Exploring Learner and Classroom Characteristics in the Online Classroom During COVID-19

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Abstract

Given the novel learning context induced by COVID-19, the current study sought to characterize Brescia students' reactions to forced online learning for mandatory courses. Importantly, this study aimed to address gaps in existing literature by combining more commonly studied reactions; Learned Helplessness and Mastery Orientation, and a less commonly studied reaction, Psychological Reactance and examine their relationship between multiple indicators of academic success including perceived learning, course satisfaction, and final course grade. Female students in second year mandatory psychology and sociology courses participated in the study by completing two online surveys administered via Qualtrics. The Early Course Survey measured demographics, Psychological Reactance, Mastery Orientation, and Learned Helplessness, and the Late Course Survey measured perceived learning, course satisfaction, and final course grade. Psychological Reactance was significantly negatively correlated with perceived learning. There were no significant relationships between psychological reactions, including Mastery Orientation and Learned Helplessness, and academic success.

Keywords: Psychological Reactance, Mastery Orientation, Learned Helplessness, perceived learning, course satisfaction, final course grade, academic success

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Individuals react differently when they are forced into situations where they have no control compared to when they have the freedom to engage in free behaviours (Steindl et al., 2015). Free behaviours are defined as the possession of specific behavioural and cognitive freedoms that allow an individual to preserve and possess as many options as possible (Donnell et al., 2001; Mead, 2007). The reaction experienced in the presence of uncontrollable outcomes is due to the loss of freedom an individual undergoes when experiencing outcomes they did not voluntarily choose to engage in (Wortman & Brehm, 1975). One of the reactions to the loss of freedom is Psychological Reactance (PR) (Wortman & Brehm, 1975). PR is the motivational state that is the result of an elevated arousal level in the presence of lost freedom (Wortman & Brehm, 1975). It is typically characterized by anger, aggression, hostility, resistance and negative cognitions which are the outcomes of feeling discomfort in uncontrollable situations (Sittenhaler et al., 2015; Steindl et al., 2015). This form of reactance inhibits human functioning, causing an individual to resist engagement in behaviours brought by uncontrollable outcomes (Steindl et al., 2015). Furthermore, when reactance is high, it produces greater negative emotion towards the event and leads to greater detriments in human functioning.

The other common negative reaction to uncontrollable outcomes is Learned Helplessness (LH) (Sorrenti et al, 2015). LH is defined as the passive behaviour that occurs in response to uncontrollable outcomes (Sorrenti et al., 2015). LH is characterized by the inability to learn, negative attitudes, anxiety, and frustration that lead to deficits in performance and the failure to put effort in (Sorrenti et al., 2015; Jardine & Winefield, 1981). It is a learned process and maladaptive motivational style that ultimately leads to one giving up in times of challenge (Valas, 2001). Learned helplessness can also lead to depression and pessimistic views of life

because it can turn to hopelessness, where one is helpless in multiple aspects of their life. In order for one to feel hopeless, individuals attribute negative events to internal, stable, and general events (Valas, 2001). More specifically, attributions become more personal. By directly contributing more negative expectations and less positive self-esteem to oneself, this severely impacts human functioning and causes detriments to mental health. Overall, both PR and LH negatively impact human functioning and play a role on an individual's well-being (Sorrenti et al, 2015).

In contrast to PR and LH, Mastery Orientation (MO) impacts human functioning positively (Sorrenti et al., 2015). MO is the positive response that can occur in challenging situations (Sorrenti et al., 2015). It is characterized by positive attitudes, high expectations of success, self-improvement, increased effort, and persistence in the presence of obstacles (Sorrenti et al., 2015). For example, individuals high in MO adopt heightened positive attitudes in the presence of difficult problems. Furthermore, of the psychological reactions, mastery orientation is the only one that impacts behaviour positively in challenging situations and has been identified to play a positive role on academic achievement.

Studies have begun to investigate the relationship between PR, LH and MO and academic success (York, Gibson & Rankin, 2015; Rovai et al., 2002). The most common measure of academic success is academic achievement, typically comprised of grades and GPA (York, Gibson, & Rankin, 2015). Academic success is often measured by academic achievement because grades and GPA are readily accessible by institutions. Therefore, they continue to be a prevalent measure of learning outcomes (Rovai et al 2002). Commonly less investigated, measures including course satisfaction and perceived learning are also important components of academic success (York, Gibson & Rankin, 2015; Rovai et al., 2009). For example, self-report

measures of course satisfaction may measure factors contributing to students' academic success but are often overlooked as a typical component of academic success (York, Gibson, & Rankin, 2015). In addition, Rovai (2002) analyzed perceived cognitive learning and suggested that relying on measures of self-reported perceived learning may be more important than solely relying on grades as a measure of academic success (Rovai, 2002). Furthermore, it is important to evaluate academic success through a variety of measures.

Of the three psychological reactions, children who scored high in LH showed lower academic achievement (Valas, 2001). Valas (2001) conducted a study that investigated the relationship between LH and academic achievement. The study collected data from a sample of 1580 students in grades 3-4, 6-7, and 8-9 and found that LH and academic achievement were tied to psychological maladjustment. More specifically, those with lower levels of LH had higher academic achievement. Therefore, the study concluded that there was a direct relationship between LH and academic achievement.

Another study conducted by Winefield and Norris (1981) supported the important role uncontrollable events have on achievement motivation. The study hypothesized that those who are more mastery oriented will persist longer than those who are learned helpless (Winefield & Norris, 1989). The study used a sample of 36 males and 36 females in high school to undergo a series of tasks that evaluated these hypotheses in context of uncontrollable events.Uncontrollable events were manipulated using different levels of achievement motivation within the groups. Results found that participants with low Learned Helplessness performed best in the uncontrollable groups and those with high Learned Helplessness performed worst after being exposed to uncontrollable outcomes.

Mastery-Oriented students showed enhanced academic achievement as well more satisfaction with their academic courses (Diener & Dweck, 1978). Diener and Dweck (1978) conducted a study that consisted of a sample of 130 5th grade students where they determined differences in achievement cognitions after failure. Achievement cognitions after failure consisted of a focus on the cause of failure or a focus on the remedy for failure. Overall, helpless children showed greater deficits in achievement, but mastery-oriented children were able to persist through adversity and enhance achievement (Diener & Dweck, 1978). This is because those who are high in MO shift their cognitions towards remedy of failure, seeking further opportunity to succeed academically.

Mattern (2005) also found that Mastery-Oriented college students showed enhanced academic achievement in the academic setting. By looking at college students, course grade was used as a measurement of achievement in order to determine what types of goal orientations facilitate highest grades (Mattern, 2005). Results showed that those who had high levels of MO also had the highest grades. Furthermore, those who were high in MO performed the best in academic settings. These findings also aligned with a study conducted by Filippello et al. (2018) which evaluated the role of LH and MO in the classroom. The study consisted of 395 participants between the ages of 14 and 18 who were recruited from a high school in Italy. Participants completed a randomized questionnaire to determine how levels of LH and MO related to academic achievement. Results found that MO positively predicted academic achievement in classroom settings and LH negatively impacted academic achievement (Filippello et al., 2018). Therefore, the link between LH, MO and academic achievement was evident.

