Social Support Contribution to Psychological Well-being of Doctoral Students: The Mediation Role of Academic Motivation

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ABSTRACT

The factors that determine psychological well-being have been extensively examined and analyzed. Psychological well-being can be achieved through different methods, including academic motivation and social support. Although extensive studies have been conducted, the pesent study explores the impact of these variables on psychological well-being and their correlation. The study involved 150 doctorate students from seven universities in Yogyakarta, Indonesia. Established indicators and a strong theoretical base are utilized to quantify variables. A precise and reliable questionnaire is employed for data collection. The data was examined by using SEM-PLS. The findings indicate that Social Support affects Academic Motivation. The level of motivation in academics directly impacts an individual's psychological well-being. However, Social Support does not affect Psychological Well-being. Academic motivation completely acts as a mediator in the relationship between Social Support and Psychological Well-being.

1. INTRODUCTION

Well-being is considered the primary objective of human beings, both in the present life and in the afterlife. Over the past twenty years, there has been a significant increase in research focused on well-being (Hernández-Torrano et al., 2020; Martela & Sheldon, 2019). This subject has become increasingly interesting in terms of social and human development. Further, it also carries substantial implications for theory, practice, and policy. Recently, there has been an increasing interest in the behavioral sciences regarding the understanding and definition of positive health and well-being (Cooke et al., 2016). Psychological well-being has been the focus of different perspectives in the last twenty years, highlighting the importance of individuals understanding and realizing their true nature and potential. Aiming to reach a person's maximum potential, especially in education, can play an essential

part in promoting psychological well-being. The primary challenge in this research lies in conducting a comprehensive investigation on the significance of student psychological well-being. (Brooker & Vu, 2020) argue that higher education places a significant focus on issues related to psychological well-being. Examining the psychological well-being of students is essential for maintaining their academic achievement. Obtaining academic success can improve individuals' mental and emotional well-being, promote overall development, and contribute to the long-term welfare of both individuals and society.

There is a need for more limitations in higher education, specifically at the graduate and doctorate levels, focusing on well-being (Marais et al., 2018)(Taylor & Adams, 2020). Despite increasing studies examining doctorate students' well-being, the overall research on this topic is still relatively limited (Barkham et al., 2019; Brett et al., 2022). The majority of published research findings employ a qualitative research methodology (Sverdlik et al., 2020; Sverdlik et al., 2018), which limits researchers' ability to develop study models and generate findings that can be broadly utilized (Greener, 2021). Thus, identifying evidence-based best practices for implementation in large-scale doctoral programs poses a significant challenge.

Stakeholders and policymakers are increasingly focusing on the welfare of doctoral students. Universities worldwide are implementing policies to improve doctoral students' well-being (Brooker & Woodyatt, 2019). Local universities and the OECD Global Science Forum (2019-2020) are concerned about doctoral students' welfare. They are working to develop policies and practices that will improve research quality and well-being globally. The negative impact of poor health among doctoral students can adversely affect various stakeholders, such as the students themselves, their organizations, affiliated universities, and society.

The importance of well-being in doctoral education is increasingly highlighted, as indicated by the abovementioned issues (Jackman et al., 2022; Sverdlik & Hall, 2019; Sverdlik et al., 2020). Conducting research that explores the needs and improvement of the psychological well-being of doctoral students in the context of their long-term goals is necessary (Schmidt & Hansson, 2018). Specifically, there is a significant need for empirical evidence derived from quantitative studies to address the well-being of doctoral students.

The study highlights the importance of examining the factors that affect the Psychological Well-being of doctoral students. Gaining insight into the variables that affect the psychological well-being of these students is essential to developing treatments to improve their well-being. Recent studies have focused on three key factors affecting students' well-being: well-being, social support, and motivation. However, the exact causal relationship between these variables and the well-being process remains unclear. Several studies argue that Social Support has a significant and direct impact on Psychological Well-being through different forms, such as psychosocial resources, support from supervisors and friends, and support from family and online communities. Psychosocial resources are identified as the main factor affecting student well-being, according to (Brett et al., 2022). Byrom et al., (2020) discovered significant correlations between social support from family and supervisors and mental well-being. The academic journey of doctoral students is significantly affected by social support, which offers them opportunities to communicate their scientific progress, receive expert feedback, and engage with other researchers.

