National College of Ireland

The Association Between the Lack of Interaction, Self-Efficacy and Emotional Intelligence on College Students' Mental Health and Academic Satisfaction during Covid-19

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Abstract

Aim: The current study aimed to understand the factors that may be influencing college students' well-being due to the change to online learning. This study investigated the association between lack of interaction, self-efficacy and emotional intelligence on college students' mental health and academic satisfaction. It also investigated whether emotional intelligence mediated the relationship between self-efficacy and student's academic satisfaction.

Method: A questionnaire was administered to participants (*n*=74) through Google form a survey builder. It consisted of demographic questions and three questionnaires: The Student Perceptions and Self-Efficacy in Online Learning Environments-Model, The Depression, Anxiety and Stress Scale - 21 items (DASS-21) and The Schutte Self-Report Emotional Intelligence Test (SSEIT).

Results: Results indicated that emotional intelligence and self-efficacy levels predicted students' mental health. However, lack of interaction did not predict students' mental health. Self-efficacy levels predicted students' academic satisfaction. Emotional intelligence levels and lack of interaction were not statistically significant in predicting students' academic satisfaction. Emotional intelligence was not statistically significant in mediating self-efficacy and academic satisfaction.

Conclusion: The current study findings highlight the importance of investigating factors that may be impacting students' well-being due to the change to online learning during the Covid-19 pandemic. It supports previous literature, suggesting that emotional intelligence and self-efficacy could predict mental health; and the role of self-efficacy on academic satisfaction; therefore, showing the importance of both factors in the academic setting.

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Literature Review

Since pandemic restrictions were implemented, the world witnessed the most extensive school closure ever. To control the spread of the coronavirus (Covid-19), the government worldwide mandated the temporary closure of all educational institutions (Bolatov et al., 2021; Chandra, 2020; Darmody et al., 2020; Fahriza et al., 2020). The closure of universities resulted in the emergence of innovative techniques to keep providing education for students. Traditional learning has been switched to online learning in all universities in Ireland (Darmody et al., 2020; Irawan et al., 2020). Online learning uses electronic technology and media to support learning and teaching through online communication and internet connection (Bolatov et al., 2021). This method of remote education is nothing new for some individuals (Nambiar, 2020). However, now it has become the principal source of education due to the pandemic restrictions (Darmody et al., 2020; Irawan et al., 2020). Students have no other options, and the social distancing measures have led learners and educators to confine themselves at their homes; thus, disturbing social life and learning (Chandra, 2020; Radu et al., 2020).

Recent studies have found that these extreme changes caused due Covid-19 had severe implications on the mental well-being of students. Students are presenting psychological issues such as depression, anxiety, stress and frustration (Chaturvedi et al., 2020; Alemany-Arrebola et al., 2020; Irawan et al., 2020; Zhou et a., 2021). Another factor that researchers are interested in is the novel online approach adopted by almost all institutions and how it impacts students' lives (Adnan & Anwar, 2020; Baticulon et al., 2020; Bolatov et al., 2021). Online learning plays an essential role in the education process; therefore, students' satisfaction is vital for effective learning through the online environment (Adnan & Anwar 2020; Sharma et al., 2020). As recent literature shows, researchers have been investigating

the factors that might be influencing students' mental health (Akpınar, 2021; Alemany-Arrebola et al., 2020; Bolatov et al., 2021; Chandra, 2020; Elmer et al., 2020; Irawan et al., 2020) and academic satisfaction due to this challenging period (Easa & Bazzi, 2020; Moreno-Fernandez et al., 2020; Talsma et al., 2021).

The effects of the change to online learning have been a concern stressed in several studies (Adnan & Anwar, 2020; Baticulon et al., 2020; Bolatov et al., 2021; Hasan & Khan, 2020; Hermanto & Srimulyani, 2020; Hussein et al., 2020; Nambiar, 2020; Radu et al., 2020; Sindiani et al., 2020; Shetty et al., 2020). These studies detected some disadvantages of the change to online learning such as students' lack of discipline, lack of interaction, technology-related issues, lack of learning motivation, distraction by social media amongst others. Some of these studies highlighted that the lack of interaction and absence of traditional classrooms were significant issues reported by students during Covid-19 (Adnan & Anwar, 2020; Hasan & Khan, 2020; Hermanto & Srimulyani, 2020; Radu et al., 2020; Shetty et al., 2020). Other studies indicated that the poor quality of communication between educators and students was a difficulty encountered by students due to the lack of interaction (Baticulon et al., 2020; Hasan & Khan, 2020; Hussein et al., 2020).

Lack of Interaction

Recent research by Easa & Bazzi (2020) was one of the first that addressed the mediate effect that the lack of interaction could have on students' academic satisfaction with the new online approach during Covid-19. The study's findings indicate a weak relationship between the lack of interaction and students' academic satisfaction; therefore, indicating that the lack of interaction may not mediate the relationship between the new online learning approach and students' satisfaction. However, other studies identified an association between the lack of

interaction and mental health problems (Akpınar, 2021; Bolatov et al., 2021; Elmer et al., 2020). An interesting study by Bolatov et al. (2021) investigated the mental health of medical students before and after the change to online learning. The study analysed factors such as burnout syndrome, depression, anxiety, and academic performance, among others. The study found that depression, anxiety, and burnout syndrome levels decreased after the change to online learning. However, the stress due to the lack of interaction increased after the change to online learning. Therefore, the study concluded that the online environment could ease college-related psychological issues; however, it may increase psychological distress due to students' lack of interaction with peers and educators and interpersonal relationships during pandemic restrictions.

The distress due to the lack of interaction could be explained through the social support theory, which measures individuals' perception of support assistance available through emotional, informational, tangible, or invisible support (Vaux, 1988). The lack of perceived support is linked to mental health problems (Cohen & Wills, 1985). Therefore, students who perceived the lack of social support during the change to online learning may have their stress levels impacted. Even though the literature shows great evidence on the impact of the lack of interaction on students' mental health, little is found about its impact on academic satisfaction. Therefore, more research is needed to understand whether or not the lack of interaction can impact students' academic satisfaction.

