procrastination, inturn poor academic performance, cramming a day before the exam, depression, anxiety and disorganisation among dental students[9].

Consequences of procrastination were summarised within two domains by Monchek and Muchnick[10]. "The concrete consequences: missed deadlines, lost opportunities, lost income, lower productivity waste of time and loss of standing among associates. The emotional consequences being: lower morale, heightened stress, frustration, anger and lower motivation." Watkins stated that, "chronic procrastination maybe a sign of an underlying psychological disorder" and is problematic when it affects normal functioning.

Sense of Coherence and Generalised Resistance Resources, components of the Salutogenic model introduced by Aron Antonovsky in 1987 enables to assess the coping ability of an individual in a difficult situation. Sense of Coherence helps to resolve conflicts and manage inevitable stress in life[11]. Individuals with high Sense of Coherence understand that stressors occur in life with no particular reason (Sense of Comprehensibility), perceive them as challenges and not threats (Sense of Meaningfulness) and believe that it can be managed using resources available at their disposal (Sense of Manageability)[12]. Sense of Coherence aids in the development of positive mental health and previous research reveals that mental health promotion is highly effective when provided during early adulthood i.e. before 30 years of age[13].

Students in dental universities are exposed to a demanding situation that tests their self-esteem, self-efficacy and ability to cope with the vast syllabus[14]. Procrastination among young dental undergraduates can become a deterrent to their growth in both academics and career and make them pay a heavy price due to its consequences. Hence early intervention and health promotion strategies are required to reduce trait procrastination and promote coping ability among dental undergraduate students.

Sense of Coherence appears to provide a promising solution to address this issue. However, we need to have an understanding about the relation between Sense of Coherence and Procrastination among undergraduate dental students in order to develop special university-based interventions in future. Thus, the aim of this study is to assess the relationship between Sense of Coherence and Procrastination among undergraduate students in a dental institution in Chennai city.

2. Material and Methods

A cross sectional, questionnaire study was conducted among 358 undergraduate students in a dental college in Chennai city. The study protocol was approved by the Institutional Review Board and Ethics Committee of the first author's institution (IEC/SVDCH/2116).

Sample size was calculated using the formula as follows:

$$\frac{Z^2PQ}{E^2}$$

Where P = 0.27 (3), E = 0.05.

= 302.

Allowing for loss due to attrition, the sample size was calculated as 355.

The study was conducted for a period of two months, from July to August 2020. Data was collected using Google forms. Participation in the study was voluntary and consent was implied by submitting filled in forms. It was ensured that participant anonymity was maintained by not collecting their name or e-mail id during the process of data collection.

Convenience sampling technique was used in identifying the dental institution where the study was conducted. All undergraduate dental students belonging to the regular batch were included in the study while those students belonging to the additional batch were excluded.

The questionnaire consisted of 33 questions divided into 2 parts, 20 questions to assess procrastination and 13 questions to assess Sense of Coherence. Along with these, there were 2 questions to know their gender and year of study. Questions that required reverse scoring in both the Sense of Coherence scale and Procrastination scale were reversed before preparing the Google Form. The link to the Google form was shared to all the students in the dental college and a reminder was given after 1 week. The Google forms were sent to 100 1st year students, 99 2nd year students, 74 3rd year students, 71 4th year students and 79 students from internship, a total of 402 regular batch students in the dental college where the study was conducted.

The student version of Lay's procrastination scale[15] consisting of 20 questions was used to assess trait procrastination among study participants. The participants rated whether the questions were characteristic or uncharacteristic of them on a 5-point likert scale. The scores from each question were added to obtain the scale score i.e., procrastination score. Higher score indicates procrastinating behaviour. Previous studies among university students have demonstrated good internal consistency, test-retest reliability and construct validity of the instrument[16]. The advantage of this instrument is that it is simple to administer and takes less than 10 minutes.

A questionnaire consisting of 13 items, to be answered on a 7-point Likert scale was used to assess Sense of Coherence, with 5 questions on comprehensibility, 4 on meaningfulness and 4 on manageability. The Sense of Coherence questionnaire has also been used extensively in 23 languages, among university students and validated in a Dravidian population with good Cronbach α and test-retest reliability[17].