Much less research has examined the role of Psychological Reactance on academic success, but studies suggest that PR is negatively related to academic success (Amini, 2019). In addition, Jardine and Winefield (1981) conducted a study that consisted of two experiments which examined achievement in participants to determine its impacts on PR and LH. It found that PR was only evident in those with high achievement orientations (Jardine & Winefield, 1981). Results suggested that PR in response to uncontrollable outcomes was only helpful in the facilitation of performance when individuals had past experience with the same uncontrollable outcome present and achievement motivation was high (Jardine & Winefield, 1981). In contrast, when achievement was low, these results did not persist with past experience of uncontrollable outcomes. Overall, this suggested that motivation is only likely to occur after failure if individuals had high achievement motivation initially and had previous experience with the uncontrollable outcome.

Motivation in a virtual classroom is much different than an in-person classroom. Lim and Kim (2016) conducted a study that evaluated how learning characteristics and motivation affect online learning. The study aimed to address motivation in the online undergraduate classroom opposed to typical in-person classroom settings (Lim & Kim, 2016). Motivation, perceived degree of learning, and learning application of an online course were all measured by an online questionnaire at the beginning and end of each semester. Increases in learning overall were present at the end of the survey for all categories except for those who have never been in an online course before. In terms of learner motivation, the type of motivation that indicated highest ratings of learning and application of learning were those high in mastery orientation.

In addition, online learning environments were evaluated in a study by Hoskins and Van Hooff (2005) to determine the influence of online learning on achievement in students. The study

aimed to investigate which students voluntarily use online learning and what types of influences this choice has on their academic achievement. By compiling a sample of 110 second year psychology students in their undergraduate degree, the study found that ability and achievement orientation were both found to influence online class engagement (Hoskins & Van Hooff, 2005). In addition, those who engaged more in online learning outperformed those who passively engaged or did not use the resources at all, showing an important link between online engagement and overall achievement. This shows that those high in MO persisted through the adverse online learning environment compared to those who became helpless which directly related to student's low motivation and engagement in the online class.

When analyzing past studies, there were no studies that combined the effects of PR, LH and MO. In order to determine the effects of these psychological reactions on academic success, a study combing all three would be critical to the understanding of online learning. In addition, previous literature has yet to investigate the how forced online learning influences the relationship between the three psychological reactions and measures of academic success. Undergraduate courses that have always been provided in person are now only offered online and this is an important area of investigation. COVID-19 provides novelty to the specific study because this is something that has never occurred before. Various studies have evaluated how online learning impacts academic achievement but there is less research examining the role of online learning when free choice is removed.

The current study investigated how student's self-reported levels of Psychological Reactance, Learned Helplessness and Mastery-Orientation related to measures of academic success in mandatory Psychology and Sociology courses as measured by perceived learning,

course satisfaction and final course grade. By investigating students' responses to forced online learning, potential emotional and psychological barriers to online learning can be determined.

Participants in the study completed two surveys: The Early Course Survey and the Late Course Survey. The Early Course Survey assessed demographics, PR, LH and MO. PR to uncontrollable outcomes was assessed using questions from the Hong Psychological Reactance Scale (HPRS; Hong and Faedda, 1996) modified to suit the nature of forced online learning. In addition, The Learned Helplessness Questionnaire (Sorrenti et al., 2015) measured LH and MO. The Late Course Survey measured perceived learning, course satisfaction and final course grade. Perceived learning and course satisfaction were assessed using questions derived from Alquarashi (2019). Overall, it is hypothesized that MO will be positively and significantly related to measures of academic success including perceived learning, course satisfaction, and final course grade. It is also hypothesized that LH will be negatively and significantly related to measures of academic success including perceived learning, course satisfaction, and final course grade. Lastly, it is hypothesized that PR will be negatively and significantly related to measures of academic success including perceived learning, course satisfaction, and final course grade.

Method

Participants

Participants for this study were a total $N = 40$ female undergraduate students (18+ years of age). Participants were recruited from PSY 2850A/B ($n = 9$), PSY 2855F/G ($n = 14$), SOC 2206 ($n = 10$), and SOC 2205 ($n = 7$) classes at Brescia University College in the 2020-21 academic year. Since the study consisted of two parts (Early Course Survey & Late Course Survey), each were recruited for separately. Participants chose to participate in part 1, part 2, or both parts of the study. The recruitment process was identical for both parts of the study (Early

Course Survey & Late Course Survey). Individuals agreed to participate after seeing the recruitment postcard and watching the recruitment video shared on OWL. Participation in this study was not mandatory and did not affect students' performance in their course. Participants who chose to participate received a $20 Amazon gift card for each part of the study/survey completed. All study procedures were approved by the Brescia University College Research Ethics Board and all participants provided informed consent before beginning the study.

Materials

The present study was an online study where participants needed access to an internet-connected device, not provided by the researcher, to participate in this study. The online study consisted of two questionnaires, one Early Course Survey (see Appendix A) which was completed by October 31st (first term) and March 13th (second term), and one Late Course Survey (see Appendix B) which was completed by December 5th (first term only). Participation in both surveys was not mandatory, students could choose to participate in one survey, or the other, or both. The surveys were administered via Qualtrics, an online survey software.

Early Course Survey. The Early Course Survey (Appendix A) was the first survey administered to investigate how learner characteristics and reactions to forced online learning relate to student's academic success. The Survey consisted of a total of 31 questions which examined demographics (13 questions), PR (5 questions), LH (6 questions) and MO (7 questions). A mixed method approach of open-ended qualitative questions in combination with close-ended quantitative questions was used. First, demographics questions asking things like age, gender, and year of study to assess learner characteristics were used (Lim & Kim, 2003). Then, PR was assessed using 5 questions derived from the HPRS, modified to apply directly to the forced choice of online learning. An example of this would be "I feel frustrated that I was

unable to make free and independent choices about the format (online vs. in-person) of my course" (HPRS; Hong & Faedda, 1996). Responses were chosen from a 5-point Likert Scale of frequency ranging from not at all true (*1*) to absolutely true (*5*). Lastly, the Learned Helplessness Questionnaire was used to assess LH and MO, where 6 questions directly assessed Learned Helplessness and 7 questions directly assessed Mastery Orientation. For example, "When you encounter an obstacle in schoolwork you get discouraged and stop trying. You are easily frustrated" was a question used to assess Learned Helplessness (Sorrenti et al., 2015). A sample question used to address Mastery Orientation was "when you encounter an obstacle in your work, you work to overcome it" (Sorrenti et al., 2015). Responses were also chosen from a 5-point Likert Scale of frequency ranging from not at all true (*1*) to absolutely true (*5*). Overall, responses from this survey were evaluated to determine the possible psychological and emotional barriers to learning.

