

THE PSYCHOLOGICAL WELL-BEING DURING THE COVID-19 LOCKDOWN OF DOCTORAL STUDENTS AT A PRIVATE HIGHER EDUCATION INSTITUTION IN SOUTH AFRICA: AN APPLICATION OF SELF-DETERMINATION THEORY

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ABSTRACT

Doing a doctorate can be an experience but it can also be challenging. Doctoral students often experience high levels of stress, pressure, and expectations, which can have a negative impact on their mental health. There is very little research examining the psychological well-being of doctoral students during COVID-19 in the South African context. This study therefore aimed to assess the psychological well-being of doctoral students at a private South African university. A cross-sectional study was conducted with forty-two doctoral students, using a self-completed and validated questionnaire. The data were collected using the QuestionPro online platform. The significant predictor for positive emotion was identified using multiple of linear regression analysis using SPSS version 27.0. Most of the participants agreed highly regarding relatedness, autonomy and competence. Autonomy and competence are significant predictors of positive emotions. This study highlights the importance of perceived competence, autonomy, and positive emotions for the psychological well-being of doctoral students during unplanned and involuntary periods of remote learning. The findings provide insights into approaches that might be employed to enhance the well-being of doctorate students through distant learning, hence minimising the adverse consequences of this particular circumstance.

Keywords: relatedness, competence, autonomy, positive emotion

INTRODUCTION

Pursuing a doctoral degree can be a highly rewarding experience, but it can also be an incredibly demanding and challenging journey. Doctoral students often face high levels of stress, pressure and expectations that can take a toll on their psychological well-being (Byrom et al. 2020; Jackman et al. 2021). Psychological well-being is a multidimensional concept that refers to individuals' overall sense of happiness and satisfaction with their lives. It encompasses various

aspects such as emotional stability, self-esteem, personal growth and a sense of purpose. Psychological well-being is essential for doctoral students as it can impact on their academic performance, career prospects and overall quality of life.

Stress is one of the primary factors that can affect doctoral students' psychological well-being. Doctoral students are often under immense pressure to meet academic and research demands, leading to stress and anxiety. Research shows that stress can have detrimental effects on psychological well-being, including increased levels of depression, anxiety and burnout (Son et al. 2020). Another important factor that contributes to the psychological well-being of doctoral students is social support. Doctoral students with a supportive network of family, friends, and colleagues tend to have better psychological well-being than those without such support (Vaezi, Sabzi, and Karami 2019). Social support can provide emotional and practical assistance, which can help doctoral students navigate the challenges of their academic journey.

The nature of the academic environment can also impact on the psychological well-being of doctoral students. The competitive and self-referential nature of the academic environment can lead to feelings of loneliness and isolation among doctoral students. Research shows that social isolation can negatively affect psychological well-being (McLean and Connor 2019). Social support from family, friends and colleagues can help doctoral students cope with the challenges and provide emotional and practical assistance (Vaezi et al. 2019). A study by Golde and Dore (2001) found that social support from mentors and peers plays a crucial role in doctoral students' persistence and success.

Maintaining a work-life balance is crucial for the psychological well-being of doctoral students. Doctoral students often spend long hours on research and academic work, which can lead to burnout and exhaustion. It is therefore essential for doctoral students to engage in activities outside of their academic work that promote relaxation and stress relief (Cvejic, Vinkenburg, and Jansen 2019). A study by Rummell and Chambliss (2007) found that leisure activities such as exercise and hobbies are essential for maintaining a work-life balance and improving the psychological well-being of doctoral students.

The psychological well-being of doctoral students is a critical issue that requires attention and support from academic institutions. Very limited research has been conducted to determine the psychological well-being of doctoral students in the South African context. The aim of this study was therefore to investigate the psychological well-being of doctoral students from a private higher education institution in South Africa. Based on Self-Determination Theory, it was expected that competence, autonomy, and relatedness would predict psychological well-being in terms of positive emotion.