The effect of social support on academic motivation has been observed in multiple ways. Supervisors significantly impact fulfilling intrinsic needs, as stated by (Kumar, V., & Kaur, 2019). Additionally, the academic motivation of individuals can be affected by their friends, as discussed by Adamou (2018) and Emadpoor and Lavasani (2015). It is important to highlight that motivation has been scientifically demonstrated to impact psychological well-

being. Therefore, further investigation of the causal relationship between social support, motivation, and psychological well-being is essential. The investigation will acquire a more holistic understanding of the variables that affect the well-being of doctoral students. This research is motivated by the existing gap in knowledge and aims to address this issue. One of this research aims is to provide a valuable contribution to the comprehensive investigation of students' psychological well-being. This study also aims to offer valuable strategic information for identifying, addressing, and preventing specific behaviors, eventually resulting in improved psychological well-being for doctoral students in Indonesia and globally.

2. THEORY

2.1 Psychological Well-being

Psychological well-being refers to the level to which an individual derives purpose in life, optimizes their potential in relationships, and takes responsibility for their own life (Ryff & Keyes, 1995). It includes factors such as life, self-acceptance of strengths and weaknesses, independence, healthy and fulfilling relationships, competence in managing one's surroundings, and personal growth goals. Despite numerous research proposals, the concept of psychological well-being has yet to be fully established. Reaching consensus on this topic is a challenging and time-consuming procedure. In order to deal with this problem, it is suggested to introduce a more comprehensive concept called Psychological Well-being, which consists of two specific sub-categories: eudaimonic motives/activities and psychological need satisfaction (Martela & Sheldon, 2019).

The psychological well-being of doctoral students significantly affects their academic well-being during their time as students. Perspectives on Student Psychological Well-being can be defined as the success level of the individual achievements in their personal goals (Pychyl & Little, 1998). In order to obtain a doctoral degree, it is theoretically necessary to have a high level of Psychological Well-being. Consequently, a lower level of psychological well-being can significantly affect a student's capacity to obtain a doctoral degree, professional development, research productivity, and personal lives. Universities could face administrative and financial consequences due to these problems. Therefore, it is crucial to make multiple attempts to maintain Psychological Well-being during doctoral studies, as this significantly affects higher education and students' lives (Schmidt & Hansson, 2018). The concept of socio-psychological well-being among doctoral students has been investigated, focusing on their experience of well-being in the scientific community. Student Psychological Well-being refers to a comprehensive evaluation of doctoral students' lives concerning their role as doctoral students (Juniper et al., 2012). In this study, the Psychological Well-being of Doctoral Students is defined by researchers as an assessment of the various life experiences during the doctoral degree. Psychological Well-being in doctoral education often focuses on developing intrapersonal well-being, including managing stress and fatigue, building self-confidence, excessive anxiety, and developing perseverance. This image focuses on examining well-being from the perspective of mental health.

2.2 Determinants of psychological well-being of doctoral students

Research findings suggest that multiple factors can affect the well-being of postgraduate students. An analysis of multiple studies indicates a present crisis or deficiency in the well-being of doctoral students. These studies examine the factors that contribute to the current crisis in well-being. The UC Berkeley Graduate Council Study 2014 discovered ten primary

factors that significantly affect graduate student satisfaction in life and their experiences of depression. These factors include social support, feeling valued and included, and the quality of relationships with advisors (Sverdlik et al., 2020). Stress has been linked to several well-being concepts, such as entitlement, time constraints, and social isolation (Cornwall et al., 2019). The determinants affecting well-being can be classified into intrinsic factors, such as motivation, and extrinsic factors, such as supervision and personal life (Sverdlik et al., 2018). Furthermore, a study conducted by Brett et al. (2022) revealed that 71.8% of the factors affecting the well-being of doctoral students were predicted by variables such as demographics, psychosocial factors, perceived stress, sense of coherence, isolation, and persistence.