Late Course Survey. The second survey administered was the Late Course Survey (Appendix B) which examined specific measures of academic success. The survey consisted of a total of 28 questions which examined demographics if not previously completed in the Early Course Survey (13 questions), perceived learning (9 questions), course satisfaction (6 questions), and final course grade collection. The Late Course Survey also used a mixed method design of both open-ended and close-ended questions, collecting qualitative and quantitative data. After the completion of demographics questions which were identical to the Early Course Survey, perceived learning was assessed using 9 questions that asked things like "in your estimation, how well did you learn the material presented in this course?" (Alqurashi, 2019). Responses were chosen from a 5-point Likert Scale of frequency ranging from not at all true (*1*) to absolutely true (*5*). Course satisfaction was assessed using 6 questions that asked things like "Overall, I was

satisfied with my online learning experience in this course" (Alquarashi, 2019). Responses were chosen from the same 5-point Likert Scale of frequency. Lastly, with consent, final course grades were collected after the completion of the course. Responses from this survey were evaluated to determine the possible relationship between the psychological reactions and measures of academic success.

Procedure

To participate in the study, participants were required to log onto the Qualtrics website through Western University using the survey URL. The study could be completed virtually from any location, and any time convenient to the participant. For the Early Course Survey, participants were then presented with the letter of information which described the nature of the study, and then presented with informed consent if interested in participating. Afterwards, participants were asked to fill out the Early Course Survey (Appendix A), which took about 20 minutes to complete. After answering a total of 41 questions, participants were then presented with a debriefing form to answer any questions the participants may have had for the researchers, and to thank them for their contribution to the study. Compensation was then provided through email delivery to an email address provided by the participants.

The same procedure was followed for the Late Course Survey. After accessing the URL for the Late Course Survey, students were presented with the letter of information which described the nature of the study and asked participants to provide their informed consent to participate. Participants then completed the Late Course survey (Appendix B) which took about 20 minutes. After answering a total of 69 questions (53 if participants had already answered demographics questions in the Early Course Survey), participants were presented with the debriefing form, urged to follow up with any questions they may have had for the researcher, and

thanked participants for their contribution to the study. Compensation was then provided through email delivery to an email address provided by each participant.

Results

Characterizing Mastery Orientation, Learned Helplessness & Psychological Reactance

Overall, female undergraduate participants recruited for the study had a mean age of $M = 20.6$, and ages ranged from 18-34. This study characterized levels Mastery Orientation (MO), Learned Helplessness (LH) and Psychological Reactance (PR) in 4 courses. These values were standardized to per item scores as each scale had a different number of questions. Combining these courses produced values, for MO where $M = 3.89$, $SD = 0.71$, LH where $M = 3.46$, $SD = 0.89$, and PR where $M = 2.72$, $SD = 1.10$. These combined data can be seen in Figure 1.
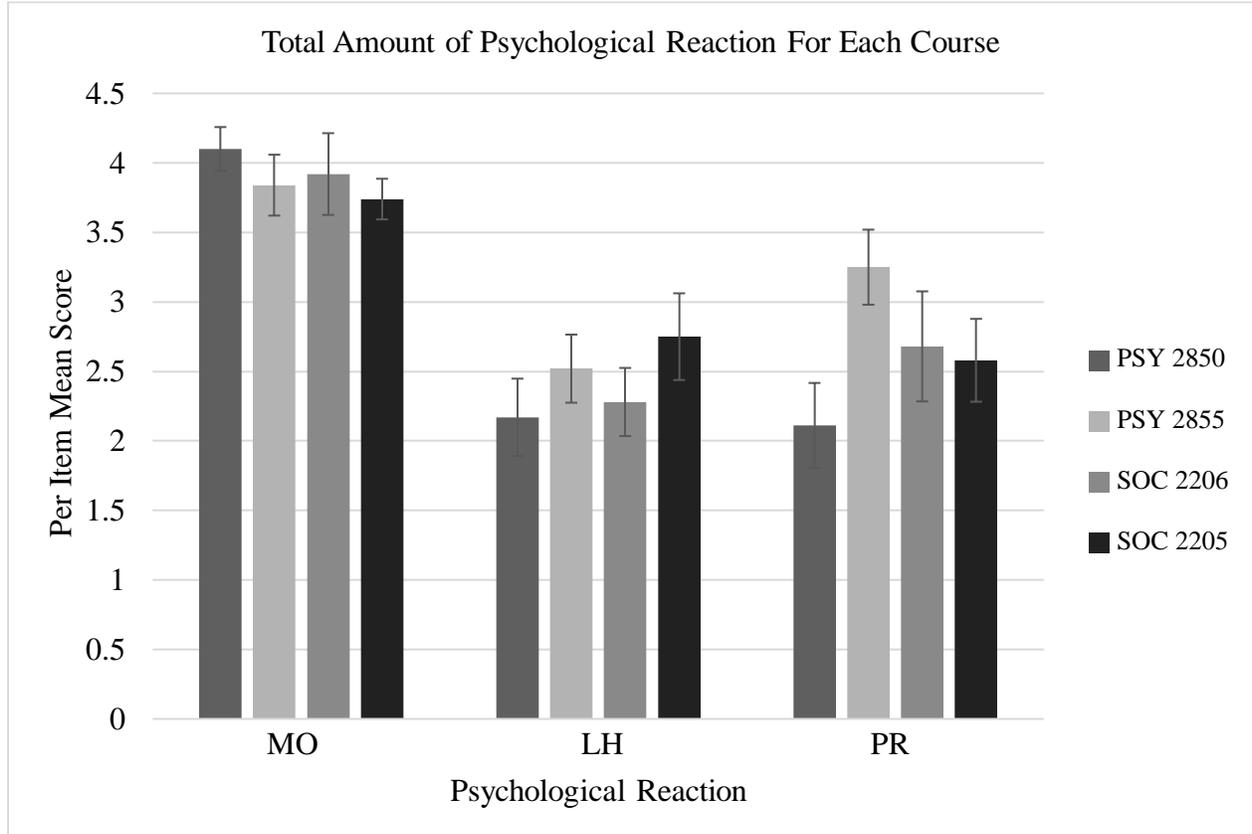
Figure 1
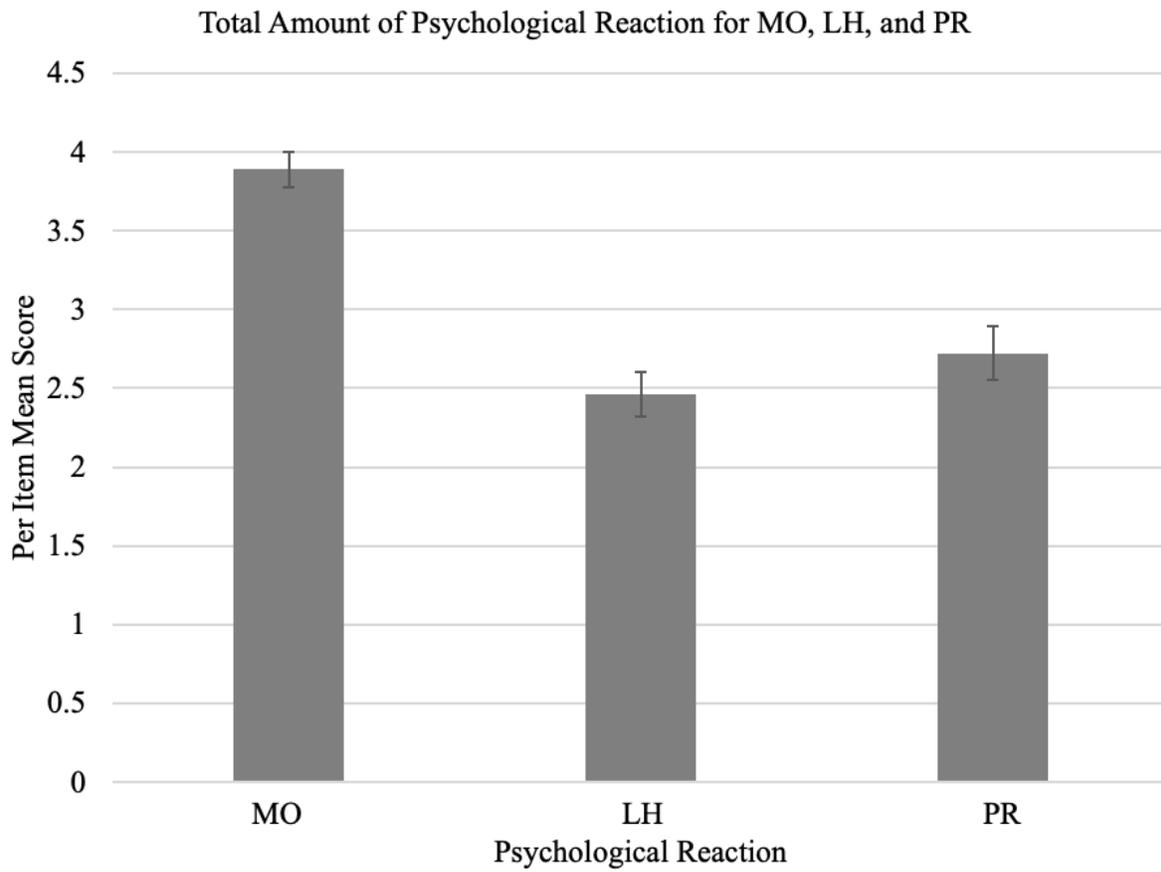
Figure 1 depicts the per item mean levels of Mastery Orientation (MO), Learned Helplessness (LH) & Psychological Reactance (PR) when the participants in all 4 courses were combined.