Self-Determination Theory

The Self-Determination Theory (SDT) is a psychological paradigm that pertains to human motivation and personality. It was originally developed by Edward L. Deci and Richard M. Ryan in the 1980s (Deci and Ryan 2000). As per the theoretical framework, persons are believed to possess intrinsic psychological needs that play a crucial role in maintaining their general well-being and facilitating the fulfilment of their maximum capabilities. The aforementioned demands encompass autonomy, competence and relatedness. Autonomy encompasses the fundamental human desire to exercise personal agency and make decisions that align with one's individual values and interests. Competence pertains to the inherent desire to experience a sense of efficacy and capability in one's endeavours and undertakings. Relatedness pertains to the inherent human desire for interpersonal connection, fostering a sense of inclusion, and experiencing emotional support and concern. In terms of SDT, persons who have their needs fulfilled are likely to experience intrinsic motivation, which refers to their engagement in activities driven by innate satisfaction and enjoyment. On the other hand, if these demands are not fulfilled individuals may encounter extrinsic motivation that is driven by external incentives or influences such as financial rewards or social recognition (Deci and Ryan 2000). In brief, SDT offers a conceptual framework for comprehending the elements that contribute to human motivation and well-being with practical ramifications across diverse realms of existence.

In order to promote the psychological well-being of doctorate students during the COVID-19 pandemic, it was thought to be imperative to ascertain the sources of well-being in those unparalleled circumstances. SDT gives a highly encouraging conceptual framework in this regard (Deci and Ryan 2000). This study investigated the extent to which the satisfying of basic psychological needs served as a protective factor for the psychological well-being of doctorate students in the educational context amidst the COVID-19 epidemic. It acknowledges the significance of the educational setting in fostering personal development and flourishing. According to SDT, it was anticipated that the three fundamental psychological requirements – competence, autonomy, and relatedness – would serve as predictors of psychological well-being, specifically in relation to positive emotions and psychological functioning.

METHODS

A cross-sectional quantitative study was conducted among all 62 registered doctoral students. A website called QuestionPro was used to collect the data. Potential participants were informed of the purpose of the study, the time frame for completing the self-administered questionnaire, and the complete anonymity of their information before being invited to consent to participate.

Those who agreed to participate in the study voluntarily completed the survey questionnaire. The data were gathered between 27 January 2022 and 18 February 2022. Reminder emails were sent to all the participants on a weekly basis. Ethical approval for the study was obtained from the institution's ethics committee.

Existing scales were used to properly address the circumstances at hand. The items were revised based on the expert opinions of the members of the research group to ensure the content validity of the measures. A 5-point Likert-type scale with a range of 1 (strongly disagree) to 5 (strongly agree) was used to rate each question on the survey. Higher values indicate more agreement with the statements.

The Work-Related Basic Need Satisfaction Scale was used to assess three items to determine relatedness (Van den Broeck et al. 2010). The items targeting relatedness included general statements like "During lockdown, I feel connected with the people who are important to me," which extended beyond the PHEI context. Three items from the Work-related Basic Need Satisfaction Scale were modified to measure competence (Van den Broeck et al. 2010). The work-related items were modified to fit the university environment (for example: "During lockdown, I am handling the demands of my studies well").

Three newly created items that examined the extent to which the participants felt in control of how they approached their studies in the given context were used to measure their levels of autonomy (for example: "During lockdown, I can perform tasks in the way that best suits me"). Positive emotion was measured by two items inspired by the Scale of Positive and Negative Experience (Diener et al. 2010) and one item that was modified from the EPOCH (engagement, perseverance, optimism, connectedness, and happiness) Measure of Adolescent Well-Being's optimism subscale (Kern et al. 2016).

SPSS Version 27.0 was used to analyse the data. Frequency distribution was done for all of the statements and for all of the constructs, frequency distribution was done. The Pearson correlation test was used to ascertain the relationship between the constructs. Multiple linear regression was used in order to identify a significant predictor for positive emotion. P-values under 0.05 were regarded as statistically significant.

RESULTS

A total of 42 doctoral students participated in the study. Table 1 shows the frequency distribution of the statements related to relatedness, autonomy, competence and positive emotion. Regarding relatedness, it was found that the majority of the participants (83%) felt connected with the people who were important to them, but less than half (46%) of them felt connected or got support from their fellows. Results show that more than two-thirds of the participants agreed or strongly agreed with all the statements related to competence. Most of

them (>80%) positively responded that during lockdown they could define their own areas of focus in their studies and they could perform tasks in the way that best suited them. For positive emotion, the present study found that the majority of the participants agreed or strongly agreed with all three statements, indicating that they had a high level of agreement for positive emotion during the pandemic.