Self-Efficacy

The Easa & Bazzi (2020) research mentioned above also indicated that the students who had a decrease in academic performance were likely to show depressive and anxiety symptoms and academic dissatisfaction. It is suggested that this increase in mental health

issues and decrease in academic satisfaction may be caused by the difficulties students face while dealing with the changes of the new online approach (Aldhahi et al., 2021; Alemany-Arrebola et al., 2020). These difficulties encountered by some students may be due to the low levels of self-efficacy. The concept of self-efficacy measures how individuals assess their ability to successfully engage in some tasks (Bandura, 1994). The ability to adapt to new environments and tools is seen as a challenge for some individuals; therefore, impacting individuals' self-beliefs (Talsma et al., 2021). Evidence shows that the online environment can raise technology-related issues, difficulty understanding the material, and lack of library or peer tutoring tools. Also, issues with lack of internet connection, lack of communication with educators, difficulties with new online tools, and unfamiliarity with the new online approach as some students have never experienced online method of learning (Adnan & Anwar, 2020; Hasan & Khan, 2020; Hermanto & Srimulyani, 2020; Radu et al., 2020; Shetty et al., 2020). Research by Ritchie et al. (2021) suggested that these online environment issues impact students' beliefs of whether they could still achieve their academic goals under the online approach. It also demonstrated a significant decrease in self-efficacy beliefs during Covid-19 with a considerable influence based on whether individuals' thought they could still achieve their goals under a challenging period such as Covid-19 (Ritchie et al., 2021). Therefore, it is pre-concluded that low self-efficacy levels may influence how individuals perceive their capacity to achieve academic goals under different situations.

The education environment can influence students' learning beliefs and satisfaction (Aguilera-Hermida, 2020). Research by Talsma et al. (2021) indicated that students believed that pandemic-related changes could impact their capacity to perform well in their learning environment. However, the research results suggested that students' self-efficacy beliefs did not influence their academic performance. Therefore, indicating that self-efficacy beliefs may

influence students' perception of learning and academic satisfaction; however, it may not affect academic performance and grades. Another study by El-Sayad et al. (2021) suggested that self-efficacy directly influenced emotional and behavioural engagement during online learning, consequently influencing students' academic satisfaction. These studies indicate that levels of self-efficacy may impact academic satisfaction.

A study conducted by Alemany-Arrebola et al. (2020) suggested that the novel online approach implemented by institutions could increase students' stress due to the challenges of this new methodology. The study found a relationship between anxiety and self-efficacy, indicating that students with high anxiety levels perceived themselves with less academic self-efficacy. Thus, showing that a stressful situation such as pandemic restrictions can increase anxiety levels and influence students' academic perception. It was found that only a few studies investigated the impact of self-efficacy levels on students' mental health during the change to online learning. However, the concept of self-efficacy could be used to explain why students are reporting difficulties to adapt to the new online approach. Moreover, evidence indicates that individuals with higher levels of self-efficacy are more likely to have active coping strategies that also indicate high levels of emotional intelligence, consequently decreasing psychological issues (Zhou et al., 2021). Therefore, it is suggested that levels of self-efficacy may have a relationship with students' mental health during Covid-19. However, more research is needed to state this relationship.

Emotional Intelligence

As seen above, self-efficacy plays a positive role in active coping strategies to assist students during adaptation. Emotional intelligence is another that factor uses active coping strategies to assist individuals' during adaptation (Davis & Humphrey, 2012; Shemesh, 2017).

Emotional intelligence levels influence individuals' behaviour and thoughts through coping strategies (Goleman, 1998). Research on emotional intelligence, coping strategies and psychological issues during the change to online learning also indicated that emotional intelligence levels and adaptation process have a significant effect on students' mental health, influencing levels of stress, anxiety, and academic burnout (Fahriza et al., 2020; Moreno-Fernandez et al., 2020). Emotional intelligence coping strategies provide means to predict how individuals can adjust to new situations and predict negative associations with individuals' difficulties such as anxiety, stress and depression (Fahriza et al., 2020). During the adaption process, individuals can also manifest feelings of frustration, boredom, exhaustion, fear, loss of interest, and inability to meet basic needs (Moreno-Fernandez et al., 2020). It is predicted that these feelings could influence students' academic performance; therefore, impacting learning and academic goals (Moreno-Fernandez et al., 2020). A few studies before the Covid-19 crisis indicated that emotional intelligence could predict academic satisfaction (Celik & Storme, 2017; Sheykholeslami & Ahmadi, 2011). Therefore, it could assist in the education process and students' motivation to accomplish academic goals (Faghirpour et al., 2011). Berenson (2008) suggested that students in the online learning environment should monitor their learning and progress. Self-regulation functions could influence this engagement with online learning. Students' self-management, emotional self-regulation, self-efficacy, self-generated motivation, persistence, and an internal locus of control are considered predictors of online learning success (Berenson, 2008). Therefore, indicating that emotional intelligence could provide means to individuals be more emotionally resilient when they deal with emotions and in moments of crisis (Preeti, 2013). However, little evidence is found on the impact of emotional intelligence on academic satisfaction. Therefore, more research is needed to state this relationship.

A meta-analysis by MacCann et al. (2020) provided evidence on the influence of emotional intelligence on academic performance, suggesting that emotional intelligence levels could predict students' academic goals and grades. Another study found that active coping strategies could effectively improve students' emotional intelligence during the COVID-19 pandemic (Fahriza et al., 2020). Chandra (2020) investigated the perception of academic stress during online learning through emotional intelligence coping strategies. The study indicated that students reduced negative emotions such as stress by diverting themselves to various creative activities and learning new technical skills. Moreno-Fernandez et al. (2020) also provided evidence on the effectiveness of emotional intelligence coping strategies during the pandemic restrictions in college students. The study measured students' academic performance and academic burnout before and after pandemic restrictions. It found that most students reported academic burnout before the intervention. After the intervention, students reported feeling less academic burnout and more engaged in learning. Students were able to manage their adaptative process and regulate their emotions better. These studies support the role of emotional intelligence coping strategies to assist students during the adaptation process.

After analysing the literature, it is possible to conclude that emotional intelligence plays an important role in the students' mental health (Chandra, 2020; Fahriza et al., 2020; Moreno-Fernandez et al., 2020). However, only two studies from this research knowledge found an association between emotional intelligence and academic satisfaction (Celik & Storme, 2017; Sheykholeslami & Ahmadi, 2011). Both studies were conducted before Covid-19; therefore, more research is needed to understand whether emotional intelligence would be associated with academic satisfaction during the changes to online learning. Furthermore, students' emotional regulation is crucial in this period of adaption, and coping strategies assist in the

positive outcomes increasing levels of academic satisfaction, and mental health (Moreno-Fernandez et al., 2020; Sheykholeslami & Ahmadi, 2011). The effects of emotional intelligence on students' mental health and academic satisfaction have already been investigated before the Covid-19 pandemic. However, this research is also interested in investigating whether or not emotional intelligence could have an association with self-efficacy and lack of interaction and whether or not they can predict students' mental health and academic satisfaction during the change to online learning. There was no research investigating this association together from this knowledge; therefore, this would contribute to this study area.