Data were analyzed to determine if there are significant differences between the courses, therefore, means calculated for each of the 4 courses separately (Figure 2). MO per item course means were for PSY 2850 ($M = 4.10$, $SD = 0.47$), PSY 2855 ($M = 3.84$, $SD = 0.82$), SOC 2206 ($M = 3.92$, $SD = 0.38$), and SOC 2205 ($M = 3.74$, $SD = 0.93$). LH per item course means were for PSY 2850 ($M = 2.17$, $SD = 0.83$), PSY 2855 ($M = 2.52$, $SD = 0.92$), SOC 2206 ($M = 2.28$, $SD = 0.79$), and SOC 2205 ($M = 2.75$, $SD = 0.98$). PR per item course means were for PSY 2850 ($M = 2.11$, $SD = 0.92$), PSY 2855 ($M = 3.25$, $SD = 1.01$), SOC 2206 ($M = 2.68$, $SD = 0.78$), and SOC 2205 ($M = 2.58$, $SD = 1.25$).

To examine course differences in levels of MO, LH, and PR, one way ANOVA (Welch's) with between subjects factor of course (4 levels: 4 courses, PSY 2850, PSY 2855, SOC 2205, SOC 2206) was conducted. The ANOVA did not reveal any significant differences among the courses in measures of MO, $F(3, 19.26) = 0.52$, $p = 0.68$ and LH, $F(3, 18.04) = 0.72$, $p = 0.55$, but a trend approaching significance was found for PR, $F(3, 18.27) = 2.47$, $p = 0.09$.

Relationship among Psychological Reactions and Measures of Academic Success

To analyze the relationship between PR, MO, LH and Final Course Grade, Perceived Learning and Course Satisfaction, Pearson Correlations were conducted. Correlational analysis examining the relationships among MO, LH & PR & Final Course Grade included $n = 9$ subjects. Correlational analysis examining the relationships among MO, LH & PR & Perceived Learning included n = 10 subjects and as did correlational analysis examining the relationships among MO, LH & PR & Course Satisfaction. Correlational analysis examining the relationships among Final Course Grade, Perceived Learning and Course Satisfaction included $n = 23$ subjects. There was a significant negative correlation between LH and MO, $r(38) = - 0.65$, $p = <$

Figure 2

Figure 2 depicts the per item mean levels of Mastery Orientation (MO), Learned Helplessness (LH) & Psychological Reactance (PR) in each course. No significant differences were found among course.

.001, and the association was moderate, indicating that as ratings of LH increase, ratings of MO decrease. There was also a significant, positive correlation between perceived learning and course satisfaction, $r(38) = 0.76$, $p = < .001$, and the association was strong, indicating that as ratings of perceived learning increase, ratings of course satisfaction also increase. Lastly, PR was significantly correlated with perceived learning, $r(38) = - 0.66$, $p = 0.038$, and the association was moderate, indicating that as ratings of PR increase, ratings of perceived learning decrease. Seen in Table 1 all other correlations were not significant, suggesting that psychological reactions may not be related to academic success as measured by Final Course Grade, Perceived learning and Course Satisfaction.

Linear regression analysis was not conducted for these data due to the small sample size.

Table 1

	PR (4 item)	MO score	LH score	Final Course Grade	Course Satisfaction	Perceived Learning
PR	X					
MO	-0.24	X				
LH	-0.01	-0.65*	X			
Final Course Grade	-0.27	0.44	-0.36	X		
Course Satisfaction	-0.52	0.09	-0.40	0.37	X	
Perceived Learning	-0.66*	-0.14	-0.23	-0.21	0.76*	X

*$p < 0.05$

Table 1 depicts the correlations among the psychological reactions and measures of academic success.

Discussion

This study aimed to characterize undergraduate students' psychological reactions to forced online learning of mandatory program courses and examine the relationship between these reactions and measures of academic success. Measures of psychological reactance appeared lower than in previous studies and may be influenced by course characteristics. Psychological Reactance was significantly negatively correlated with perceived learning such that as Psychological Reactance increased, perceived learning decreased. The results did not indicate any other significant relationships between psychological reactions, including Mastery Orientation and Learned Helplessness, and academic success.

Measures of PR, MO & LH, were collected from 4 different courses in this study. Measures of MO & LH were significantly negatively correlated indicating that as Mastery Orientation goes up, Learned Helplessness goes down. This reflects the existing contrast in these behaviours where these reactions are two distinct cognitive, emotional and behavioural patterns (Sorrenti et al. 2015). When looking at levels of the psychological reactions in previous literature, measures of MO & LH appeared to be similar to those previously shown in 17 – 19-year old's (Filipello et al 2018). In addition, in a study conducted by Sorrenti et al. (2015) with participants ranging from 15 to 18 years old, we see the same trends emerge where levels of MO & LH appear to be similar to Brescia Students. The study was done with a sample of middle school students so slight differences in scores were likely to appear. However, we see fairly similar findings between our study and previous literature overall, expecting these trends to emerge. The similarity of these psychological reactions compared to past research can be explained by the difference's personality characteristics contribute to each of the psychological reactions. Personality characteristics are more attributable to MO & LH and levels of these

reactions should remain fairly constant in each situation (Sorrenti et al., 2015). The stability of MO & LH due to personality also aligns with the study conducted by Fincham, Hokoda & Sanders (1989) which looked at MO & LH in children. What they discovered was that self-reported levels of these psychological reactions were stable over time (Fincham, Hokoda & Sanders, 1989). This provides evidence that levels of MO & LH are attributable to the individual rather than the situation.