Responses obtained were converted into excel sheet and analysed using SPSS V20.0 (Statistical Package for the Social Sciences for Windows; SPSS Inc., Chicago, IL, USA). Shapiro Wilk's Normality test revealed that data followed normal distribution. Analysis of Variance was used to test for difference in mean scores of procrastination and Sense of Coherence between different years of study and independent t test was used to test for difference in mean scores between male and female. Pearson's correlation coefficient was calculated to test for possible association between Sense of Coherence and Procrastination followed by Simple Linear Regression. Statistical significance was set at $p \leq 0.05$.

3. Result

Out of 402 Google forms that were sent to undergraduate dental students of each year of study, 358 completed forms were returned accounting to a response rate of 89.05%. Table 1 shows the distribution of study participants based on gender and year of study.

The overall mean Sense of Coherence score of the study participants was 49.52 ± 8.13. Table 2 shows the mean Sense of Coherence score of study participants based on gender and year of study. The mean Sense

Table 1. Distribution of study participants based on gender and year of study

Variable	Sub-Category	N (%)
Gender	Female	277 (77.4%)
	Male	81 (22.6%)
Year of Study	First Year	70 (19.6%)
	Second Year	80 (22.3%)
	Third Year	64 (17.9%)
	Fourth Year	83 (23.2%)
	Intern	61 (17.0%)

Table 2. Comparison of mean Sense of Coherence scores based on gender and year of study

Group		Mean ± S.D	95% C.I	p-Value
Gender	Male	49.67 ± 8.32	47.84 - 51.40	.849
	Female	49.48 ± 8.09	48.51 - 50.36	
Year of Study	First Year	51.37 ± 7.83	49.50 - 53.23	.011#
	Second Year	51.01 ± 7.40	49.36 - 52.66	
	Third Year	47.23 ± 9.66	44.82 - 49.64	
	Fourth Year	48.39 ± 8.03	46.64 - 50.15	
	Intern	49.39 ± 7.09	48.67 - 50.37	
Overall Mean SOC Score	49.52 ± 8.13			

#ANOVA, statistically significant

of Coherence score of males was found to be more than females, but the difference was not statistically significant. Among students of different years of study, first year undergraduate students exhibited highest Sense of Coherence score followed by second year students, interns, fourth year and third year students respectively and this difference was statistically significant (p = 0.011).

The overall mean Procrastination score (Table 3) of the study participants was 56.58 ± 10.02. The mean procrastination score of males was found to be higher than females and the difference was statistically significant (p = 0.006). The third year undergraduate students had highest procrastination score followed by interns, fourth year, first year and second year students respectively. ANOVA test revealed that there was statistically significant difference in the mean procrastination score between different years of study (p = 0.000).

Pearson's Correlation Coefficient revealed a negative correlation (r = -.255) between Sense of Coherence and Procrastination (p = .000) indicating that with an increase in Sense of Coherence, Procrastination decreases. Simple Linear Regression yielded a constant value of 72.175 (p = .000) and β = -.315 (p = .000) (Table 4).

4. Discussion

Even though recognized as an unpleasant character, everyone would have procrastinated tasks in life at some point of time. Numerous research[18,19] have been conducted about procrastination among university students in the past and recently only few studies are available among dental undergraduates in India[3,4,7,8]. The undesirable academic outcome of procrastination necessitates the development of specific intervention to alter this negative behaviour among dental undergraduates. Since Sense of Coherence based interventions are effective when provided during early life, this study attempted to assess the association between procrastination and Sense of Coherence. The analysis undertaken in this study is based on the theoretical concept that higher Sense of Coherence is negatively associated with stressful situation in life and enables effective tackling of such situation based on available resources.