The Current Study

As indicated by the literature review, social distancing and online learning were the solutions found by the government to control the spread of the Covid-19. Thereby, students are facing challenges that are impacting their well-being and mental health. Some studies indicated that the lack of interaction could affect students' mental health. Even though the evidence supported this hypothesis that the lack of interaction impacts mental health, there is no enough evidence of its impact on academic satisfaction. The literature presented only one study investigating this phenomenon; therefore, more research is needed. Furthermore, some studies indicated that students' difficulties and psychological problems during the change from the traditional classroom to online learning might be due to low levels of self-efficacy. Research on academic students before the Covid-19 pandemic has already shown that students with low levels of self-efficacy become easily burnt out and have less ability to adapt (Charkhabi et al., 2013; Rahmati, 2015). Evidence also supports the impact of levels of self-efficacy on students' academic satisfaction during Covid-19 (El-Sayad et al., 2021; Talsma et al., 2021). However, more research is needed to state the association between

levels of self-efficacy on students' mental health and academic satisfaction during Covid-19. Emotional intelligence and coping strategies are predicted to help students keep self-regulated, engage with academic activities and reduce negative emotions (Moreno-Fernandez et al., 2020). The literature provided evidence of its effectiveness in improving students' academic performance and assisting students' mental health and academic satisfaction.

Therefore, it is suggested that emotional intelligence could be associated with self-efficacy levels and how students perceive the lack of interaction. The literature research did not find any study that investigated these factors all together to predict outcomes. Therefore, the current study aims to investigate the association between the lack of interaction, self-efficacy and emotional intelligence as predictors of mental health and academic satisfaction in the college student population during the Covid-19 pandemic. The gap in the literature also arouses the interest to investigate whether emotional intelligence mediates the relationship between the lack of interaction or self-efficacy and academic satisfaction. This study will be beneficial to understand the difficulties that college students may be suffering due to the change to online learning. Also, it will account for the understanding of the factors that are positively assisting in this process of changes.

Through an exploratory analysis, this study will apply the following research questions:

RQ1: Do the lack of interaction, self-efficacy, and emotional intelligence predict academic students' mental health during online learning? Hypothesis for research question 1: It is predicted that the lack of interaction, self-efficacy and emotional intelligence will impact college students' mental health.

RQ2: Do the lack of interaction, self-efficacy, and emotional intelligence predict students' academic satisfaction during online learning? Hypothesis for research question 2: It

is predicted that the lack of interaction will not impact academic satisfaction as seen in the literature; however, self-efficacy and emotional intelligence will affect college students' academic satisfaction.

If results show a significant effect on students' academic satisfaction, another analysis will be conducted to analyse whether emotional intelligence mediates the relationship between variables and academic satisfaction. Therefore, applying the following research question:

RQ3: Does emotional intelligence mediate the relationship between the lack of interaction and students' academic satisfaction during online learning? Or does emotional intelligence mediate the relationship between self-efficacy and students' academic satisfaction during online learning? Hypothesis for research question 3: If results show a significant result, the study predicts that emotional intelligence mediates levels of self-efficacy or how students perceive the lack of interaction; therefore, predicting academic satisfaction.

Methods

Participants

Participants were recruited through a non-probability sampling method. The study implemented a convenience sampling method and a snowball sampling method. It aimed to investigate the college student population in Ireland. The inclusion criteria were third level students over 18 years of age that experienced the change from the traditional classroom to online learning or started the course in the online environment instead of in the traditional classroom due to covid restrictions. There was no exclusion of gender, nationality, or courses. Participants were recruited through social media platforms such as Facebook, Instagram, WhatsApp, groups chats and mutual friends' invitations. Participation in the study was voluntary, and no reward was offered to participate in this study. Participants were provided with a consent form/information sheet containing the information about the purpose of the study as well as any risks or benefits of participation (see Appendix A). Participants were required to consent to participate in the study before continuing the questionnaires. Demographic information such as gender, age, academic level, course of study, marital status, household composition and nationality were asked.

Power Analysis

The current study sample consisted of 74 participants (Males: n = 21; Females: n = 53). The Pallant (2011) was used to determine the sample size required for statistically powerful analysis. For the standard multiple regression analysis, it is recommended to recruit a sample of 50 participants plus 8 per predictor variable, suggesting a sample size of at least 74 participants. For the mediation analysis, the recommendation is to recruit a sample of at least 50 participants plus 8 per variable in the analysis, also suggesting a sample size of at least 74

participants (as cited in Talsma et al., 2021). Therefore, this study was adequately powered to conduct the desired analyses.

Materials

This study comprised demographic questions and three questionnaires: (1) Student Perceptions and Self-Efficacy in Online Learning Environments-Model, which measured self-efficacy, lack of interaction and academic satisfaction. (2) The Depression, Anxiety and Stress Scale - 21 items (DASS-21) measured stress, anxiety, and depression levels. (3) The Schutte Self-Report Emotional Intelligence Test (SSEIT) measured emotional intelligence levels. They were integrated using Google Forms, a survey builder.

Demographics. Participants were asked to answer general information regarding their gender (male, female, other), age, academic level, course of study, marital status, household composition and nationality (see appendix B).

Student Perceptions and Self-Efficacy in Online Learning Environments-Model. Student Perceptions and Self-Efficacy in Online Learning Environments-Model, developed by Alqurashi (2019), was accessed via the database PsychTESTS. It was used to measure how participants perceive their academic performance and interaction with students and instructors during online learning. Statements 1 to 12 were used to assess participants self-efficacy levels. Statements 13 to 26 were used to assess participants' lack of interaction, and statements 27 to 30 to assess participants' academic satisfaction. Participants rated their confidence level during online learning using a 5-point Likert-type scale (1 = disagree strongly; 5 = agree strongly), (see Appendix C).

SELF EFFICACY: High rating scores indicated high self-efficacy, and low rating scores indicated low self-efficacy. An example of an item is as follows: *Online course*

materials helped me to understand better the class content. In the current study, the Cronbach alpha coefficient was .93.

LACK OF INTERACTION: To assess the lack of socialisation during online learning, participants marked the most appropriate number on a 5-point scale next to each statement (1 = disagree strongly; 5 = agree strongly). An example of an item is as follow: *I had numerous interactions with the instructor during the class.* Cronbach alpha coefficient was .89.

ACADEMIC SATISFACTION: Participants marked the most appropriate number on a 5-point Likert-type scale (1 = disagree strongly; 5 = agree strongly) according to their academic satisfaction during online learning. An example of an item is as follow: *I am satisfied with my grades*. Cronbach alpha coefficient was .86.