In contrast, PR scores in Brescia students appeared to be lower compared to previous research (Hong & Faedda, 1996). PR scores in this study measured PR specifically to taking required courses online while other studies have measured general PR (Hong & Faedda, 1996). Therefore, in Brescia Students, there is less PR to taking online courses than levels of general PR in undergraduates and the general population, a positive response appearing in this specific student population. This can be explained by the fact that PR is less related to personality characteristics and more related to situational influences, causing a fluctuation in reported levels of PR when in different situations and environments. This relates back to Brehm's original assumption that PR is a situation specific construct (Brehm & Brehm, 1981). Our research has aligned with early PR theory because of the unique situational context of forced online learning it involved. Furthermore, since PR was considered to be dependent upon certain situations rather than individually attributable, this may account for no significant results for the other psychological reactions of MO & LH (Siebel & Dowd., 2001).

When evaluating differences of psychological reactions between the different courses, there were no significant differences among courses for MO & LH levels. Other research suggests that MO & LH may be dependent on instructor characteristics. For example, in the study conducted by Filipello et al. (2019) we see the evidence of the teacher's role on measures

of MO and LH. Overall, results showed that perceived teacher psychological control predicted school LH and perceived teacher autonomy predicted school MO (Filipello et al., 2019). Importantly, as previously discussed, other studies point to the potential stability of MO & LH as these patterns are strongly related to personality characteristics and academic beliefs (Sorrenti et al. 2015). These conflicting data suggest that more research investigating contributing factors to MO & LH is needed.

On the other hand, course differences for PR approached significance suggesting there are possible influences of course and/or instructor characteristics. This trend likely did not reach significance due to small sample sizes for each of the four classes (PSY 2850 $n = 9$, PSY 2855 $n = 14$, SOC 2205 $n = 10$, SOC 2206 $n = 7$). Indeed, currently psychological reactance is thought to depend on both the specific situation and individual differences (Dowd, 2002). What this suggests is that the situation in specific courses may contribute to potential differences in levels of psychological reactance. This is the first study to our knowledge that has probed psychological reactance in response to forced learning. Clearly, there are many potential influences on psychological reactions in undergraduate students and teacher and course characteristics represent important avenues further investigation.

When looking at the relationship between psychological reactions and measures of academic success, contrary to our hypotheses, there was no significant relationship identified between MO and LH and any measure of academic success collected here including perceived learning, course satisfaction, and final course grade. A possible explanation for this would be the lack of research in university students, as well as the lack of research of university students in the specific context of online learning (Sorrenti et al., 2015). This is important to consider because we are unsure whether MO and LH are related to academic success in university students,

especially in the context of online learning. Most studies have evaluated LH & MO in high school or middle school students (Diener & Dweck, 1987; Fillipello et al., 2019; Valas 2001; Winefield & Norris, 1981). First, Diener & Dweck (1987) conducted a study comparing LH & MO in children and showed that helpless children had low levels of academic achievement, but mastery-oriented children persisted and had high levels of academic achievement. Filipello et al. (2019) evaluated the role of LH & MO in the classroom in high-school students. Results found academic achievement was positively predicted by MO and negatively predicted by LH (Fillipello et al., 2019). When looking at middle school children, Valas (2001) found that lower levels of learned helplessness were related to higher levels of academic achievement. Lastly, Winefield & Norris (1981) evaluated the role of uncontrollable events on academic achievement and found that those with lowest levels of learned helplessness performed best in the context of uncontrollable events. Moreover, this may be the first study examining the relationship in university students.

On the other hand, PR was the only psychological reaction to show a relationship with measures of academic success. More specifically, there was a significant negative correlation between PR and perceived learning as we hypothesized. This means that as PR goes down, perceived learning goes up. Research conducted by Steindl et al. (2015) showed that when one adopts negative attitudes in the presence of uncontrollable outcomes, as is typical of psychological reactance (i.e. Reynolds-Tylus, 2019) the individual does not engage in the behaviour intentionally and this creates deficits in optimal human functioning. In this specific context of forced online learning, a lack of engagement in courses could lead to decreased learning and ultimately result in lowered perceived learning. These findings agree with previous research done by Hoskins & Van Hoof (2005). Their research found that students who engaged

more frequently with online learning had higher measures of achievement than those who passively engaged (Hoskins & Van Hoof, 2005). Since high levels of PR are thought to lead to less behavioural engagement, this would mean students in the current study were passively engaging with online learning opposed to actively engaging, with an end result of lowering their overall ratings of perceived learning. Future research would need to confirm that higher levels of psychological reactance results in lowered course engagement.

On the other hand, contrary to our hypotheses, there was no significant relationship between PR and final course grade or course satisfaction in the current study. This was not entirely surprising as academic success is difficult to operationalize and measure (York, Gibson, Rankin, 2015). Course satisfaction, for example, may measure contextual factors that contribute to a student's ability to succeed academically but may not be a component of academic success itself (York, Gibson, & Rankin, 2015). Final course grades are intended to measure learning but instead may measure a student's ability to perform (York, Gibson, & Rankin, 2015). Rovai (2002), also suggests that final grade is not the best measure of academic success and relying on self-reported perceived learning may be more important. This is because grades may be in restricted ranges and this causes a limited use in correlational studies (Rovai, 2002). Moreover, grades may have little relationship to what students have learned. Lastly, grades are not assigned consistently by different instructors and this leads to a lot of variation (Rovai, 2002). Another issue with final course grade as a measure of academic success would be the reliance of students to provide consent for the use of their grades in this analysis. Since participants self-select to provide consent for final grades, this may limit the range of grades and not allow for full analysis. Using other measures of academic success, such as our measure of perceived learning, did not restrict our data range. Additionally, using self-reports of perceived learning have been a

valid way to measure learning and academic success as stated in previous literature (Rovai, 2002) and may provide a more sensitive measure to establish factors related to academic success such as psychological reactance shown in this study.

There are important limitations to discuss that have not yet been addressed. First, Brescia University College is an all-women's University, and this therefore produced an all women sample. This means that these findings may not be generalizable to males and this is important to note. In fact, a previous study by Woller et al. (2007) found men to have higher reactance than women. This means further research would be crucial to examine a sample including men and an analysis of sex differences would help generalize findings. Another limitation would be the reliability of self-report measures used in the study. Since all surveys were administered online, we cannot be certain that all data was accurately reported and collected. Often, participants will not want to fully report the negative aspects of themselves and rate themselves more favourably than they actually were. Although anonymity was ensured, there can still be potential discrepancies in this form of data collection.

