Behaviors as Predictors of Reinforcement: Investigating Parent's Psychological Antecedent and Parental Engagement Mechanisms in Distance Learning

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Abstract: Due to COVID-19, remote learning gave way to implementing modular and online setup of acquiring education. Several studies resulted in the efficacy of parent's commitment to the achievement of their children academically. The research seeks to determine the relationship between parental engagement and their psychological antecedent with the use of a 4-point Likert Scale intervened by parent's demographic profile in terms of gender, age, type of modular learning, number of children enrolled in S.Y. 2020 to 2021, and educational background. Validation of the questionnaire was calculated using Cronbach's alpha coefficient formula through the SPSS software. The computed alpha coefficient was 0.96, which is acceptable reliability. Additionally, with 301 parents, researchers evaluated the gathered data through Pearson Correlation and Regression analysis. The results implied that between the parent's psychological antecedent and engagement in their children's remote learning, parent's psychological behavior influences change in their commitment and determination to guide and teach their children amidst the COVID-19 pandemic. It has also been acknowledged through regression analysis that parental engagement mechanisms are best predicted by the demographic's profile of parents, specifically concerning gender and their children's remote learning modalities and their psychological antecedent amidst the pandemic. Hence, future researchers must employ longitudinal studies to determine parent's display of behavior during and after the remote learning environment for further investigation.

Key Words: distance learning; parental engagement; psychological antecedent; behavior; COVID-19 Pandemic

1. INTRODUCTION

The COVID-19 pandemic has progressed our lives to an entirely different and distinctive level. The ability of personal contact and joining crowds were diminished to dodge the spread of infection. Subsequently, the birth of technological and online setups was employed dominantly, especially in educational fields, given the context of the pandemic.

Since school systems are disrupted and educational opportunities are impacted in multiple ways, more collaboration is needed from various parties, namely schools, teachers, parents, and children (Azani et al.) In such an event, parental involvement mechanisms (facilitating, instructing, and organizing) are necessary to help children prevail in the education programs bundled by the public authority and schools. However, these mechanisms are influenced by a psychological antecedent- a precipitating event that cues an individual to perform a behavior of avoidance, aggression, or stigma. These antecedents portray a unique role while endeavoring to trigger positive and negative results in remote learning. Given that, the level of parental involvement is determined whenever a psychological antecedent is being activated by the parents.

1.1 Parent's Psychological Antecedent

Otherwise called as "setting event," the psychological antecedent alludes to any activity, circumstance or behavior that led up to a conduct and production of reinforcement. This element frames strategic methods of parents in terms of educational engagement.

For instance, it is either pivotal- meaning it leads to the creation of desirable outcomes- a positive execution of parenting practices and engagement, or undesirable outcomes- a problem that raises danger or distraction of parents towards the way they fulfill teaching responsibilities. This event might urge parents in detaching themselves towards helping their child in the academe.

Taking account the element of antecedent, a reinforcement is determined. This serve as a consequence of action or response from the antecedent

obtained. The reinforcement necessarily means as a disciplinary action or effort and collaboration provided as predictors to their child's academic outgrowth.

1.2 Parental Engagement

As support mechanisms for online learning continue to evolve, parental engagement plays a significant role in any effort to enhance learning outcomes. Studies show that there is a strong correlation between parent participation and student success. Perhaps for both face-to-face and virtual courses, it would be feasible.

Involvement can be described as the act of participating in an activity or event or situation. In contrast, engagement can be described as the feeling of being involved in a specific activity or a formal arrangement to meet or do something with someone, particularly as part of your public duties "(Macmillan Dictionary, 2009-2012). If we take these two principles together, engagement appears to involve more than activity. There is a greater sense of ownership than there is in mere participation. It suggests that parents' involvement needs greater participation

and greater participation of acts than the participation of parents in schools (Goodall & Montgomery, 2014). Harris and Goodall (2016) stated that parental engagement is "the worst problem and the best solution." Unfortunately, researchers studying parental involvement have concentrated almost entirely on face-to-face environments, and very little is known about parental involvement in online settings.

As stated by Hoover-Dempsey and Sandler (2015), established not only how parents are engaged in their students' learning but also why parents are employed. Maintained parental involvement, the parents were motivated by (1) the expectation that they should be involved; (2) the conviction that their involvement would promote the success of their children; (3) the awareness born from the observation of their children and schools, that their involvement is necessary; (4) the perception of unique invitations from the school, their children or the teacher to be engaged; and (5) the perception of their expertise.

Russell (2017) said that parent monitoring should be directed towards students' academic integrity as the physical separation of teachers and students creates a lack of academic trustworthiness surveillance that parents must fulfill. Researchers have recognized that online student parents can track technological and expected issues.