The Depression, Anxiety and Stress Scale. The Depression, Anxiety and Stress Scale - 21 items (DASS-21), developed by Lovibond & Lovibond (1995), is a 21-item scale that uses a 4-point Likert scale to assess the participants' depression, anxiety, and stress levels. Antony et al. (1998) tested the internal consistency and concurrent validity of the DASS-42 and DASS-21 and reported acceptable to excellent ranges and mean similarity between groups as seen in previous research. This study applied a short version accessed via the database PsycTESTS. The DASS uses a 4-point Likert scale of frequency or severity of the participants' experiences over the last weeks. The rating scale is as follows: 0 = Did not apply to me at all; 1= Applied to me to some degree, or some of the time; 2= Applied to me to a considerable degree, or a good part of the time; 3 = Applied to me very much, or most of the time. Statements such as "*I felt close I was close to panic*" and "*I felt down-hearted and blue*" was presented to participants (see appendix D). The DASS-21 score was multiplied by 2 to calculate the final score. Henry and Crawford (2005) indicated that doubled scale scores for the DASS-21 are almost identical to the DASS-42 and should be used for comparability.

Scores range from normal to extremely severe (*M* = 5.66, 3.76, and 9.46, respectively for Depression, Anxiety, and Stress). In the current study, the Cronbach alpha coefficient was .95.

The Schutte Self-Report Emotional Intelligence Test. The Schutte Self-Report Emotional Intelligence Test (SSEIT) is a 33-items scale (Schutte et al., 1998). It is a 5-point Likert Scale, 1-5 (1= strongly disagree, 5 = strongly agree). This measure of emotional intelligence has four subscales within it measuring: emotion perception, utilizing emotions, managing self-relevant emotions, and managing others' emotions. When the subscales are combined, scores on the SSEIT can range between 0-165. Higher scores on the SSEIT are related to higher levels of emotional intelligence, and lower scores on the SSEIT are related to lower levels of emotional intelligence. An example of an item is as follow: *I seek out activities that make me happy* (see appendix E). In the current study, the Cronbach alpha coefficient was .9.

Design and Analyses

The present study used a quantitative approach with a cross-sectional research design. Through an online-based data collection, it was possible to access different participants at the same point in time. Statistical analyses were performed using IBM SPSS Statistics 26. A statistically significant value was accepted with a p-value less than 0.05. Descriptive statistics were performed on demographic variables such as gender, age, academic level, course of study, marital status, household composition and nationality. Frequencies were used to calculate categorical variables, and continuous variables were analysed to calculate the mean (M), Median, Std error, range and standard deviation (SD). Multiple Regression Analysis was used to answer the first two research questions to assess whether there was a relationship between the set predictor variables and the criterion variables: (1) Do the lack of interaction,

self-efficacy, and emotional intelligence predict academic students' mental health during online learning? (2) Do the lack of interaction, self-efficacy, and emotional intelligence predict students' academic satisfaction during online learning? These two analyses looked at the lack of interaction, self-efficacy and emotional intelligence as predictor variables, and mental health and academic satisfaction as criterion variables.

The Baron & Kenny (1986) mediation analysis was used to answer the third research question and quantify the causal sequence by which a predictor variable causes a mediating variable that causes a criterion variable: (3) Does emotional intelligence mediate the relationship between self-efficacy and students' academic satisfaction during online learning? This analysis looked at the lack of interaction and self-efficacy as predictor variables, academic satisfaction as a criterion variable, and emotional intelligence as a mediator variable.

Procedure

The majority of participants were recruited through social media platforms. Data was collected via an online survey (Google Forms). A flyer with a QR code to access the questionnaire and a questionnaire link was shared via Instagram, Facebook and group chats. Some participants were recruited by mutual friends, whereby the questionnaire link was sent via WhatsApp. The flyer with the QR code was also attached to the NCI corridors board, so NCI students could easily access it. The survey was an anonymous self-reported questionnaire. Participants were provided with a consent form/information sheet containing all the information about the purpose of the study as well as any risks or benefits of participation (see appendix A), and they were required to provide their consent to participate in the study before continuing with the survey. Participants were able to withdraw from the study at any point in the survey without penalty. This was clearly stated in the consent form

before they started the survey. Participants were asked to click a "agree" box, consenting that they read and understood all information about the research study, they were over 18 years of age, they were undergraduate or postgraduate students, the questions about their participation in the study were satisfactorily answered, they understood the potential risks, they were taking part in the study voluntarily, and the agreed that anonymised data may be shared in public research repositories. Once this was established, they could proceed to the survey by clicking the "proceed" box. The survey was completed in participants own time, and it was estimated 15-20 minutes to complete.

The survey consisted of four parts. The first part asked for demographic information. On the following page, participants were asked to indicate the degree to which they agree or disagree with each statement of The Student Perceptions and Self-Efficacy in Online Learning Environments-Model (Alqurashi, 2019). The following page was The Depression, Anxiety and Stress Scale (Lovibond & Lovibond 1995). The fourth page was The Schutte Self-Report Emotional Intelligence Test (Schutte et al., 1998). Once participants completed the survey, they were provided with a debriefing form, where my own contact details were provided along with helpline numbers and a statement encouraging participants to speak out and seek help if the survey caused any distress (see appendix F).

Ethical considerations

The present study was approved by the National College of Ireland's Ethical Committee and followed the NCI Ethics Guidelines and Procedures for Research involving Human Participants (2018) and The Psychological Society of Ireland Code of Professional Ethics (2011). The risk and benefits of participating in the study were outlined in the consent form/information sheet, and participation was voluntary. All data collected was entirely anonymous, so confidentiality of participants was maintained, and no parties or persons were

linked to the data that participants provided. Participants were informed that all data gathered from this survey would be used for this thesis and no further studies. However, if the project surpasses a grade of or above a 2.1, it will be published in the NCI library. It may also be presented at the student conference. Data collected will be stored for five years following NCI policies; after this period, all data from this study will be destroyed. This was stated in the debriefing form, also with my own contact details and helpline numbers was provided, along with a statement encouraging participants to speak out and seek help if the survey caused any distress to them.

Results

Descriptive statistics

Descriptive analyses were performed to calculate demographic and continuous variables from the current study data set. The analysed data was taken from a sample of 74 participants (n = 74). This consisted of 71.6% females (n = 53) and 28.4% males (n = 21). Demographic variables are presented in Table 1. Means (M), median (MD), standard deviations (SD), standard error (Std error) and range are displayed in Table 2. Preliminary analysis for normality test, Shapiro-Wilk indicated that the continuous variables Self-Efficacy, DASS – Mental Health and Academic satisfaction rejected the hypothesis of normality with a p-value less than $p < .05$. The histograms also indicate that data may not be normally distributed. Shapiro-Wilk indicated that the continuous variable Lack of Interaction is significant with a p-value greater than $p > .05$. However, histograms indicate that data may not be normally distributed. The continuous variable Emotional Intelligence has a bell curve shape and p-value greater than $p > .05$. Therefore, Emotional intelligence may be the only variable normally distributed.