Future research is necessary to further the investigation of the role of psychological reactions on academic success in university students. First, the previous literature conducted by Winefield & Norris (1981) showed that perceived helplessness and perceived control were important variables affected by LH. Moreover, further research with these two measures would be valuable in the analysis of the three psychological reactions in the forced online classroom. In addition, further research should include larger sample sizes to further the evaluation of PR, LH. & MO. By looking at specific measures of instructor characteristics and course characteristics and their influence on these psychological reactions in greater sample sizes, this can provide important consideration for learning overall. Lastly, the exploration of different measures of

academic success would be valuable to further explore to determine which measure is more suitable for measurement in this specific context.

Overall, this was one of the first studies to analyze the relationship between PR, LH, and MO and academic success in university students in the online classroom. Importantly, this study investigated how removing the choice of enrolling in online courses is related to academic success. This was a novel learning context resulting from the COVID-19 pandemic as COVID-19 has forced a shift to online learning at Brescia where previously, no online courses were offered. This shift has changed the way that students must learn, and the current findings help us to understand how students are reacting to online learning during COVID-19 and what factors are related to academic success. These results provide the foundation for future studies examining what factors contribute to Psychological Reactance, Learned Helplessness, and Mastery Orientation in the online classroom and how these impact measures of student academic success.

References

Alqurashi, E. (2019). Predicting student satisfaction and perceived learning within online l

earning environments. *Distance Education*, *40*(1), 133-148.

https://doi.org/10.1080/01587919.2018.1553562

Amini, A., Pishghadam, R., & Saboori, F. (2019). On the Role of Language Learners'

Psychological Reactance, Teacher Stroke, and Teacher Success in the Iranian

Context. *Journal of Research in Applied Linguistics*, *10*(2), 25-43.

https://dx.doi.org/10.22055/rals.2019.14716

Brehm, S. S., & Brehm, J. W. (1981). Psychological reactance. New York: Academic Press.

Diener, C. I., & Dweck, C. S. (1978). An analysis of learned helplessness: Continuous changes

in performance, strategy, and achievement cognitions following failure. *Journal of

Personality and Social Psychology,* 36(5), 451.

https://psychnet.apa.org/doi/10.1037/0022=3514.36.5.451

Donnell, A. J., Thomas, A., & Buboltz Jr, W. C. (2001). Psychological reactance: Factor

structure and internal consistency of the questionnaire for the measurement of

psychological reactance. *The Journal of Social Psychology*, *141*(5), 679-687.

https://doi.org/10.1080/00224540109600581

Dowd, E. T., Wallbrown, F., Sanders, D., & Yesenosky, J. M. (1994). Psychological reactance and

its relationship to normal personality variables. *Cognitive Therapy and Research*, *18*(6),

601-612. https://psycnet.apa.org/doi/10.1007/BF02355671

Filippello, P., Buzzai, C., Costa, S., Orecchio, S., & Sorrenti, L. (2020). Teaching style and

academic achievement: The mediating role of learned helplessness and mastery

orientation. *Psychology In The Schools*, *57*(1), 5-16. https://doi.org/10.1002/pits.22315

Fincham, F. D., Hokoda, A., & Sanders Jr, R. (1989). Learned helplessness, test anxiety, and academic achievement: A longitudinal analysis. *Child Development*, 138-145. https://doi.org/10.2307/1131079

Hong, S. M., & Faedda, S. (1996). Refinement of the Hong psychological reactance scale. *Educational and Psychological Measurement*, *56*(1), 173-182.

Hoskins, S. L., & Van Hooff, J. C. (2005). Motivation and ability: which students use online learning and what influence does it have on their achievement. *British Journal of Educational Technology*, *36*(2), 177-192. https://doi.org/10.1111/j.1467-8535.2005.00451.x

Jardine, E., & Winefield, A. H. (1981). Achievement motivation, psychological reactance, and learned helplessness. *Motivation and Emotion*, *5*(2), 99-113. https://psycnet.apa.org/doi/10.1007/BF00993891

Lim, D., & Kim, H. (2016). Motivation and Learner Characteristics Affecting Online Learning and Learning Application. *Journal of Educational Technology Systems*, *31*(4), 423–439. https://doi.org/10.2190/0lw0-ke8x-mdyh-x27f

Mattern, R. A. (2005). College students' goal orientations and achievement. *International Journal of Teaching and Learning in Higher Education*, *17*(1), 27-32.

Mead, Nicole L. (2007). "Reactance". In Baumeister, Roy; Vohs, Kathleen (eds.). *Encyclopedia of Social Psychology*. SAGE Publications. doi:10.4135/9781412956253.n433

Reynolds-Tylus, T. (2019). Psychological reactance and persuasive health communication: a Review of the literature. *Frontiers in Communication*, *4*, 56. https://doi.org/10.3389/fcomm.2019.00056

Rovai, A. P. (2002). Sense of community, perceived cognitive learning, and persistence in

asynchronous learning networks. *The Internet and Higher Education*, *5*(4), 319-332.

Seibel, C. A., & Dowd, E. T. (2001). Personality characteristics associated with psychological

reactance. *Journal of Clinical Psychology*, *57*(7), 963-969.

https://psycnet.apa.org/doi/10.1002/jclp.1062

Sittenthaler, S., Traut-Mattausch, E., Steindl, C., & Jonas, E. (2015). Salzburger state reactance

scale (SSR scale). *Zeitschrift für Psychologie*. https://doi.org/10.1027/2151-2604/a000227

Sorrenti, L., Filippello, P., Costa, S., & Buzzai, C. (2015). A psychometric examination of the

Learned Helplessness Questionnaire in a sample of Italian school students. *Psychology in

the Schools*, *52*(9), 923-941. http://dx.doi.org/10.1002/pits.21867

Steindl, C., Jonas, E., Sittenthaler, S., Traut-Mattausch, E., & Greenberg, J. (2015).

Understanding psychological reactance. *Zeitschrift für Psychologie*.

https://doi.org/10.1027/2151-2604/a000222

Winefield, A. H., & Norris, P. J. (1981). Effects of exposure to uncontrollable events as a

function of achievement motivation and initial expectation of success. *Motivation and

Emotion*, *5*(3), 235-248. https://psycnet.apa.org/doi/10.1007/BF00993887

Wojciechowski, A., & Palmer, L. B. (2005). Individual student characteristics: Can any be

predictors of success in online classes. *Online Journal of Distance Learning

Administration*, *8*(2), 13.