There was no statistically significant difference in the mean Sense of Coherence score among study participants based on gender. However, there was statistically significant difference in the score based on year of study and the first year students exhibited highest Sense of

Table 3. Comparison of mean procrastination scores based on gender and year of study

Group		Mean ±S.D	95% C.I	p-Value
Gender	Male	59.25 ± 9.78	57.03 - 61.60	.006*
	Female	55.80 ± 9.97	54.64 - 57.03	
Year of Study	First Year	54.55 ± 10.24	52.11 - 57.00	.000#
	Second Year	53.37 ± 9.57	51.24 - 55.50	
	Third Year	60.31 ± 9.64	57.90 - 62.72	
	Fourth Year	56.79 ± 9.13	54.80 - 58.78	
	Intern	58.95 ± 10.28	56.31 - 61.58	
Overall Mean Procrastination Score	56.58 ± 10.02			

*Independent t test, statistically significant
#ANOVA, statistically significant

Table 4. Relationship between sense of Coherence and Procrastination

Model	Unstandardized Coefficients	p- VALUE	95% Confidence Interval for B	
	B		Lower Bound	Upper Bound
(Constant)	72.175	.000*	65.941	78.409
SOC	-.315	.000*	-.439	-.190

*Statistically significant, Linear Regression

Coherence score. In case of Procrastination scores, there was statistically significant difference in the score among students based on both gender and year of study, wherein females and first year students procrastinated less. This coincides with the theoretical understanding that Sense of Coherence enables an individual to manage stressful situations efficiently. However, direct comparison of results is not possible due to lack of similar studies among dental undergraduates in India.

The 10% non response could be attributed to the reason that some students were using mobile phones to access online classes and could have found it difficult to fill the google form when compared to using a laptop or desktop or they did not want to participate in the study.

The overall Sense of Coherence score of the study participants (49.52 ± 8.13) is similar to that reported by Siddiqui et al. among Malaysian undergraduate dental students[20]. However, this was lower when compared to Turkish dental students (56.89 ± 10.68)[21] and Australian dental students (58.01 ± 11.29)[22]. There was no statistically significant difference in the mean Sense of Coherence score among study participants based on gender. The difference in Sense of Coherence score was statistically significant among the various years of study with third year students exhibiting lowest score.

The overall mean Procrastination score of the study participants (56.58 ± 10.02) was more than that reported by Babu *et al.*[23] among dental undergraduates (40.23 ± 6.94) in Bengaluru city. Students in clinical years (third, fourth year and interns) exhibited higher procrastination scores than pre-clinical year students (first and second year). Increase in the number of subjects to be learnt, balancing both clinical and theory hours, patient appointment management and lab work could be the possible reasons for higher procrastination among clinical year students. Male students showed higher procrastination than females and this difference is similar to results reported by Babu *et al.*[23] and Ozer *et al.*[24]. Madhan *et al.*[3] found no difference between male and female based on procrastination score. The different results indicate that there is less or no agreement in literature about the influence of gender on procrastination. The unequal distribution of male and female participants in our study could be a possible reason for gender difference in procrastination score.

The negative correlation between Sense of Coherence and Procrastination indicates that with increase in Sense of Coherence, Procrastination decreases. Students with higher Sense of Coherence do not consider the academic situation as stressful, are capable of prioritizing available resources, organising their work methodically, proper time management, completing their work on time without delay and meeting the expected standards. The third-year students showed highest procrastination in tandem with lowest Sense of Coherence score.

Limitations of the Study and Future Scope

Since this study was conducted among undergraduate students in a single dental college, the results cannot be generalised without reservations.

Unequal distribution among male and female participants could have led to the gender difference in procrastination score. Further studies with equal distribution of male and female participants are required to test for gender difference in procrastination score.

Multicentric study among undergraduate students from several dental colleges across India can warrant generalisability of results.

Factors related to procrastination and Sense of Coherence need to be explored for developing behaviour modification interventions.

Longitudinal studies need to be carried out to find out whether Sense of Coherence based intervention can improve procrastination score and whether the improvement remains stable over time.

5. Conclusion

An observational study was undertaken among a group of undergraduate dental students in a dental institution in Chennai, to assess the relationship between Sense of Coherence and Procrastination using pre-validated questionnaires. The results show that there is a significant association between Sense of Coherence and Procrastination among undergraduate dental students. Students with high Sense of Coherence, procrastinate less and handle academic pressure efficiently. When structured and specific Sense of Coherence based interventions help to reduce procrastination among dental undergraduate students, improvements can be seen in their academic performance and clinical skills.

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