Table 1

Frequencies for demographic variables (N = 74)

Variable	*Frequency*	Valid Percentage
Gender		
Male	21	28.4
Female	53	71.6
Academic Level		
Undergraduate degree	59	79.7

Postgraduate degree	15	20.3
Household Composition		
Living alone	2	2.7
Living with friends	18	24.3
Living alone with children	3	4.1
Living with partner and children	3	4.1
Living with partner and no children	25	33.8
Living with parent(s)	23	31.1
Official Marital Status		
Single	57	77.0
Married	13	17.6
Divorced	4	5.4
Age Range		
18-28	36	48.6
29-39	33	44.6
40 and above	5	6.8

Table 2

Descriptive statistics for continuous variables (n = 74)

Variable	*M* [95% CI]	Median	Std error	SD	Range
Self-Efficacy	50.4 [47.5 – 53.31]	53	1.45	12.53	57

Lack of Interaction	55.05 [51.77 – 58.33]	55	1.64	14.14	54
Academic Satisfaction	10.7[9.67 – 11.72]	12	.51	4.43	15
DASS – Mental Health	24.35 [20.61 – 28.09]	22	1.87	16.13	66
Emotional Intelligence	119.59 [115.46 – 123.72]	122	2.07	17.82	96

Inferential statistics

To examine the two first hypotheses, standard multiple regression analyses were conducted. As descriptive analyses indicated that the study data was not normally distributed, the total scores for the variables self-efficacy, lack of interaction, academic satisfaction and DASS – Mental health were transformed to conduct the standard multiple regression analysis. To examine the third hypothesis, mediation analysis was conducted also using the transformed total scores.

Hypothesis 1

Standard Multiple Regression analysis was used to investigate the impact of lack of interaction, self-efficacy, and emotional intelligence on college students' mental health. Preliminary analyses were conducted to ensure no violation of assumptions. Multicollinearity assumptions indicated a correlation between PVs less than .9, tolerance above .10 and VIF less than 10 for all PVs. Normal probability plot (P-P) of regression standardized residual and scatterplot meet assumptions of normality and linearity. The model explained 21% of variance in mental health of college students ($F(3, 69) = 6.107$, $p = .001$). In the model two predictors' variables were statistically significant, with emotional intelligence recording a higher beta value (beta = -.371, $p = .001$) followed by self-efficacy (beta = -.277, $p < .05$).

Lack of interaction predictor variable was not statistically significant, recording the weakest beta value (beta = .133, p = .331), see Table 3 below.

Table 3

Standard multiple regression model predicting college students' mental health

Variable	R^2	*Adj* R^2	*B*	*SE*	β	*T*	*p*
	21%***	.175					
Self-Efficacy			-.776	.363	-.277*	-2.13	.036
Lack of Interaction			.430	.423	.133	1.01	.313
Emotional Intelligence			-.008	.002	-.371***	-3.33	.001

Note. R2 = R-squared; Adj R^2 = Adjusted R Squared; β = standardized beta value; B = unstandardized beta value; SE = Standard errors of B; t = T-value; N = 73; Statistical significance: *p < .05; **p < .01; ***p = .001.

Hypothesis 2

Standard Multiple Regression analysis was used to investigate the impact of lack of interaction, self-efficacy, and emotional intelligence on college students' academic satisfaction. Preliminary analyses were conducted to ensure no violation of assumptions. Multicollinearity assumptions indicated a correlation between PVs less than .9, tolerance above .10 and VIF less than 10 for all PVs. Normal probability plot (P-P) of regression standardized residual and scatterplot meet assumptions of normality and linearity. The model explained 50.2% of variance in academic satisfaction of college students (F (3, 70) = 23.501, p < .001). Only one predictor variable was statistically significant in the model, with self-efficacy recording a higher beta value (beta = .670, p < .001). Lack of interaction and

emotional intelligence predictor variables were not statistically significant, with lack of interaction recording (beta = .079, p = .766) followed by emotional intelligence with the weakest beta value (beta = .041, p = .640), see Table 4 below.

Table 4

Standard multiple regression model predicting college students' academic satisfaction

Variable	R^2	*Adj* R^2	*B*	*SE*	β	*t*	*p*
	50.2%***	.480					
Self-Efficacy			1.09	.167	.670***	6.55	.000
Lack of Interaction			.148	.194	.079	.766	.447
Emotional Intelligence			-.001	.001	-.041	-.470	.640

Note. R2 = R-squared; Adj R2 = Adjusted R Squared; β = standardized beta value; B = unstandardized beta value; SE = Standard errors of B; t = T-value; N = 73; Statistical significance: *p < .05; **p < .01; ***p < .001.

Hypothesis 3

Mediation analysis was used to investigate whether emotional intelligence mediates the relationship between self-efficacy and college students' academic satisfaction during online learning. As shown in **Figure 1**, self-efficacy did not predict overall academic satisfaction (z = 0.028, p = 1), nor did it directly (z = 001, p = .735) or indirectly (z = 14.88, p = 0.59) predict academic satisfaction. The test statistic for the Sobel test is 0, with an associated p-value of 1. The fact that the observed p-value does not fall below the established alpha level of .05 indicates that the association between self-efficacy and academic satisfaction is not reduced significantly by the inclusion of the mediator variable (emotional intelligence) in the

model. Therefore, there is no evidence of mediation. The only significant relationship in the model was the prediction of academic satisfaction by self-efficacy ($z = .136$, $p < .001$).

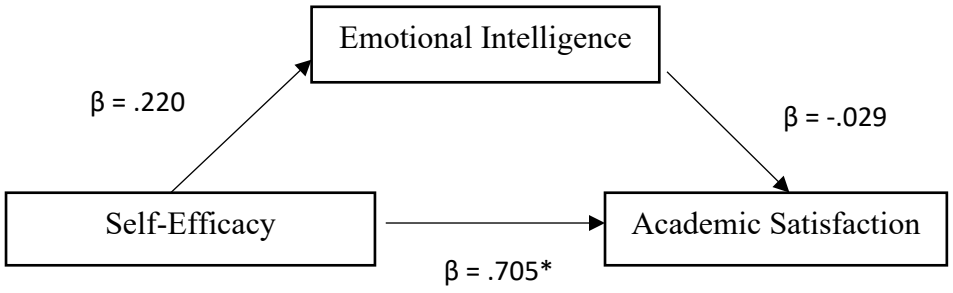

Figure 1 - Prediction of academic satisfaction by self-efficacy via emotional intelligence. *p < 0.05.

To summarise, it was found that emotional intelligence and self-efficacy were statistically significant in predicting mental health. Lack of interaction was non-significant; thus, not predictive of mental health. Lack of interaction and emotional intelligence did not predict academic satisfaction, and only self-efficacy was statistically significant in predicting academic satisfaction. Self-efficacy directly affected academic satisfaction showing statistical significance; however, emotional intelligence was not statistically significant in mediating the relationship between self-efficacy and academic satisfaction.

