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Investigating the Relationship Between Emotional Well-Being and Academic Performance in Nursing Students In Turkey

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Abstract

BACKGROUND/AIMS: Emotional intelligence (EI) and codependency (CD) are concepts which affect nurses' personal well-being and the care provided by them. This study aimed to investigate the relationship between emotional well-being and academic performance in nursing students in Turkey

MATERIALS and METHODS: This study was of a longitudinal, descriptive design on nursing students in Turkey. The participants were a cohort of 138 student nurses who had commenced their training in the Faculty of Health Sciences at Ankara University.

RESULTS: It was found that average EI scores decreased over the 4-year study program and average CD scores increased throughout the nursing education. It was also observed that there was a relationship between EI and CD; and also there was a relationship between EI and academic grades. These findings revealed areas for improvement in the current nursing education in order for the student nurses to become more healthy and effective nurses.

CONCLUSION: Nursing education programs should be reviewed and new strategies should be planned for the well-being of the students. For beneficial patient outcomes, the EI and the CD of the students should be determined and improved and outcomes of nursing education should be measured.

Keywords: Education, emotional intelligence, codependency, nursing students, academic performance, nursing education, Turkish

INTRODUCTION

Anticipating patients' needs and providing personalized holistic care are core expectations of the nurse's role and deeper levels of intimacy and empathy are increasingly recognized as essential components of a positive nurse/patient relationship. Emotional intelligence (EI)[1-4] and codependency (CD)[5-7] are concepts which require understanding, using and managing emotions for effective relationships in a healthy way and these affect the nurses' personal well-being and the care provided by them. However, managing one's own emotions and the emotions of patients is a complex and demanding activity which carries risks of over-involvement and ultimately harm to the emotional well-being of the nurse. While EI is a positive concept, CD is a negative concept which affects nurses individually and professionally. If we could encourage and select nursing applicants who have an apparent ability in this

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regard, perhaps we could enhance the profession and create a positive impact on patient care. If it was possible to identify these inter and intra personal qualities in prospective students, we would expect such students to fit into the profession, with all its emotional demands, more readily than those student who struggle to understand and utilize emotions in a proactive way. If we cannot select suitable nursing applicants, theses necessary skills must be gained through nursing education programs.

In this study, the following questions were asked:

1. Is there any difference between the levels of EI and CD of the nursing students throughout their four-year education program?

2. What is the relationship between EI and CD in nursing students?

3. What is the relationship between EI and CD and the academic performance of the nurse students?

Background

EI was originally described by Mayer et al.[1] as a set of skills which includes the ability to perceive emotion, involving the capacity to recognize emotions through non-verbal behavior; use emotion to facilitate thought; understand emotions by analysis and prediction and manage emotions in the context of other personality characteristics. Augusta Landa and López-Zafra[8] investigated the impact of EI on nursing and highlighted that, "…. emotions play an important role in a profession that requires not only technical expertise but also psychologically oriented care, knowledge about the self and emotions in nursing would be crucial to further development and growth of the profession." EI plays an important part in the ability to form successful interpersonal relationships in nursing.[9,10] EI is identified as central to clinical practice as nurses are managing their own emotions as well as providing emotional support to their patients.[11,12] All nursing interventions are affected by EI and EI enables emotional awareness in relation to oneself and others, professional efficiency and emotional management.[13]

EI is a major focus in nursing education but it has not been considered as essential for personal and professional competency.[3,9,11] In the study by Rankin[14], a predictive relationship was found between EI and program outcomes, such as practice performance, academic performance and retention in students. According to the results of a systematic review which covered articles published between 2007 and 2021, EI has an impact on students' clinical and academic performance, physical and mental health and social relationships.[11] Similarly, it was found that EI is an important variable in nurses' own health and so providing education or training on EI may help prevent occupational stress, burnout and associated impacts on health in nurses and nursing students.[8,13] The EI of nursing students was associated with perceived stress, problem focused coping, subjective well-being, perceived nursing competency and academic performance[2], personal well-being, stress management, higher academic performance, stronger nursing leadership, practice performance, and greater patient safety.[4] Many studies have highlighted the potential value of facilitating the EI of nursing students. In a review of studies covering 1996-2016, Lewis et al.[15] suggested that EI should be developed in order to improve academic and clinical performance and to reduce the risk of emotional distress during clinical placement experiences. Therefore, EI needs to be explicitly promoted within nursing education to facilitate learning, to improve academic grades, to transform theory to clinical application, and to enhance the well-being of the students coping with stress.[8,11,12,15,16]