Woller, K. M., Buboltz, W. C., & Loveland, J. M. (2007). Psychological reactance: Examination

across age, ethnicity, and gender. *The American Journal of Psychology*, 15-24.

https://doi.org/10.2307/20445379

Wortman, C. B., & Brehm, J. W. (1975). Responses to uncontrollable outcomes: An integration

of reactance theory and the learned helplessness model. In *Advances in Experimental Social Psychology*, *8,* 277-336. Academic Press. https://doi.org/10.1016/S0065-2601(08)60253-1

Valås, H. (2001). Learned helplessness and psychological adjustment: Effects of age, gender and academic achievement. *Scandinavian Journal of Educational Research*, *45*(1), 71-90. https://doi.org/10.1080/00313830020042689

York, T. T., Gibson, C., & Rankin, S. (2015). Defining and measuring academic success. *Practical Assessment, Research, and Evaluation*, *20*(1), 5. https://doi.org/10.7275/hz5x-tx03

Appendix A

Early Course Survey

First, we'd like to learn a little about you as an individual:

1. What is your program?
- Social Sciences (Sociology, Psychology, Criminal Justice, Family Studies): _____
- Food and Nutritional Sciences: _____
- Humanities (i.e. English, French etc…): _____
- Leadership and Management: _____

2. Are you enrolled at Brescia University College
   a. Yes
   b. No

3. Please create a unique personal code for yourself. This code must consist of the last 4 numbers of your cell phone number and the last 4 letters of your mother's maiden name.
   _____

4. Please Specify your Gender
   a. Male
   b. Female
   c. Other
   d. Prefer not to say

5. Which category best describes your ethnic group? Please check all that apply:
   _____ Black or African American
   _____East Asian (e.g., Chinese, Japanese)
   _____First Nations
   _____Hispanic or Latino
   _____ Middle Eastern Asian (e.g., Arab, Hebrew)
   _____ South Asian (e.g., Indian, Sri Lankan)
   _____ White
   _____ Other. Please List _____

6. What is your Age? _____

7. What is your year of study?
   a. First
   b. Second
   c. Third
   d. Fourth
   e. Fourth +

8. Which course are you answering questions about today?
   a. PSY 2850A/B: Statistics for Psychology I
   b. PSY 2855F/G: Research Methods I

9. For the course you chose above (PSY 2850 or PSY 2855), what is your course status?
    a. Required course
    b. Optional course

10. For the course you chose above (PSY 2850 or PSY 2855), what is your expected course grade?
    a. 90-100%
    b. 80-89%
    c. 70-79%
    d. 60-69%
    e. Below 60%

11. Rate your enthusiasm for this course:

Not at all enthusiastic	A little enthusiastic	Somewhat enthusiastic	Moderately enthusiastic	Very enthusiastic

12. Where are you living or staying currently?
    a. On Brescia or Western's campus
    b. Off campus, but still in London, Ontario
    c. In a different city or town than London, Ontario but still in Canada
    d. Outside of Canada

13. What are the benefits or advantages for your learning, if any, of where you are currently living? [qualitative]
    _____

14. What are the limitations or disadvantages for your learning, if any, of where you are currently living? _[qualitative]
    _____

15. Have you taken online/distance studies courses in the past? Yes/No

16. How many? ____

17. What are the benefits or advantages of online teaching? [qualitative]
    _____

18. What are the limitations or disadvantages of online teaching? [qualitative]
    _____

19. How are you adjusting to the transition to online teaching? [qualitative]

    _____

-Now we want to find out how you felt when you found out that you that your Research Methods or Statistics for Psychology was only offered online and that you had no choice about the class format (online vs in-person):
Please indicate how much you agree with each of the following statements:
    20. "If I had the choice, I would have not taken this course via the internet"

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

21. I feel frustrated that I was unable to make free and independent choices about the format (online vs in-person) of my course.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

22. I feel angry that my freedom of choice for course format (online vs in-person) is restricted.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

23. Since the in-person course is not possible, it makes me think "I want to take this course in-person even more"

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

24. Since I am being forced to take this course online, I don't feel like taking this course at all.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

Now we are interested in how you respond to challenging situations in your academic life in general:
Please indicate how which you agree with each of the following statements:

25. When you encounter an obstacle in your work, you work to overcome it.

Not at all true	Somewhat true	Moderately true	Mostly true	Absolutely true

26. Try to finish homework/assignments, even when they are difficult.

Not at all true	Somewhat true	Moderately true	Mostly true	Absolutely true

27. In general, you attempt to do your work thoroughly and well, rather than just trying to get by.

Not at all true	Somewhat true	Moderately true	Mostly true	Absolutely true

28. Prefer new and challenging problems to easy problems.

Not at all true	Somewhat true	Moderately true	Mostly true	Absolutely true

29. When someone points out a mistake you "take it in stride," try to correct the error, and continue to work.

Not at all true	Somewhat true	Moderately true	Mostly true	Absolutely true

30. When experiencing difficulty, you persist for a while before asking for help.

Not at all true	Somewhat true	Moderately true	Mostly true	Absolutely true

31. When you receive a poor grade, you say that you will try harder in that subject next time.

Not at all true	Somewhat true	Moderately true	Mostly true	Absolutely true

32. When you fail one part of a task, you feel discouraged—you are certain to fail at the entire task.

Not at all true	Somewhat true	Moderately true	Mostly true	Absolutely true

33. Make negative or degrading comments about your ability when you perform poorly.

Not at all true	Somewhat true	Moderately true	Mostly true	Absolutely true

34. When you begin a difficult problem, your attempts are half-hearted.

Not at all true	Somewhat true	Moderately true	Mostly true	Absolutely true

35. Do not respond with enthusiasm and pride when asked how you are doing on a school/academic task.

Not at all true	Somewhat true	Moderately true	Mostly true	Absolutely true

36. Say things like "I can't do it" when you have trouble with your work.

Not at all true	Somewhat true	Moderately true	Mostly true	Absolutely true

37. When you encounter an obstacle in schoolwork you get discouraged and stop trying. You are easily frustrated

Not at all true	Somewhat true	Moderately true	Mostly true	Absolutely true

Finally, we want to ask a few questions about your feelings about social connection and relationships in your university classes BEFORE THIS YEAR.

38. Social connection is the feeling that you belong to a group and generally feel close to other people. In general, how important is social connection to you?

Unimportant	Of little importance	Somewhat important	Moderately Important	Very important

39. Considering your previous university course experiences *before this year*, how often did you develop relationships with or feel connected to other students in your classes?

Never	Rarely	Sometimes	Very often	Always

40. Considering your previous university course experiences *before this year*, how often did you develop relationships with or feel connected to the instructor in your classes?

Never	Rarely	Sometimes	Very often	Always

41. Please tell a bit about the connection you felt to other students & instructor in your university classes *before this year* [qualitative]

_____

Thank you for completing the Early Course survey! You are now finished.

Please click "Submit Survey" below to submit your survey responses.