Table 1: Frequency distribution of statements related to relatedness, autonomy, competence, and positive emotion

Statements	SD*	D	N	A	SA
Relatedness					
During lockdown, I feel connected with my fellow students	8,7	17,4	28,3	34,8	10,9
During lockdown, I feel supported by my fellow students	13,0	8,7	32,6	34,8	10,9
During lockdown, I feel connected with the people who are important to me (family, friends).	4,3	6,5	6,5	39,1	43,5
Competence					
During lockdown, I am coping well with the demands of my studies	2,2	8,9	15,6	48,9	24,4
During lockdown, I have no doubts about whether I am capable of doing well in my studies		15,6	11,1	53,3	20,0
During lockdown, I am managing to make progress towards my study	2,2	6,5	4,3	54,3	32,6
Autonomy					
During lockdown, I can define my own areas of focus in my studies		2,2	8,9	64,4	24,4
During lockdown, I can perform tasks in the way that best suits me		6,5	8,7	60,9	23,9
Positive emotion					
I feel good		10,9	13,0	43,5	32,6
I feel confident to complete my tasks during the lockdown		6,5	10,9	52,2	30,4
Even if things are difficult right now, I believe that everything will turn out alright.		2,2	2,2	47,8	47,8

SD=Strongly Disagree, D=Disagree, N=Neutral, A=Agree, SA=Strongly Agree

The present study did not find any significant mean difference for relatedness, autonomy, competence, and positive emotion when compared with various demographic variables (age, sex, regular communication with peers, supervisor, and work arrangement) $p > 0.05$ (data not shown).

Table 2: ANOVA output for positive emotion

ANOVA ^a						
	Model	Sum of Squares	df	Mean Square	F	P-value
1	Regression	118.873	3	39.624	21.712	<.001 ^b
	Residual	71.174	39	1.825		
	Total	190.047	42			

a. Dependent Variable: Positive Emotion

b. Predictors: (Constant), Autonomy, Relatedness, Competence

The multiple linear regression analysis showed that the model fitted quite well for predicting

positive emotion where the independent variables were relatedness, autonomy and competence ($p < 0.05$) (Table 2). It was found that these three constructs could explain 62 per cent of the variability of positive emotion (Table 3). It was also found that autonomy and competence were significant predictors for positive emotion ($p < 0.05$) (Table 4).

Table 3: Model summary for positive emotion

Model Summary ^b					
Model	R	R Square	Adjusted R Square	SE of the Estimate	Durbin-Watson
1	.791 ^a	.625	.597	1.35091	1.725

a. Predictors: (Constant), Autonomy, Relatedness, Competence

b. Dependent Variable: Positive Emotion

Table 4: Significant predictor for positive emotion

Model	Unstandardised Coefficients		t	p-value
	B	Std. Error		
(Constant)	3.241	1.380	2.348	.024
Relatedness	-.080	.088	-.908	.370
Competence	.458	.103	4.449	<.001
Autonomy	.567	.194	2.921	.006

a. Dependent Variable: Positive Emotion

DISCUSSION

The aim of the study was to determine the psychological well-being of doctoral students using self-determination theory. Relatedness, competence and autonomy were the three constructs used to determine the well-being of the participants. The study found that the majority of the participants were in high agreement with all the constructs. This study also identified that competence and autonomy were significant predictors of positive emotion.

Doctoral students can have different levels of relatedness depending on various factors such as their research interests, academic backgrounds, social networks and institutional affiliations. The present study found a high level of agreement for relatedness among the participants. This suggests that they possessed a notable perception of a robust bond, or social support in their academic group. This observation suggests that the academic institution or programme had effectively cultivated a nurturing environment that promoted a sense of camaraderie and connection among its students.

It could be possible that these students were part of various cohort groups. They could therefore collaborate with their peers if necessary, and research has shown that those who work in a research group tend to have a high level of relatedness (De Wever et al. 2013; Frenken, Hardeman, and Hoekstra 2015). Since the participants were from different cohorts, there might have been social networking among the various cohorts, which might have helped them to feel

connected to one another through various types of relationships, such as friendship, mentorship, or co-participation in academic events (e.g., workshops) (e.g., Borgatti et al. 2009; Kim and Park 2018). The institutional context in which doctoral students are embedded could also have influenced their relatedness. For example, doctoral students who belong to the same department or programme may have more opportunities to interact with each other and to participate in joint activities (e.g., seminars, journal clubs) (e.g., Bagheri, Liu, and Wylie 2016). Similarly, doctoral students who share the same advisor or research group may have more frequent interaction and collaboration (e.g., De Wever et al. 2013). The presence of a positive social environment often has the ability to enhance the general well-being of individuals, hence contributing to a more enjoyable and fulfilling academic experience.