2.3 Social support
Doctoral study is frequently characterized by its strict, independent, alone, and isolating journey (Conceição et al., 2019). As social beings, individuals naturally need and receive support. Social support refers to the social resources individuals can rely on when dealing with life challenges and stress. Support usually comes through informal social connections, but it can also be provided formally by organizations with official recognition. Doctoral students need different types of support as they aim to achieve well-being. In order to succeed in the higher education system, they require support from different parties (Conceição et al., 2019; Liu et al., 2019). Support can be derived from either formal institutions or social networks. Student and faculty services provide formal institutional support, while universities and their programs/departments offer financial resources. This study provides a clear and precise definition of social support. Social support is defined as the presence of supportive relationships or networks that are accessible inside and outside the doctoral research environment.

2.4 Academic Motivation
The drive and commitment of doctoral students can be assessed by observing their choices and behaviors based on specific justifications, motives, and motivations. The main reason underlying their actions, known as motivation, is what drives them to pursue doctoral studies. However, motivations are the fundamental components that drive their desires and direct their choices. Conversely, motivation serves as the motivation that sustains individuals' efforts during their academic journey. Doctoral education is complex and requires significant cognitive and behavioral engagement. Doctoral students possess a natural motivation to engage in various challenging tasks. Their intrinsic drive motivates them to improve their skills and perceive themselves as more capable of achieving their goals. This internal drive promotes independence in their academic goals when combined with external support. As a result, they view themselves as competent individuals and are less likely to give up on their studies. Thus, motivation is the driving factor that encourages individuals to continue their doctoral studies despite difficulties. The aim of doctoral studies is drive by individual motivations, intentions, and aspirations that act as future-oriented motivators (Skakni, 2018).

3. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

3.1 The effect of social support on academic motivation
External factors frequently impact internal motivation, specifically social factors such as family, teachers, school friends, and peers. These social variables act as external motivation, which internalizes and activates the internal drive for achievement. The perceived level of

social support has an essential role in the variations in academic motivation, explaining about 13% of the differences (Emadpoor & Lavasani, 2015). Studies indicate that the elements of social support have a strong correlation with the utilization of motivational strategies. When individuals receive sufficient social support from their surroundings, they are more likely to experience internal motivation. Academic advisors can enhance this process by appreciating their students' research motivation and offering autonomy support.

Moreover, supervisors must consider the quality of feedback and the level of challenges to develop a sense of competency among students (Kumar, V., & Kaur, 2019). Dupont et al. (2015) found a correlation between supervisors and institutional support and increased academic motivation, which leads to higher levels of behavioral, cognitive, and emotional engagement. Understanding the factors that drive individuals to enhance their performance and determining the optimal timing for offering help is most significant (Zeijen et al., 2020). The assistance provided by parents, friends, and teachers has an important effect on the internal and external motivation to achieve goals (Vatankhah & Tanbakooei, 2014). According to Adamou (2018), peer support and the satisfaction of basic psychological needs are significant factors that directly affect students' academic motivation. From these factors, peer support is the primary predictor. Based on various findings, it is possible to propose the following hypothesis:

H1: Social Support affects Academic Motivation positively and significantly.

3.2 The effect of academic motivation on psychological well-being

Some students and scholars have described finishing a dissertation as a personal journey. During the doctoral study phase, students experience changes in both their internal and external motivation and well-being (Lynch et al., 2018)(Sverdlik et al., 2020). In order to gain respect from many stakeholders and be welcomed by the academic community, students have to develop trust and passion. Many variables motivate students to pursue a doctoral study. Prior studies have identified multiple factors affecting a person's decision to pursue a doctoral degree, including intrinsic motivation, family and social support, advice from supervisors, previous research experience, and opportunities for professional development. People generally obtain a doctoral degree because they strongly desire to explore their identity and positively impact society. According to (Tarvid, 2014), the primary motivation for obtaining doctoral studies in Latvia is to achieve personal goals. Doctoral candidates constantly aim to explore their own identities through their academic performance.

Many doctoral students focused their research activities on current issues, linking their studies with public policy and social consciousness. At some point, motivation has been recognized as an essential factor affecting the achievement of doctoral degrees (Lech et al., 2017; Litalien, et al., 2015). Intrinsic motivation is recognized as a significant motivating factor (Ceglie, 2019). The power of intrinsic motivation is evident in personal experiences of overcoming challenges and efficiently completing a dissertation project. Extrinsic factors frequently serve as an inducement for intrinsic motivation. The motivation of doctoral students is closely connected to self-discovery, intellectual exploration, and professional development (Skakni, 2018), all of which contribute to improving an individual's well-being. Following the provided information, this study develops the following hypothesis:

H2: Academic Motivation affects Psychological Well-being positively and significantly.