Previous studies on parental involvement have explored its correlation with the success rate on children's cognitive and social fulfillment while scrutinizing a single factor of influence- the level of parental education. There have been several calls for further research to better understand parent

involvement in distance learning (Black, 2009; Cavanaugh et al., 2009; Rice, 2009).

This study uses the Adolescent Community of Engagement (ACE) developed by Borup et al. (2014), using existing research on online learning frameworks towards how parents, teachers, and peers affect students' learning development due to their foregoing emotional behavior. There have been several calls for further research to better understand parent involvement in distance learning (Black, 2009; Cavanaugh et al., 2009; Rice, 2009).
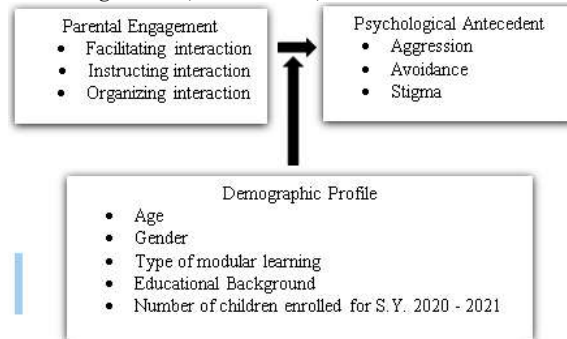
Schematic Diagram of the Study

This study used ACE by Borup et al. (2014) to elaborate the relationship between parent's engagement and psychological antecedent. The Parental Engagement employed served as the dependent variable consisting (a) facilitating interaction, (b) instructing interaction and (c) organizing interaction. On the other hand, Psychological antecedent served as the independent variable consisting (a) aggression, (b) avoidance, and (c) stigma. These two variables will be then intervened by parent's demographic profile in term of (a) age, (b) gender, (c) type of modular learning, (d) number of children enrolled in S.Y. 2020 to 2021, and (e) educational background.

Hence, this study was conducted to investigate the relationship between parent's psychological antecedent and engagement with regards to the demographic profiles of the parents in terms of gender, age, educational background, number of children in school, and children's type of remote learning material as influences in conducting and measuring the validity of parental involvement mechanisms during 2020 COVID-19.

2. METHODOLOGY

A correlational study was conducted to determine the value of variables and see whether there is an existing and significant relationship between them. The instrument utilized in this study is a quantitative methodology that employed questionnaires consisting of 63 items that were adapted from the HooverDempsey and Sandler's

(2005) study to measure the three parental mechanisms. The survey was refined by excluding items that are only relevant to face-to-face school involvement. The refined survey obtains a four-point Likert-type response scale: 1=never, 2=rarely, 3=sometimes, 4=often. Given the limited personal interactions, the survey was made and distributed digitally. This survey aims to accumulate sufficient data relating to the study's objectives since it plays as the study's principal instrument.

This study's target participants are parents with children enrolled in S.Y 2020-2021 amidst the pandemic. The parents were selected through the identification of having children who obtained a material of online learning, digital modules, or printed modules for their scholarly activities. The numerical data gathered will be analyzed through Microsoft Excel and Statistical Package for the Social Sciences (SPSS). Mean scores and percentage count will be used to determine the description of the data. Furthermore, pearson's correlation coefficient and multiple regression analysis will measure the relationship between the parents' psychological antecedent and parental engagement, which are being moderated by the parents' demographic profile.

3. RESULTS AND DISCUSSION

In order to derive implications, computing of continuum is first required to obtain specific ranges. Continuum was computed by $(n-1)/n$ where n is the number of description in 4 point-Likert scale namely: never, rarely, sometimes and often, in which in this case is 4. Hence, $(4-1)/4$ is equivalent to 0.75. Given that, the range is 0.75 resulting to the numerical data on continuum. Moreover, the questions under facilitating, instructing, organizing, aggression & avoidance served as negative questions while stigma is served as positive formulated questions on the questionnaire. Thus, the implications of both positive and negative questions are opposite from each other.

Table 1. The process on how are the data evaluated to form implications.

Continuum	Description	Implication for facilitating, instructing, organizing, aggression & avoidance	Implication for stigma
1.00 – 1.75	Never	Low	Very High
1.76 – 2.50	Rarely	Moderate	High
2.51 -3.25	Sometimes	High	Moderate
3.26 – 4.00	Often	Very High	Low

Table 2. The Demographic total in terms of gender, age, type of modality, number of children and educational background.