Submit survey

As a thank-you for your time, we would like to offer you a $20 Amazon gift card.
- To receive your gift card, please provide us with your email address:

_____

Appendix B
Late Course Survey
Did you complete the Early Course Survey in this study? [yes/no].
1. **If yes, please input the personal code you created in the Early Course Survey, Part 1**
   This code consisted of the last 4 numbers of your cell phone number and the last 4 letters of your mother's maiden name. _____

2. Which course are you answering questions about today? If you completed Part 1: Early Course survey, please refer to the same course when answering all questions.
   a. PSY 2850A/B: Statistics for Psychology I
   b. PSY 2855F/G: Research Methods

If no: First, we'd like to learn a little about you as an individual.
3. What is your program?
   - Social Sciences (Sociology, Psychology, Criminal Justice, Family Studies): _____
   - Food and Nutritional Sciences: _____
   - Humanities (i.e. English, French etc…): _____
   - Leadership and Management: _____

4. Are you enrolled at Brescia University College
   a. Yes
   b. No

5. Please Specify your Gender
   a. Male
   b. Female
   c. Other
   d. Prefer not to say

6. Which category best describes your ethnic group? Please check all that apply:
   ____ Black or African American
   ____ East Asian (e.g., Chinese, Japanese)
   ____ First Nations
   ____ Hispanic or Latino
   ____ Middle Eastern Asian (e.g., Arab, Hebrew)
   ____ South Asian (e.g., Indian, Sri Lankan)
   ____ White
   ____ Other. Please List _____

7. What is your Age? ____

8. What is your year of study?

   a. First
   b. Second
   c. Third

       d. Fourth
       e. Fourth +

9. For the course you chose above (PSY 2850 or PSY 2855), what is your course status?
       a. Required course
       b. Optional course

10. For the course you chose above (PSY 2850 or PSY 2855), what is your expected course grade?
       a. 90-100%
       b. 80-89%
       c. 70-79%
       d. 60-69%
       e. Below 60%

11. Rate your enthusiams for this course:

Not at all enthusiastic	A little enthusiastic	Somewhat enthusiastic	Moderately enthusiastic	Very enthusiastic

12. Where are you living or staying currently?
       a. On Brescia or Western's campus
       b. Off campus, but still in London, Ontario
       c. In a different city or town than London, Ontario but still in Canada
       d. Outside of Canada

13. What are the benefits or advantages for your learning, if any, of where you are currently living? [qualitative]

    _____

14. What are the limitations or disadvantages for your learning, if any, of where you are currently living? _[qualitative]

    _____

15. Have you taken online/distance studies courses in the past? Yes/No

16. How many? ____

17. What are the benefits or advantages of online teaching? [qualitative]
    _____

18. What are the limitations or disadvantages of online teaching? [qualitative]
    _____

19. How are you adjusting to the transition to online teaching? [qualitative]

    _____

Now, we would like to know a bit about the course, PSY 2850 or PSY 2855, you are currently in:

Please think about the course you listed above (PSY 2850 OR PSY 2855) when answering the questions below:

20. Please estimate the % of course activities completed:

19% or less	20 – 49%	50 – 69%	70 – 89%	90% or more

21. In a typical week, how often did you visit/interact with/complete work on the course OWL site?

Once a week or less	2 – 3 times per week	4 – 5 times per week	6 – 7 times per week	More than 7 times per week

22. Social connection is the feeling that you belong to a group and generally feel close to other people.
For the questions below, please think about your social connections in the course you listed above.
Overall, how connected did you feel to the other students in the class?

Not at all connected	A little connected	Somewhat connected	Moderately Connected	Very connected

23. In general, how often did you communicate or interact with other students in the class (e.g. discussion forums, group activities, emails, instant messaging, watch student videos, read others' work etc)?

Never	Rarely	Sometimes	Often	Always

24. In this course, how did you feel about your social connection with other students in the class?

Want a lot less connection	Want a little less connection	Satisfied	Want a bit more connection	Want a lot more connection

25. Overall, how connected did you feel to your instructor of the class?

Not at all connected	A little connected	Somewhat connected	Moderately Connected	Very connected

26. In general, how often did you communicate or interact with the instructor of the class (e.g. emails, announcements, discussion forums, feedback, OWL or instant messaging, watch videos, etc)?

Never	Rarely	Sometimes	Often	Always

27. In this course, how did you feel about your social connection with the instructor in the class?

Want a lot less connection	Want a little less connection	Satisfied	Want a bit more connection	Want a lot more connection

28. Class community is defined by feelings of connection, belonging, trust and interaction that foster learning and help meet the educational needs of members. Overall, how strongly did you feel a sense of class community in this course?

Not at all	A little	Somewhat	Moderately	Very

29. Please comment on why you did or did not feel a sense of community in this course. [qualitative]

_____

30. What do you think helps students succeed in online courses? [qualitative]

31. How could this online course support your learning better? [qualitative]

We have some more questions about the course, PSY 2850 or PSY 2855, that you are currently in:

Please indicate how much you agree with the following statements:

32. Overall, I was satisfied with my online learning experience in this course .

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

33. This online course met my needs as a learner.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

34.   The quality of the course compared favourably to my other courses.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

35. I would recommend this online course to another student.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

36. I feel the quality of the course I took was largely unaffected by conducting it via the Internet.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

37. If I had to do it over, I would not take this course via the Internet (reverse coded).

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

38. In your estimation, how well did you learn the material presented in this course?

Not well at all	Not so well	Somewhat well	Very well	Extremely well

39. I felt I achieved the objectives in this course.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

40. I learned concepts and principles in this course.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

41. I gained good understanding of the basic concepts of the material.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

42. I developed the ability to communicate clearly about the subject.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

43. The instructor clearly communicated important course topics.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

44. The instructor clearly communicated important course goals.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

45. The instructor provided clear instructions on how to participate in course learning activities.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

46. The instructor clearly communicated important due dates/time frames for learning activities.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

47. The instructor was helpful in identifying areas of agreement and disagreement on course topics that helped me to learn.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

48. The instructor was helpful in guiding the class towards understanding course topics in a way that helped me clarify my thinking.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

49. The instructor helped to keep course participants engaged and participating in productive dialogue.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

50. The instructor helped keep the course participants on task in a way that helped me to learn.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

51. The instructor encouraged course participants to explore new concepts in this course.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

52. Instructor actions reinforced the development of a sense of community among course participants.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

53. The instructor helped to focus discussion on relevant issues in a way that helped me to learn.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

54. The instructor provided feedback that helped me understand my strengths and weaknesses relative to the course's goals and objectives.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

55. The instructor provided feedback in a timely fashion.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

56. Getting to know other course participants gave me a sense of belonging in the course.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

57. I was able to form distinct impressions of some course participants.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

58. Online or web-based communication is an excellent medium for social interaction.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

59. I felt comfortable conversing through the online medium.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

60. I felt comfortable participating in the course discussions.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

61. I felt comfortable interacting with other course participants.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

62. I felt comfortable disagreeing with other course participants while still maintaining a sense of trust.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

63. I felt that my point of view was acknowledged by other course participants.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

64. Online discussions help me to develop a sense of collaboration.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

65. Problems posed increased my interest in course issues.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

66. Course activities piqued my curiosity.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

67. I felt motivated to explore content related questions.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

68. I utilized a variety of information sources to explore problems posed in this course.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

69. Brainstorming and finding relevant information helped me resolve content related questions.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

70. *Online discussions were valuable in helping me appreciate different perspectives.*

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

71. Combining new information helped me answer questions raised in course activities.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

72. *Learning activities helped me construct explanations/solutions.*

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

73. *Reflection on course content and discussions helped me understand fundamental concepts in this class.*

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

74. I can describe ways to test and apply the knowledge created in this course.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

75. I have developed solutions to course problems that can be applied in practice.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

76. I can apply the knowledge created in this course to my work or other non-class related activities.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

Thank you for completing the Late Course survey! You are now finished.

Please click "Submit Survey" below to submit your survey responses.

Submit survey

As a thank-you for your time, we would like to offer you a $20 Amazon gift cards.
To receive your gift card, please provide us with your email address: _____
_____