Discussion

The current study aimed to investigate the association between the lack of interaction, self-efficacy and emotional intelligence on college students' mental health and academic satisfaction. According to the literature review, lack of interaction may not influence students' academic satisfaction (Easa & Bazzi, 2020). However, prior findings indicated that it might impact students' mental health (Akpınar, 2021; Bolatov et al., 2021; Elmer et al., 2020). Previous research indicated that levels of self-efficacy may impact students' academic satisfaction (Aldhahi et al., 2021; Easa & Bazzi, 2020; El-Sayad et al., 2021; Ritchie et al., 2021; Talsma et al., 2021) and also might impact students' mental health (Alemany-Arrebola et al., 2020; Zhou et al., 2021). The literature also suggests that emotional intelligence could predict students' mental health before and after the pandemic crisis (Fahriza et al., 2020; Moreno-Fernandez et al., 2020); and academic satisfaction in a few studies before the pandemic crisis (Celik & Storme, 2017; Sheykholeslami & Ahmadi, 2011). Throughout analysing the literature, three hypotheses were formulated to investigate the aims of this study.

The first hypothesis suggested that the lack of interaction, self-efficacy and emotional intelligence could predict college students' mental health. This was explored using standard multiple regression analysis. It was found that emotional intelligence and self-efficacy were statistically significant in predicting mental health. The lack of interaction was non-significant; thus, not predictive of mental health. The model explained 21% of the variance in students' mental health. The findings suggested that high levels of emotional intelligence predicted low levels of mental health-ill, and low levels of emotional intelligence predicted high levels of mental health-ill (beta = -.371, p = .001). High levels of self-efficacy predicted low levels of mental health-ill, and low levels of self-efficacy predicted high levels of mental

health-ill (beta = -.277, $p < .05$). These findings are consistent with previous research that suggested emotional intelligence influences students' mental health (Chandra, 2020; Fahriza et al., 2020; Moreno-Fernandez et al., 2020) and also provided support to the concept of self-efficacy and its influence on students' mental health (e.g., Goleman, 1998; Zhou et al., 2021). There was no difference between lack of interaction and students' mental health. This finding conflicts with prior research (e.g., Bolatov et al., 2021) that found that the online environment may increase psychological distress due to students' lack of interaction with peers and educators and interpersonal relationships during pandemic restrictions.

The literature suggested that this distress due to the lack of interaction could be explained through the social support theory (Vaux, 1988). The students who perceived the lack of social support during the change to online learning may have their stress levels impacted; therefore, impacting their mental health. The social support theory will also be used to evaluate why lack of interaction did not impact students' mental health in this study sample. After analysing the demographic variable household composition (see Table 1), only two participants from a sample of 74 participants lived alone. Thirty-three-point eight percentage (33.8%) of the participants lived with a partner and no children, 33.1% lived with parents, and 24.3% lived with friends. Therefore, this study suggests that even though some students may perceive the lack of interaction with educators and peers due to the pandemic restrictions, it may not have such an impact on mental health because they may have the social support from family members, partners and/or friends. Therefore, assisting them in this period of change.

The second hypothesis suggested that the lack of interaction would not predict college students' academic satisfaction as seen in the literature; however, self-efficacy and emotional intelligence would predict academic satisfaction. This was explored using standard multiple

regression analysis. It was found that only self-efficacy was statistically significant in predicting academic satisfaction. Lack of interaction and emotional intelligence were not statistically significant, thus not predictive of academic satisfaction. The model explained 50.2% of the variance in students' academic satisfaction. The findings suggested that high levels of self-efficacy predicted high levels of academic satisfaction, and low levels of self-efficacy predicted low levels of academic satisfaction (beta = .670, $p < .001$). This finding supports previous research that suggested that self-efficacy may influence students' academic satisfaction (e.g., El-Sayad et al., 2021). The association between Lack of interaction and students' academic satisfaction was not statistically significant; therefore, supporting prior research (Easa & Bazzi, 2020). Emotional intelligence levels and students' academic satisfaction was also not statistically significant; this finding conflicts with prior research (e.g., Celik & Storme, 2017) that found that trait emotional intelligence (trait EI) was predictive of academic satisfaction. The Celik & Storme (2017) study collected data in three different phases to avoid common method bias. It measured trait EI which was a different measure used by the current study. It also used a seven items scale to measure academic satisfaction. These differences between studies may have influenced the conflicting findings.

The third hypothesis suggested that if results from the second research question indicated a significant result, the study would predict that emotional intelligence mediates levels of self-efficacy or how students perceive the lack of interaction; therefore, predicting academic satisfaction. This was explored using mediation analysis. According to the statistical results from the second research question, lack of interaction did not predict academic satisfaction; therefore, mediation analysis was not necessary to check the mediation effect of emotional intelligence between these variables. However, self-efficacy predicted academic satisfaction as indicated by the statistical results from the second research question;

therefore, mediation analysis was used to explore whether emotional intelligence mediates this relationship (see Figure 1). The results suggested that the association between self-efficacy and academic satisfaction is not reduced significantly by the inclusion of the mediator variable (emotional intelligence). The current study suggests that as emotional intelligence did not predict academic satisfaction according to the statistical results from the second research question, this may have influenced the non-significant effect as a mediator in the relationship between self-efficacy and academic satisfaction.

Overall, some of this study's findings support prior literature, also finding that emotional intelligence and self-efficacy could predict mental health; and the role of self-efficacy on academic satisfaction. Therefore, showing the importance of both factors in the academic setting. Research by Morales-Rodríguez & Pérez-Mármol (2019) also indicated that self-efficacy is associated with levels of anxiety and influence how students feel, think and act in the academic environment. Poor coping strategies and low emotional intelligence can decrease levels of self-efficacy as much as can increase anxiety levels and vice versa. The study also suggests that high levels of self-efficacy could be a protective factor against anxiety. A longitudinal study also found that participants who received emotional intelligence training during pandemic scored lower on mental health-ill problems, such as depression, suicidal ideation, and anxiety, than those who received the placebo program (Persich et al., 2021). Thus, also providing evidence on the importance of implementing emotional intelligence training in the academic setting. Furthermore, as seen in the literature, self-efficacy can directly influence how students perceive their capacity to achieve academic goals; therefore, impacting their academic satisfaction (Aguilera-Hermida, 2020; El-Sayad et al., 2021; Ritchie et al., 2021; Talsma et al., 2021). This study's findings support this idea and

suggest that self-efficacy coping strategies would assist students during this period of change.