CD is a behavioral pattern and way of thinking which includes an inability to identify, express, and manage feelings; the tendency to adopt a caretaking role; to experience low self-worth and the desire to control the self, people or events.[6] External focus, self-sacrifice and dysfunctional coping behaviors are identified as the main elements of CD in a systematic review of the concept by Dear et al.[17] A review of the literature reveals a wide variety of symptoms associated with CD including compulsive caretaking; perfectionism; a distortion of boundaries; an inability to tolerate separation; using maladaptive strategies to cope with stressful life events; hiding the self, feeling responsible for others; and seeking others' approval.[18,19] CD was examined especially between 1980-2000 and described as a learned behavior in the family;[20] a personality disorder;[21] as an addiction which includes being addicted to the confirmation of others to gain self-security, self-confidence and self-identity and an unhealthy and self-defeating approach to human relationships.[22] CD is especially common in nurses, which may lead to burnout, unsatisfactory performance, and flight from the profession.[18] By increasing awareness of CD, effective strategies can be applied to enhance the well-being of the nursing students.

There is evidence regarding the importance of EI and CD in nursing. Although studies on EI continue to increase in the literature, it must be emphasized that little research has been carried out on nursing students to date and many studies have only been developed recently.[2,4,11] On the other hand, studies on CD have decreased since 2000. Although EI and CD are important concepts in terms of nursing education, student nurses' and nursing professionals' well-being, we have found no studies which examine EI and CD together in relation to academic achievement over the course of a program of nursing education. In the literature EI and CD were examined together in just one study by Belyea[7] on graduate students in a counselor education program and it was determined that there was a direct link between EI and CD. This current study located significant gaps in knowledge related to EI and CD in nursing education. In addition to these, there have been a few longitudinal studies across a two year nursing program on EI in nursing students[4] but no longitudinal study on CD. This four-year longitudinal study aimed to be useful in highlighting the potential value of facilitating EI and reducing CD in nursing students. We hope that the results from this study will firstly inform the growing debate about the importance of EI and well-being in nursing students and discussions about the role of EI in the recruitment and development of nursing students. Secondly, we hope that our results will shed light on the importance of EI and CD and lead to them being taken into account in future nursing curricula as a core component for the quality of care and well-being of students and nursing professionals.

MATERIALS AND METHODS

Study Design

This study utilized a longitudinal, descriptive design.

Sample

The participants were a cohort of 138 student nurses who commenced their training in October, 2012 and graduated in 2016 from the nursing department of the faculty of health sciences at a university. Nursing department which provides a general nursing degree-level program over 4 years. Totally, 158 students who enrolled in the nursing program

were invited to participate in this study, 138 students were accepted but 9 students left, 2 did not complete this study and so a total of 127 (92%) completed the questionnaires.

Data Collection

Data were collected using two relatively short questionnaires, the EI Scale (AES) and the Co-dependency Assessment Tool (CODAT), with additional questions to identify important socio-demographic information from the nursing students such as their age, gender and marital status. Overall end of year scores for academic performance were obtained from the students' records at the end of each academic year. The questionnaire data were collected at three time points: at the start of the first year fall period, at the end of the second year spring period; and at the end of the final year spring period. Academic performance scores were collated at the end of each year until July, 2016. The students were asked to complete the questionnaires in a classroom reserved for this study and this took about 30 minutes each time.

Assessing Emotions Scale (AES)

Schutte et al.[23] developed AES, a self-report measure of EI, based on the model of EI developed by Salovey and Mayer[1] in 1990. Schutte et al.[23] reported a Cronbach alpha of 0.90 for the internal consistency for adults. The AES was revalidated for the Turkish population by Ançel et al.[24] The revalidated AES form, which has 28 items with a five-point Likert-type scale (1= *strongly disagree*, 5= *strongly agree*), was used in this study and the total scores can range from 28 to 140. Higher total scores indicate higher EI. The measure has three sub-scales: (a) *awareness of their own emotions* (to identify one's own emotions and be aware of them, their triggers and their impact); (b) *managing emotions* (using managing strategies in a healthy way in relationships); and (c) *awareness of others' emotions* (to recognize and understand what might be behind their emotions). In the current study, the Cronbach alpha value was 0.83 for the total and for the sub-dimensions, it was 0.72, 0.78 and 0.84, respectively.