3.3 The effect of social support on psychological well-being

Social support is essential in affecting the Psychological Well-being of Doctoral Students.

Humans are instinctive to connect to others to develop and maintain their well-being. Social support affects Psychological Well-being (Ryff & Keyes, 1995). When individuals experience challenges in life and experience stress, it becomes crucial for them to try to find social support. There is a direct correlation between a perceived level of Social Support and improved Well-being. On the other hand, the lack of social support or challenging relationships can have a negative impact on an individual's well-being, both personally and within their organization. Social support has an impact on both physical and psychological well-being (Suryanarayana, 2022).

Doctoral students mainly require support in navigating the challenges of their academic journey. They depend on a diverse range of support systems while working to obtain success. The support networks might vary from official institutional support, such as student services and financial resources, to casual social support from family, peers, and organizational connections (Rockinson-Szapkiw et al., 2014). Both forms of assistance are essential for guaranteeing the welfare and achievement of PhD students (Akojie et al., 2019; Rehman et al., 2020). Doctoral students who live in a supportive environment, which includes the academic community, supervisors, and family, generally have a higher level of well-being (Corcelles et al., 2019; Schmidt & Umans, 2014). Family support is associated with greater mental well-being and lower stress levels. In general, the support provided from both personal and academic networks plays an important role in improving the well-being of doctoral students. According to the provided information, it is evident that both support and the research community have an important role in improving well-being by decreasing levels of exhaustion, cynicism, and burnout (Corner et al., 2017).

Furthermore, research has demonstrated that receiving social support from supervisors and friends can effectively reduce symptoms of sadness and anxiety, suggesting that these sources play a significant role in promoting general well-being (Liu et al., 2019; Pervez et al., 2021). In summary, social support directly impacts the psychological well-being of doctorate students. Therefore, we might propose the following hypothesis 3:

Hypothesis 3: Social support impacts psychological well-being significantly and positively.

3.4 The role of academic motivation as a mediator in the effect of social support on psychological well-being

Several studies indicate that Social Support does not directly affect the Psychological Well-being of doctorate students. On the other hand, these researchers argue that the connection between Social Support and Psychological Well-being is affected by Academics (Emadpoor & Lavasani, 2015; Litalien & Guay, 2015). According to (Lee and Kusumah, 2020), motivation is an intermediary factor in the connection between a supervisor and an individual's performance. The underlying reason for this is that although solid social support may not immediately boost Psychological Well-being, it can be accepted by individuals and thus stimulate the development of academic motivation. Academic motivation, in turn, can have an impact on psychological well-being. Hence, academic motivation is an intermediary element in the relationship between social support and psychological well-being. Hypothesis 4 is based on this understanding.

H4: The impact of Social Support on Psychological Well-being is mediated by Academic Motivation.

4. METHODOLOGY

The study was conducted on doctoral students at seven universities in Yogyakarta, Indonesia. There are 150 students participated in the study. This study employs the combination of

snowball sampling and purposive sampling to generate a data sample. Variable measurement indicators, considered stable, have been referred to in several previous studies. The Social Support scale, as adopted by (Zimet, 1988), the Academic Motivation scale, as developed by (Litalien et al., 2015), and the Psychological well-being scale, as modified by (Waterman et al., 2010). Moreover, Table 1 explains the variables, operational definitions, and indicators. All responses are rated on a 1-5 Likert scale, ranging from strongly disagree to strongly agree.