Implications

The current study findings have significant theoretical and practical implications. It demonstrated the importance of examining emotional intelligence and self-efficacy in the academic setting. It also demonstrated that even though the lack of interaction due to pandemic restrictions and social distancing measures could have influenced students' mental health and academic satisfaction, it was not an issue encountered by this study sample. Therefore, showing students' resilience during this challenging period. In order to investigate the factors that are impacting students' mental health and academic satisfaction, this study provided means to look at the association between emotional intelligence and self-efficacy in the academic setting and also showed the importance of training individuals to increase levels of emotional intelligence and self-efficacy to assist in individuals' well-being.

Limitations and Future research

One of the strengths of the current study is the sample size (n=74) that was adequately powered to conduct the desired analyses and attempted to support prior literature research findings. The study also collected enough information regarding demographic variables that could be used in the discussion section. An example was the demographic variable household composition used to explain why lack of interaction may not impact students during the pandemic. However, demographic variables were not used in the analysis, which can be considered a limitation of this study. Therefore, future research would benefit from exploring demographic variables, such as household composition, to understand better how students perceived the pandemic restrictions and the change to online learning. Also, it would benefit from exploring gender differences, given that 71.6% of this sample consisted of females (see

Table 1). An example is a study by Korlat et al. (2021) that investigated gender differences in digital learning during Covid-19 and found that females were more likely to perceive teacher support and learning engagement compared to males.

The current study also presented other limitations. The study is a cross-sectional design; thus, results cannot imply causation. Therefore, longitudinal research in the future could better address the research questions and find statistically significant results for the variables that were non-significant. It also would be relevant to analyse all variables at different point times and compare participants' responses.

This study failed to find an association between lack of interaction and students' academic satisfaction or mental health. This study used the Student Perceptions and Self-Efficacy in Online Learning Environments—Model (Alqurashi, 2019) to measure self-efficacy, lack of interaction and academic satisfaction. This measure is a self-report scale found on the PsycTESTS. The scale has the purpose of measuring self-efficacy, perceived learning interaction and student satisfaction. Therefore, it may have influenced the conflicting findings. Future research would benefit by exploring the lack of interaction using a different measure, e.g., the twelve measurement items that measured lack of socialisation during Covid-19 adapted from the Padgett et al. (2010) study (Easa & Bazzi, 2020).

Another limitation of this study was the measure of academic satisfaction, which may have influenced some results, including the non-statistical significance between levels of emotional intelligence and academic satisfaction; thus, conflicting with the literature. Future research could apply a self-report with more than three items, as the small number of items could have influenced the results of this study. An example is a study that used a six measurement items to measure academic satisfaction and provided statistically significant

results (Easa & Bazzi, 2020). Furthermore, this study suggests future research exploring the social support theory and its influence on the college student population during and after Covid-19. The current study believes that social support theory is an important factor that may influence students' well-being in periods of change. An example is a study that found that the degree of perceived social support could increase or decrease students' active coping strategies; therefore, impacting students' resilience during Covid-19.

Conclusion

The current study contributed to understanding the factors that may influence students' mental health and academic satisfaction during Covid-19. There is consistent evidence that emotional intelligence and self-efficacy are predictors of mental health, as seen in the literature review. The lack of interaction did not predict students' mental health and this study attempted to explain this conflict with prior research through the social support theory. This study is consistent with the presented literature in relation to self-efficacy and students' academic satisfaction. Findings highlight the importance of investigating factors that may be impacting students' well-being during the change to online learning and the Covid-19 pandemic.

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Appendices

Appendix A

Consent form/information sheet

You are being invited to take part in a research study that will take approximately 15 minutes. Before deciding whether to take part, please take the time to read this document, which explains why the research is being done and what it would involve for you. If you have any questions about the information provided, please do not hesitate to contact me using the details at the end of this sheet.

The current study proposes to investigate the association between the lack of interaction, self-efficacy and emotional intelligence on college students' mental health and academic satisfaction during the Covid-19 pandemic. The aim is to explore whether the lack of interaction, self-efficacy and emotional intelligence are impacting students' mental health and academic satisfaction due to the change to online learning. This study is being conducted by Gabriela Da Silva Nogueira, a psychology student at the National College of Ireland (NCI).

Your participation in this study is entirely voluntary. You may refuse to participate in the research or exit the questionnaire at any time without penalty. For ethical reasons, you cannot participate in this study if you are under the age of 18. Additionally, you can participate in this study if you are an undergraduate or postgraduate student who experienced the switch to online learning due to Covid-19, including anyone who experienced online learning during the pandemic. Also, you must be over 18 years of age.
This survey is anonymous; therefore, once you have submitted your responses, they cannot be removed as the answers will be stored among a pool of anonymous data.

Benefits and Risks

You will receive no direct benefits from participating in this study. However, your responses will help us to understand more about the factors that might be affecting students' mental health and academic satisfaction during the Covid-19 pandemic. There are little to no risks involved in the study's partaking. However, there will be questionnaires that might be sensitive or personal for some participants. If you suffer from depression, anxiety or stress symptoms it may cause you feel uncomfortable. If participation in the study results in distress and you decide to stop participation, you may withdraw from the survey without penalty. I will include a list of helplines for support services in the event that you feel distress as a consequence of partaking in this questionnaire and wish to seek help.

The questionnaire is fully anonymous, so no one can link you to the information you supplied. It is not possible to identify a participant based on their responses to the questionnaire. All data collected for the study will be treated in the strictest confidence.
Responses to the questionnaire will be stored securely in a password protected/encrypted file on the researcher's computer. Only the researcher and her supervisor will have access to the data. Data will be retained for 5 years in accordance with the NCI data retention policy.

The results of this study will be presented in my final dissertation, which will be submitted to the National College of Ireland. Also, the project may be presented at conferences and/or submitted to an academic journal for publication.

Contact Information:
If you have any questions about this questionnaire, please do not hesitate to contact Gabriela Da Silva Nogueira through email: x19140126@student.ncirl.ie
By checking all the boxes below, you agree that:

- ○ you have read and understood the Participant Information Sheet.
- ○ you are over 18 years of age.
- ○ questions about your participation in this study have been answered satisfactorily.
- ○ you are aware of the potential risks (if any).
- ○ you are taking part in this research study voluntarily (without coercion).
- ○ anonymised data only may be shared in public research repositories.