The Codependency Assessment Tool (CODAT)

CODAT was developed by Hughes-Hammer et al.[20] to assess CD. CODAT is a 25-item 5-point Likert type scale. Participants are asked to record how often they feel in the way indicated by the item on a scale ranging from 1= "*rarely or never*" to 5= "*most of the time*". The scale has five factors: a) *other focus/self-neglect*, b) *low self-worth*, c) *hiding oneself*, d) *medical problems*, and e) *family origin issues*. Higher scores indicate higher levels of CD. CODAT has good internal consistency and criterion group validity and the Cronbach's alpha reliability is 0.91. Criterion validity was determined by known group techniques. The psychometric qualities of the Turkish version of CODAT were evaluated by Ançel and Kabakçi[25] and research results support the internal consistency and validity of the Turkish version of CODAT.

Statistical Analysis

Data analysis was conducted using the Statistical Package for the Social Sciences (SPSS) program Version 17.0 for Windows (IBM, Armonk, New York, USA). Coded, anonymous questionnaire data were entered, then checked and cleaned by a second researcher prior to statistical analysis. In the summary of the data, the median (minimum-maximum) identifier was used as the measure. The Friedman test was used to examine time-dependent changes of subscale scores. Post-hoc tests were used to determine the group(s) which produced the differences when any were found. The Spearman correlation coefficient was calculated in evaluating correlations between scale scores and between scale scores and grade averages. $P<0.05$ was considered statistically significant

Ethical Considerations

Ethical approval for this study was obtained from the Ankara University Ethics Committee (approval number: 129-566). The students were asked to provide written consent to participate in this study and complete the questionnaires and allow access to their academic grade records. The students could decline to take part or withdraw from the study at any time with no impact on their studies or practice. Confidentiality was assured with only the researchers having access to the research data. Students were anonymized using coded identity numbers and no individual could be identified. The participants were also assured that no judgments would be made on their actual performance in the program on the basis of any information taken as part of this study and that no information would be passed to their assessors throughout this study.

RESULTS

With respect to the students' characteristics; 89.0% of the students were female, their average age was 23.31±0.99 years (minimum: 22, maximum: 26), and all were single. Most (71.7%) lived with friends; 10.2% of them lived with family and 3.9% lived alone, 92.2% of the students reported that no family member had mental disorders. The students were asked whether they were receiving any treatment or support for psychological/psychiatric problems; 5.5% said "*yes*" at their first assessment, 5.3% at their second assessment, and 11.2% at their third assessment.

The time comparison of scale points on the AES found that students reported being more able to manage emotions at the beginning of their studies than at the end ($p<0.05$). No significant difference was found between the first and last scores of the sub-scales of *awareness of own emotions* and *awareness of others' emotions* ($p>0.05$) (Table 1). On the CODAT, scores on the sub-scales suggested that over the course of their studies, there were significant differences in the scores of *low self-worth*, *family origin issues* and *medical problems* ($p<0.05$) and no significant differences in the scores of *hiding oneself* and *other focus/self-neglect* ($p>0.05$) (Table 1).

According to the Spearman correlation coefficient, higher AES scores correlated with better grades in the final year, but scores on CODAT did not correlate with grade scores (Table 2). With regards to the AES, higher scores of *awareness of own emotions* ($p<0.05$), *managing emotions* ($p<0.01$), and *awareness of others' emotions* ($p<0.001$) were correlated with higher grade scores. However, with regards to the scores on the sub-scales of CODAT; *low self-worth*, *family origin issues*, *medical problems*, *hiding oneself* and *other focus/self-neglect* did not correlate with grade scores at all.

When exploring correlations between scores on the two scales used, Table 3 shows that poorer scores on the AES sub-scales of *awareness of own emotions* and *managing emotions* were associated with ratings of *low self-worth* ($p<0.001$), *medical problems* ($p<0.01$, $p<0.001$) and *hiding oneself* ($p<0.05$, $p<0.01$) but were not associated with *family origin issues*, and *other focus/self-neglect* on the CODAT. Greater *awareness of others' emotions* as scored on the AES was associated with higher levels of *focus on others/self-neglect* ($p<0.05$, $p<0.01$) on CODAT.