Demographic Profile	Dimension	Total
Gender	Female	189
	Male	112
Age	20s	57
	30s	99
	40s	119
	50s	26
Type of Modality	Online	101
	Digital	95
	Printed	105
Number of children	1-2	157
	3-4	126
	5-6	13
Educational Background	High school	59
	College	206
	Master's degree	36

The highest total in each dimension are the following: female (189), forty years old (119), printed modules (105), one to two numbers of children enrolled in S.Y. 2020-2021 (157), and college (206).

Table 3. Level of parental engagement employed by parents.

Variable	Mean	Std Dev	Implication
Parent Engagement	3.03	0.80	High Parental Engagement
Facilitating	2.99	0.71	
Instructing	3.03	0.78	
Organizing	3.07	0.78	

The parent's level of parental engagement employed during the learning of their children was found to be high, having a mean of 3,03. Among the dimensions, Organizing has the most significant mean having 3.07 and a standard deviation of 0.78. With this, it can be implied that parents have high parental engagement. Also, its dimension will be fatherly discussed below.

Table 4. Level of psychological antecedent employed by parents.

Variable	Mean	Std Dev	Implication
Psychological Antecedent	2.02	0.99	Moderate Psychological antecedent
Avoidance	2.44	0.28	
Aggression	1.83	0.21	
Stigma	1.89	0.26	

Parent's level of psychological antecedent resulted to have a mean of 2.02 and a standard deviation of 0.99. Thus, parents don't always tend to portray negative behaviour to their children. This implies that parents have moderate psychological antecedent towards the modular learning of their children.

Significance of relationship between the Psychological Antecedent of parents and their Parental Engagement

Table 5. Relationship between the Psychological Antecedent; Avoidance, Stigma and Aggression of parents and their Parental Engagement; Facilitating, Instructing and Organizing

Parental Engagement	Psychological Antecedent					
	Avoidance		Stigma		Aggression	
	r-value	Description	r-value	Description	r-value	Description
Facilitating	.164	Weak Correlation	.299	Moderate Correlation	.318	Moderate Correlation
Instructing	.243	Weak Correlation	.276	Weak Correlation	.270	Weak Correlation
Organizing	.268	Weak Correlation	.260	Weak Correlation	.240	Weak Correlation

The computed Pearson correlation for the parent's Psychological Antecedent and their Parental Engagement shows a positive significant relationship. Thus, rejecting the null hypothesis since the p-value is lesser than the level of significance which has a value of 0.01. Multiple regression analysis was also used to test what predicts the Parental Engagement of Parents.
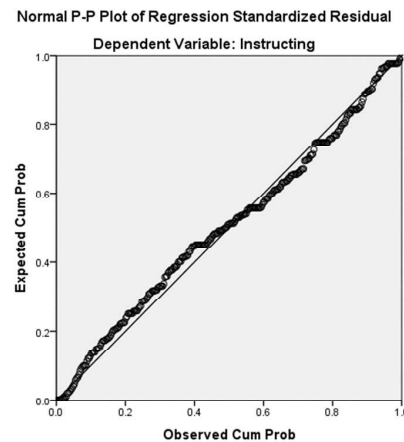
Figure 1. Normal P-P Plot of Regression Standardized Residual of Parental Engagement in terms of Facilitating
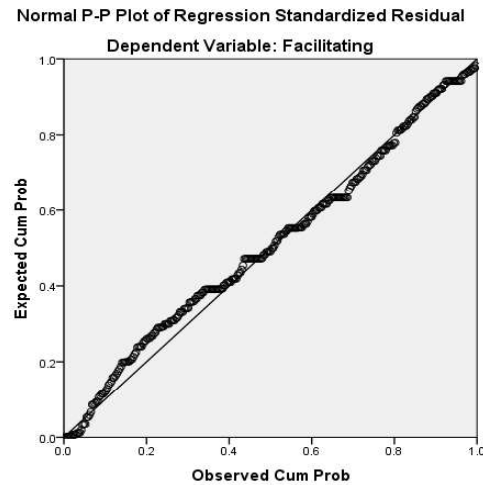
Facilitating = 2.486 + Remote Learning Modality (.115) + Aggression (.232)

A multiple linear regression was calculated to predict facilitating based on demographic profile and psychological antecedents. A significant regression equation was found ($F_{(2,298)} = 21.476$, $p < .000$), with and R^2 of .355. Participant's predicted facilitating is equal to 2.486 + Remote Learning (.115) + Aggression (.232).