Competence and positive emotion are two concepts that are closely related and can have a significant impact on an individual's well-being and success. The present study found a significant positive relationship between competence and positive emotion. The findings indicate that those who consider themselves as competent or proficient in their academic endeavours tend to have a greater prevalence of positive emotions. This finding conforms with those of other studies conducted elsewhere. For example, a study published in the *Journal of Personality and Social Psychology* found that individuals who reported higher levels of competence in their work also reported higher levels of positive emotion and job satisfaction (Judge and Bono 2001). Similarly, another study published in the *Journal of Happiness Studies* found that individuals who reported higher levels of competence in their daily activities also reported higher levels of positive emotion and life satisfaction (Huta and Ryan 2010). Other research has also shown that the experience of positive emotion can enhance an individual's sense of competence. For instance, a study published in the journal *Emotion* found that individuals who experienced positive emotions while completing a challenging task were more likely to feel competent than those who experienced negative emotions (Fredrickson and Joiner 2002). The correlation between competency and positive emotion implies that as doctorate students perceive themselves as more proficient in their research and academic endeavours, they are more likely to encounter elevated emotions of well-being. The presence of this positive affective state has the potential to enhance the overall quality and gratification derived from engaging in intellectual pursuits. Doctoral candidates who possess a strong sense of self-assurance may be more adept at navigating the complexities and ambiguities inherent in their academic pursuits.

Autonomy and positive emotion are two constructs that have been linked to well-being and success in various areas of life. It was found in this study that autonomy and positive emotion were positively correlated. This finding is in line with those of other studies. Sheldon,

Hilpert, and Johnson (2020) found that autonomy was positively associated with positive emotions and life satisfaction. That study used a sample of 648 adults and found that those who reported higher levels of autonomy also reported higher levels of positive emotions and life satisfaction (Sheldon et al. 2020). Similarly, Ouyang and Zhang (2020) surveyed 292 employees and found that those who reported higher levels of autonomy at work reported higher levels of positive emotions such as enthusiasm, joy and pride (Ouyang and Zhang 2020). Recent research has also explored the neural mechanisms underlying the relationship between autonomy and positive emotions. For example, a study published in the journal *Social Cognitive and Affective Neuroscience* found that individuals who experienced autonomy in decision-making showed increased activity in the brain's reward centres and reported higher levels of positive emotions (Ma et al. 2021). The presence of perceived autonomy among doctorate students in selecting research topics that align with their own interests and relevance has the potential to positively influence their intrinsic motivation levels. Consequently, this could potentially have a beneficial impact on their emotional welfare. In a similar vein, the presence of good emotions alongside autonomy among doctoral students could potentially serve as a safeguard against the detrimental effects of stress and burnout. Experiencing a sense of agency over one's academic endeavours has the potential to foster a mindset characterised by positivity and resilience.

LIMITATIONS OF THE STUDY

The study presents certain drawbacks. The findings are dependent on self-reported data. There are apprehensions regarding the reliability of self-reporting instruments in evaluating self-regulated learning. Furthermore, the data were obtained using online means. Consequently, our sample was subject to self-selection. One additional constraint relates to the cross-sectional nature of our study, which restricts the researchers' ability to establish causal relationships.

RECOMMENDATION

In order to enhance the representativeness and generalisability of their research findings, it is recommended that future such studies select a more comprehensive and diverse sample. This can be achieved by incorporating doctoral students from various institutions, fields, enrolment statuses, funding mechanisms, and doctoral programmes. Future research endeavours could perhaps also investigate the social-cultural variables that may either facilitate or hinder the experiences of doctoral students in relation to PWB. Longitudinal research should aim to gather real-time data from a Positive Psychology viewpoint on PWB in doctoral candidates over the duration of their academic careers.

CONCLUSION

The present study emphasises the significance of perceived competence, autonomy and self-regulated learning in relation to the well-being of doctoral students during periods of unplanned and involuntary distant studying. The psychological well-being of the participants during the COVID-19 lockdown was good, according to the SDT. The findings also suggest that there is a potential significance of relatedness in relation to the intrinsic motivation for learning. Higher education institutions are obliged to actively and clearly advocate for these specified dimensions. The importance of the proper implementation of the cohort model for the well-being of doctoral students was highlighted. It is therefore, recommended that higher education institutions should consider using the cohort model as an alternative, to promote the well-being of their doctoral students.

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