Table 1. Time comparison of Emotional Intelligence Scale (AES) and Codependency Assessment Tool (CODAT) scores

Scales	Sub-dimensions	Time measurements			p
		First scores	Second scores	Third scores	
AES	Awareness of own emotions	4.23 (2.46-5.00)*	4.15 (2.33-5.00)	4.15 (1.38-5.00)	0.157
	Managing emotions	4.56 (2.22-5.00)*	4.33 (1.67-5.00)	4.33 (1.00-5.00)	0.037
	Awareness of others' emotions	3.33 (2.17-4.00)	3.33 (2.17-4.50)	3.5 (2-4.67)	0.689
CODAT	Low self-worth	1.5 (1-3.67)	1.5 (1-4.67)	1.67 (1-4.83)	0.039
	Family origin issues	1.8 (1-4)	2 (1.2-4.6)	2.2 (1.4-4.6)	<0.001
	Medical problems	1.25 (1-4)	1.75 (1-4.25)	1.75 (1-5)	<0.001
	Hiding oneself	2.8 (1.2-4.6)	2.8 (1.2-4.6)	2.6 (1.2-4.8)	0.612
	Other focus/Self-neglect	2.4 (1-4.8)	2.3 (1-4.6)	2.4 (1-4.6)	0.236

*values in the cells correspond to the median (minimum-maximum).

Table 2. Correlation between Emotional Intelligence Scale (AES), Codependency Assessment Tool (CODAT) and grades

Scales	Sub-dimensions	Grade average			
		1st year spring semester	2nd year spring semester	3rd year spring semester	4th year spring semester
AES	Awareness of own emotions	-0.179	-0.101	-0.175	-0.229*
	Managing emotions	-0.091	-0.085	-0.144	-0.295**
	Awareness of others' emotions	-0.019	-0.041	-0.151	-0.195*
CODAT	Low self-worth	0.098	0.130	0.010	0.136
	Family origin issues	0.018	-0.009	0.106	0.034
	Medical problems	-0.049	0.100	0.044	0.144
	Hiding oneself	-0.030	0.028	-0.161	-0.070
	Other focus/Self-neglect	-0.086	0.059	0.165	0.167

The values in the cells correspond to the correlations between the grade average and the subscale score in the related term: *: p<0.05, **: p<0.01, ***: p<0.001.

Table 3. Correlations between Emotional Intelligence Scale (AES) and Codependency Assessment Tool (CODAT)

Low self-worth		*CODAT*				
		Family origin issues	Medical problems	Hiding oneself	Other focus/self-neglect	
AES	Awareness of own emotions	-0.376*** -0.337*** -0.408***	-0.119 -0.069 -0.153	-0.043 -0.243** -0.302**	0.252** 0.234* 0.091	0.136 0.019 -0.016
	Managing emotions	-0.316*** -0.389*** -0.376***	-0.204* -0.065 -0.147	-0.127 -0.260** -0.351***	0.258** 0.183* 0.216*	0.069 -0.139 -0.100
	Awareness of others' emotions	0.063 0.056 0.152	0.087 0.080 0.077	0.088 -0.021 -0.007	0.068 0.183 0.100	0.278** 0.191* 0.243**

The first values in the cells correspond to the correlations of the "first fall period", The second values are correlations of the "second year-spring period" and the third values are the correlations of the "fourth year-spring period". *: p<0.05, **: p<0.01, ***: p<0.001.

DISCUSSION

To the best of our knowledge, this is the first longitudinal study on EI, CD and academic grades in nursing students undertaking a four-year nursing program in the literature in Turkey. EI and CD were examined in nursing students in order to investigate the well-being of the participants. Contrary to our expectations, the students' EI scores did not increase during the 4-year program. In fact, increased scores of the CODAT (Table 1) and increased the rates of mental illness in the fourth year (11.2%) compared to first year (5.5%) were observed, which suggests some deterioration in the well-being of the students during the four years. This was actually an expected finding that the EI score did not increase as there was only a 28-hour interpersonal relations course in the first year in the entire curriculum and the nursing program had neither a goal, educational strategies, nor a course to develop or raise EI. Nurses provide care through relationships with their patients and the nature of nursing obliges nurses to have high EI[9] and higher EI scores are associated with better levels of health.[2,8,11] Therefore, EI should be incorporated in the nursing curriculum of the department where this study was conducted in order to contribute to both the student's own health and their professional performance.