Figure 2. Normal P-P Plot of Regression Standardized Residual of Parental Engagement in terms of Instructing

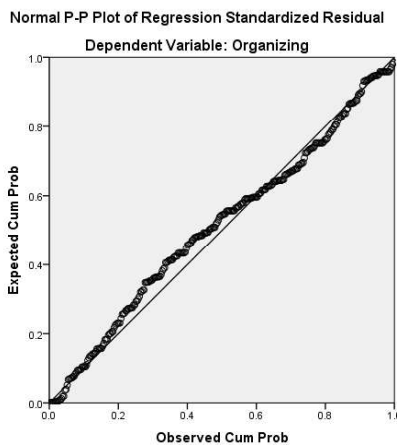Instructing = 2.235 + Stigma (.164) + Avoidance (.110) + Gender (.140)

A multiple linear regression was calculated to predict Instructing based on demographic profile and psychological antecedents. A significant regression equation was found (F(2,297) = 12.468, p <.000), with and R² of .334. Participant's predicted facilitating is equal to 2.235 + Stigma (.164) + Avoidance (.110) + Gender (.140).

Figure 3. Normal P-P Plot of Regression Standardized Residual of Parental Engagement in terms of Organizing

Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Organizing

Organizing = 1.987 + Avoidance (.152) + Remote Learning Modality (.097) + Gender (.167) + Stigma (.136)

A multiple linear regression was calculated to predict Organizing based on demographic profile and psychological antecedents. A significant regression equation was found (F(4,296) = 12.714, p <.000), with and R² of .383. Participant's predicted facilitating is equal to 1.987 + Avoidance (.152) + Remote Learning (.097) + Gender (.167) + Stigma (.136).

Parental engagement in academic activities is particularly significant in this time of the pandemic for students' academic achievement in the remote learning environment in view of the lack of teachers' physical presence. These concerns may stem from the parents' readiness levels. Since the pandemic was so sudden and unsuspected, parents were unprepared for this shift. That is why they would have difficulties balancing their work, home, and teaching responsibilities. Parents were attempting to work remotely or unable to work while caring for children and trying to help them with their education, with no clarity on how long this closure would last. This challenging and uncertain situation could increase the stress level and decrease time management and

planning capacity (Garbe et al., 2020). That makes it necessary to develop a reliable and legitimate parental engagement measurement for research in the remote learning environment.

From the observed data, the Parent's engagement in remote learning towards their children is considered high, having Organizing as the highest mean of 3.07. This means that parents are hands-on and liable to their children's education in terms of facilitating modular learning guides, instructing the tasks needed to be done and learned, and organizing modules and learning environment at home. This result is aligned with the study of Araceli Martinez (2015), who affirms that a rich environment of learning enhances a student's academic development. Consistent stimulation and responsive parenting practices have directly influenced the learner (Toppor et al., 2017).

On the other hand, the parent's psychological antecedent is considered moderate, having avoidance as the highest mean of 2.44 among stigma and ignorance. This implies that in this current study, the parents' psychological behavior has a significant relationship with their parental involvement in their children's education and the parents' demographic characteristics. This also supports the study of Afolabi et al. (2015) study that reported socio-demographic variables (marital status, education, and gender) acts as multiple stressors that weaken the ability and beliefs of parents of learners with inclusive learning on involvement and their contribution to their children's education.

The calculated Pearson Correlation between the parent's Psychological Antecedent and parental engagement reveals a significant positive relationship. Hence, rejecting the null hypothesis because the p-value is below the importance level of 0.01.

Furthermore, regression analysis was used to see what factors influence parental engagement. The predictors for facilitating can account for remote learning modality and aggression as its strongest predictors of facilitation. The predictors towards instructing will account for stigma, avoidance, and gender for its best predictors. Meanwhile, the predictors for Organizing have avoidance, stigma, gender, and remote learning modality as its best predictors.

4. CONCLUSION

It has been acknowledged that the Psychological Antecedent of parents influences changes in their parental engagement in their children's education in terms of their demographic profile. Thus, a positive relationship is shown between them. Likewise, researchers' findings appear that during the implementation of remote learning amidst

pandemic, mechanisms applied (facilitating, instructing, and organizing) are best predicted by parents' demographic characteristics, particularly in gender and children's remote learning modality and parent's psychological antecedent namely stigma, avoidance and aggression. Moreover, parents' behavior of avoidance and aggression are frequently shown as responsive parenting practices, while behaviour of stigma is less involved in execution of parents. Retrospectively, the parent's effort still mutually offers parental engagement in their children's academic activities because education is a vital determinant in their development.

Hence, for further understanding of parent's behavior amidst the COVID-19 pandemic, researchers recommend that future studies can be conducted to compare the role of parent's psychological antecedent in activating a high parental engagement among different groups of remote learning students distinguished by their modality/material used for scholarly activities. Longitudinal study for further research to better measure and display a more practical implication about the parent's behavior towards the virtual school learning environment. Lastly, future researchers may utilize a child's academic attitude, environmental situation, and accessibility of learning materials to induce or influence a parent's psychological antecedent in the remote learning setting.

5. ACKNOWLEDGMENTS

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