Click proceed if you agree to take part of this study

- ○ Proceed

Appendix B

Demographic Questionnaire

Age Range

- ○ 18-28
- ○ 29-39
- ○ 40 and above

Gender

- ○ Male
- ○ Female
- ○ Other

Nationality: _____

Academic Level:

- ○ Undergraduate degree
- ○ Postgraduate degree

Course of Study: _____

House Composition

- ○ Living alone
- ○ Living with friends
- ○ Living alone with friends
- ○ Living with partner and children
- ○ Living with partner and no children
- ○ Living with parents

Official Marital Status

- ○ Single
- ○ Married
- ○ Divorced
- ○ Widowed

Appendix C

Student Perceptions and Self-Efficacy in Online Learning Environments-Model

Below is a series of statements concerning how you PERCEIVE YOUR ACADEMIC PERFORMANCE AND INTERACTION WITH STUDENTS AND INSTRUCTOR DURING ONLINE LEARNING.

Please indicate the degree to which you AGREE or DISAGREE with each statement.

1. I could complete an online course with a good grade
2. I can understand complex concepts
3. I am willing to face challenges
4. I can successfully complete all of the required online activities
5. I can keep up with course schedule
6. I can create a plan to complete the given assignments
7. I am willingly adapting my learning styles to meet course expectations
8. I can evaluate assignments according to the criteria provided by the instructor
9. Online course materials helped me to understand better the class content
10. Online course materials stimulated my interest for this course
11. Online course materials helped relate my personal experience to new concepts or new knowledge
12. It was easy for me to access the online course material
13. I had numerous interactions with the instructor during the class
14. I asked the instructor my questions through different electronic means, such as email, discussion board, instant messaging tools, etc
15. The instructor regularly posted some questions for students to discuss on the discussion board
16. The instructor replied my questions in a timely fashion
17. I replied to messages from the instructor
18. I received enough feedback from my instructor when I needed it
19. Overall, I had numerous interactions related to the course content with fellow students
20. I got lots of feedback from my classmates
21. I communicate with my classmates about the course content through different electronic means, such as email, discussion boards, instant messaging tools, et
22. I answered questions of my classmates through different electronic means, such as email, discussion board, instant messages tools, etc
23. I shared my thoughts or ideas about the course lectures and its application with other students during class
24. I comment on other student's thoughts and ideas
25. Group activities during class gave me chances to interact with my classmates
26. Class projects led to interactions with my classmates
27. Overall, I was satisfied with my online learning experience
28. This online course met my needs as a learner
29. This adaptation did not affect my performance as a learner
30. I am satisfied with my grades

Appendix D

Depression Anxiety Stress Scale–21 (DASS–21)

Please read each statement and indicate a number 0, 1, 2 or 3 which indicates how much the statement applied to you over the past week. There are no right or wrong answers.

0 Did not apply to me at all
1 Applied to me to some degree, or some of the time
2 Applied to me to a considerable degree or a good part of time
3 Applied to me very much or most of the time

DASS–21 Stress scale
I was intolerant of anything that kept me from getting on with what I was doing.
I felt I was rather touchy.
I found it difficult to relax.
I found myself getting agitated.
I felt that 1 was using a lot of nervous energy.
I found it hard to wind down.
I tended to over-react to situations.

DASS–21 Depression scale
I felt that life was meaningless.
I felt that I had nothing to look forward to.
I couldn't seem to experience any positive feeling at all.
I was unable to become enthusiastic about anything.
I felt that I wasn't worth much as a person.
1 felt down-hearted and blue.
I found it difficult to work up the initiative to do things.

DASS–21 Anxiety scale
I was aware of the action of my heart in the absence of physical exertion.
I experienced breathing difficulty.
I experienced trembling (e.g., in the hands).
I felt I was close to panic.
I felt scared without any good reason.
I was worried about situations in which I might panic and make a fool of myself.
I was aware of dryness of my mouth.

Appendix E

The Schutte Self Report Emotional Intelligence Test (SSEIT)

Instructions: Indicate the extent to which each item applies to you using the following scale:
1 = strongly disagree
2 = disagree
3 = neither disagree nor agree
4 = agree
5 = strongly agree

1. I know when to speak about my personal problems to others
2. When I am faced with obstacles, I remember times I faced similar obstacles and overcame them
3. I expect that I will do well on most things I try
4. Other people find it easy to confide in me
5. I find it hard to understand the non-verbal messages of other people*
6. Some of the major events of my life have led me to re-evaluate what is important and not important
7. When my mood changes, I see new possibilities
8. Emotions are one of the things that make my life worth living
9. I am aware of my emotions as I experience them
10. I expect good things to happen
11. I like to share my emotions with others
12. When I experience a positive emotion, I know how to make it last
13. I arrange events others enjoy
14. I seek out activities that make me happy
15. I am aware of the non-verbal messages I send to others
16. I present myself in a way that makes a good impression on others
17. When I am in a positive mood, solving problems is easy for me
18. By looking at their facial expressions, I recognize the emotions people are experiencing
19. I know why my emotions change
20. When I am in a positive mood, I am able to come up with new ideas
21. I have control over my emotions
22. I easily recognize my emotions as I experience them
23. I motivate myself by imagining a good outcome to tasks I take on
24. I compliment others when they have done something well
25. I am aware of the non-verbal messages other people send
26. When another person tells me about an important event in his or her life, I almost feel as though I have experienced this event myself
27. When I feel a change in emotions, I tend to come up with new ideas
28. When I am faced with a challenge, I give up because I believe I will fail*
29. I know what other people are feeling just by looking at them
30. I help other people feel better when they are down
31. I use good moods to help myself keep trying in the face of obstacles
32. I can tell how people are feeling by listening to the tone of their voice
33. It is difficult for me to understand why people feel the way they do

Appendix F

Debriefing Form

Thank you for participating in the present questionnaire measuring the association between the lack of interaction, self-efficacy and emotional intelligence on college students' mental health and academic satisfaction. The current study aims to investigate whether the lack of interaction, self-efficacy and emotional intelligence are impacting college students' mental health and academic satisfaction during the Covid-19 pandemic.

The survey is confidential and anonymous, therefore submitted responses cannot be withdrawn or removed as the responses will be stored among a pool of anonymous data and your answers will not be able to be identified or retrieved. The information gathered from this questionnaire will solely be used for my thesis and no further studies. However, if my final project surpasses a grade of or above a 2.1 it will be published in the NCI library and it may also be presented at the student conference. The data collected will be stored for 5 years in accordance with NCI policies, after this period however all data from this study will be destroyed.

Again, I would like to sincerely thank you for taking the time to participate in my study. In the event that you felt psychological distress as a result of taking part in this questionnaire, I encourage you to speak to your family, friends and/or guardians. I have also provided helpline phone numbers below to allow you to seek additional support if needed.

Support Services:
NiteLine: 1800 793 793
The Samaritans: (01) 872 7700
Pieta House: (01) 623 5606
Aware Support Line: +35316766166

Contact Information:
If you have any concerns or questions on the use of this data, or if you have any further questions about this questionnaire, please feel free to contact myself, Gabriela Da Silva Nogueira, through email: x19140126@student.ncirl.ie