EI and nursing students' mental health has been discussed more in recent years in the literature. According to study by Por et al.[2], increased emotional competence assists nursing students in effective coping strategies which in turn enhances their well-being and also their professional competence. In one study, it was found that there was an association between EI, stress and health[8] and also it was found that EI moderates the relationship between stress and depression, hopelessness and suicidal ideation[26] and that higher EI was associated with a positive mood and higher self-esteem.[27]

Due to the relationship between EI and mental health, EI should be improved in nursing students. There are studies which show EI increased[4] or did not not change[10] throughout nursing education. However, according to authors, EI could be improved by training programs.[8,9,11,28,29] In these programs, different topics, teaching/learning methods and lengths are recommended. Transformatory learning, expressive modalities of teaching such as reflective practice, emotional learning, interventional programs and curriculum contents are recommended in order to develop EI.[9] Self-awareness,[9] social perspective taking,[28] and social and communication skills training[8] for nursing students are suggested to improve EI. Since EI is influenced by students' clinical competence; and could be affected by curriculum,[3,15,30] clinical experiments and curriculum should be involved in EI developer strategies. The emerging trend is for nurse educationalists to embrace the notion of EI as a valid measure of suitability for nursing.[16] The better "*fit*" the student has in a nursing program, the greater her/his chance of successful completion.[14] Unfortunately, there is a general, central entrance examination to nursing in Turkey. Therefore, the EI of students needs to be developed through their nursing education.

In this study, as well as EI, a deterioration in the CD levels of the participants during the four years indicates a risk for the students' mental health and also for their physical health. Evidence of stress related physical problems[31] and mental health problems[5,26] in CD have been shown. CD was associated with decreases in perceived health and the ability to function in daily activities[6] and low self-esteem.[22] The increasing CD in the current study requires questioning the values and structure of the environment in which the students acquire their clinical experience and theoretical education. In the literature, the patriarchal values based caring, the hospital structure as a patriarchal organization which is similar to the structure of a dysfunctional family and the stressful work environment are associated with CD.[18] Increasing CD also may be related to the participants' family background. In a previous Turkish study, Ançel and Kabakçi[25] indicated that nursing students with higher CD scores had more attachment-related anxiety and reported more family problems. Problematic parenting experiences in childhood have been highlighted in CD.[17,22,31,32] Therefore, a supportive learning environment, psycho-educational interventions, health education (i.e., assertiveness training, problem-solving, and skills-building) and group therapy for CD and the related mental health problems of the students should be maintained during nursing education.[32,33] The structure of hospitals, and patriarchal values based nursing education should be identified and strategies for preventing and changing these negative influences should be applied for the well-being of students. However, this is the first longitudinal study and further prospective research would be helpful in order to determine the reasons for the increase in CD in the students.

Another finding of this study was that increased EI was associated with improved grades in the final year (Table 2). The relationship between EI and academic success has been explained in various studies. The annual average grade has been related to EI in nursing students[16] and higher academic and clinical practice performance have also been associated with higher EI.[3,4,12,14] This association between EI and academic success suggests that the incorporation of EI-related skills in the nursing curriculum has significant implications for nursing education to achieve the required competencies.[12] The relationship between higher EI and academic success can also be explained by the emotional state and well-being of the students. EI facilitates learning by enhancing the ability to cope with stress[2] and high EI leads to high self-esteem and this in turns increases academic achievements and work productivity.[11,34] However, the relationship between EI and academic performance is not specific and the mechanism for the correlation between them is still unclear in the literature[3]. In the current study, academic success increased through the four years despite a degeneration in EI and CD. In this case, the relationship between EI and academic success needs to be examined in further studies to determine the mechanism and reasons why EI was associated with improved grades in only the final year of the four years.

A correlation was found between EI and CD. Poorer ratings of both *awareness of own emotions* and *managing emotions* on the AES were associated with higher scores of *low self-worth*, *medical problems* and *hiding oneself* on the CODAT. Another correlation was found between *awareness of others' emotions* on the AES and *other focus/self-neglect* on the CODAT (Table 3). This correlation was expected since the sub-dimensions of both AES and CODAT incorporate emotional issues. Focusing on others, awareness of emotions, perceiving, understanding and managing emotions of one's own and others are the same requirements for both EI and CD. However, using emotions in healthy ways indicates EI[29] while using emotions in unhealthy way indicates CD.[6,19] Emotional sensitivity and awareness of the feelings of others is an important skill and a measure of high EI, while an "*over*" sensitivity or "*controlling*" of others emotions while hiding one's own feelings are signs of CD. According to Belyea[7] who was the only author to examine EI and CD together, there is a clear association between the constructs of CD and EI. Belyea[7] suggests that the definitions of the two concepts overlap and have common concepts such as empathy, nurturance, and

awareness of the emotions of others. In fact, nursing care requires a depth of emotional involvement within relationships which carries risks of hiding oneself, focusing on others' needs and certain related emotional problems. At this point, there is a need to know what the borders and balance are in the relationships with others for nursing students.

Study Limitations

This study is limited to one university in Turkey. As a consequence, generalization from the results is limited. However, this study provides important data about EI, CD and academic success in nursing students in this setting, allowing comparisons to be made with other institutions and cultures. Secondly, we wanted to compare theoretical and clinical academic grades with EI separately, but the student scoring system used in the university did not facilitate this. Lastly, further studies on EI and CD can include other variables, such as family, nursing curriculum content, culture, values in clinical environments etc.

As regards the present study, the findings now need to be replicated and validated in a more diverse sample of nursing students. It would also be useful to conduct longitudinal studies in order to establish causal relationships between the variables. Finally, qualitative studies on EI and CD among nursing students need to be examined in greater depth.

On the strength of the findings from this study, the Nursing Faculty where the research was completed recently revised its curriculum based on student-centered learning principles, reflective learning, and emotive competency. One or two courses and elective courses were added to the curriculum for each semester to increase the students' self-awareness, self-worth, personal and professional communication skills, in order to protect their mental health and to improve their social skills. In future, the effects of this revised program should be measured to determine any changes in the EI and CD of the students.

Implications for Nursing Education

The identification and prevention of negative influences associated with EI and CD in nursing students should be regarded as a priority. The relationship between EI and CD suggests that an interventional program on either CD or EI would benefit students' well-being. When nursing educators want students to develop their EI, it is necessary to determine CD in them, as CD may prevent the development of EI. Conversely, improving EI may be beneficial in reducing CD in students.

Additionally, it was hoped that the findings from this study would add to the discussion of both EI and CD together and develop them in training programs throughout the nursing curriculum. EI should be included in the selection criteria of nursing students to meet the expectations of the people who are receiving nursing care. As discussed above, the area of EI and CD still remains open to extensive empirical investigation.

CONCLUSION

Based on the findings which found decreases in EI and increases in CD throughout the nursing education, and which found a relationship between EI and CD and a relationship between EI and academic grades, nursing programs should be reviewed and new strategies should be planned to help students become more healthy and effective nurses. These findings reveal areas for improvement in the current nursing education to become more healthy and effective healthcare providers. The increases in EI and the deterioration in CD may have implications for the well-being of nursing students and the quality of working life within nursing. Therefore, available opportunities should be taken to provide support to nursing students in the faculty and nurses in healthcare settings. It can be suggested that EI should be included in the selection criteria as an approach to prevent problems in this regard and to meet the expectations of the people who are receiving nursing care.

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ETHICS

Ethics Committee Approval: Ethical approval for this study was obtained from the Ankara University Ethics Committee (approval number: 129-566).

Informed Consent: The students were asked to provide written consent to participate in this study and complete the questionnaires and allow access to their academic grade records.

Peer-review: Externally peer-reviewed.

Authorship Contributions

Concept: G.A., A.S., Design: G.A., A.S., Data Collection and/or Processing: G.A., Analysis and/or Interpretation: G.A., A.S., D.G., Literature Search: G.A., Writing: G.A., A.S., D.G.

DISCLOSURES

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