4.1 Variable, Operational Definition, and Indicator

Table 1. Variable, Operational Definition, and Indicator

Variable	Operational Definition	Indicators
Psychological Well-being (Waterman et al., 2010)	Psychological Well-being of Doctoral Students as an assessment of experiences in all aspects of life while being a doctoral student.	self-discovery, perceived development of one's best potential, a sense of purpose and meaning in life, investment of significant effort in pursuit of excellence, intense involvement in activities, personal expression through enjoyable activities.
Social Support (Zimet, 1988)	Social support is the presence of supportive relationships or networks that can be accessed both in and outside the doctoral research environment.	Family, friends, and significant other.
Academic Motivation (Litalien et al., 2015)	Academic motivation is the motivating factor that drives individuals to stay focused on their doctoral studies regardless of experiencing challenges.	Intrinsic Integrated Identified Introjected External

Hypothesis testing is performed by employing SEM PLS with WarpPLS 7.0 software. The procedure in SEM PLS analysis consists of seven stages (Hair et al. 2017): 1) Generate specifications for the path model; 2) Generate specifications for the measurement model; 3) Perform data collection and screening; 4) Estimate the SEM model using Partial Least Squares (PLS); 5). Evaluate the outcomes of measurement model testing. 6) Evaluate the result of structural model testing, and 7) Interpret the result and draw a conclusion.

4.2 Descriptive Statistics
Table 2 presents the data on the distribution of respondent characteristics based on age, university, and employee status. 40% of respondents are in the age range 36-45. Most of the respondents are from Universitas Islam Indonesia. Meanwhile, most respondents are private university employees.

Table 2. Respondents Characteristic

Classification	Criteria	Number	Percentage (%)
Age	25-35 years	43	29
	36-45 years	60	40
	46-55 years	39	26
	>55 years	8	5
	Total	150	100

University	Universitas Gadjah Mada	42	28
	Universitas Negeri Yogyakarta	6	4
	Universitas Islam Negeri Sunan Kalijaga	23	15
	Universitas Islam Indonesia	54	36
	Universitas Muhammadiyah Yogyakarta	18	12
	Universitas Teknologi Yogyakarta	3	2
	Universitas Ahmad Dahlan	4	3
	Total	150	100
Employee status	Public	47	31
	Private	89	59
	Freelance	14	10
	Total	150	100

5. RESEARCH RESULT

5.1 Measurement Model Evaluation (Outer Model)

The analysis generated from the SEM PLS estimation with WarpPLS 7.0 software shows model fit and p-value indices. The output results indicate that the Goodness of Fit model criteria have been fulfilled based on three primary fit indicators: Average Path Coefficient (APC), Average R-Squared (ARS), and Average Full Collinearity (AFVIF). The APC value is 0.363, and the ARS value of 0.279 is statistically significant, with a p-value of less than 0.001. The AFVIF value is 1.520. In general, the model fulfills the specified criteria.

Table 3. Validity and Reliability Testing

Variable	Indicator	Loading factor	p-value	AVE	Cronbach's Alpha	Composite Reliability
Social Support	S1	0.766	<0.001			
	S2	0.805	<0.001			
	S3	0.704	<0.001			
	S4	0.787	<0.001			
	S5	0.686	<0.001	0.492	0.881	0.905
	S6	0.645	<0.001			
	S7	0.606	<0.001			
	S8	0.727	<0.001			
	S9	0.761	<0.001			
	S10	0.453	<0.001			
Academic Motivation	M1	0.763	<0.001			
	M2	0.780	<0.001			
	M3	0.751	<0.001			
	M4	0.814	<0.001	0.552	0.892	0.915
	M5	0.826	<0.001			
	M6	0.844	<0.001			
	M7	0.647	<0.001			
	M8	0.730	<0.001			
	M9	0.777	<0.001			
Psychological	PW1	0.702	<0.001			

Well-being	PW2	0.662	<0.001			
	PW3	0.495	<0.001			
	PW4	0.677	<0.001			
	PW5	0.654	<0.001	0.438	0.856	0.885
	PW6	0.627	<0.001			
	PW7	0.731	<0.001			
	PW8	0.695	<0.001			
	PW9	0.644	<0.001			
	PW10	0.703	<0.001			

According to the output of combination loadings and cross-loading results, all three constructs have met the requirements for convergent validity, as the p-value is statistically significant at a level below 0.05. The discriminant validity criteria were fulfilled since the cross-loading value was significantly lower than the construct value. Table 3 presents the demonstration of Validity and Reliability testing. The findings of this study can be represented in a model, as illustrated in Figure 1.
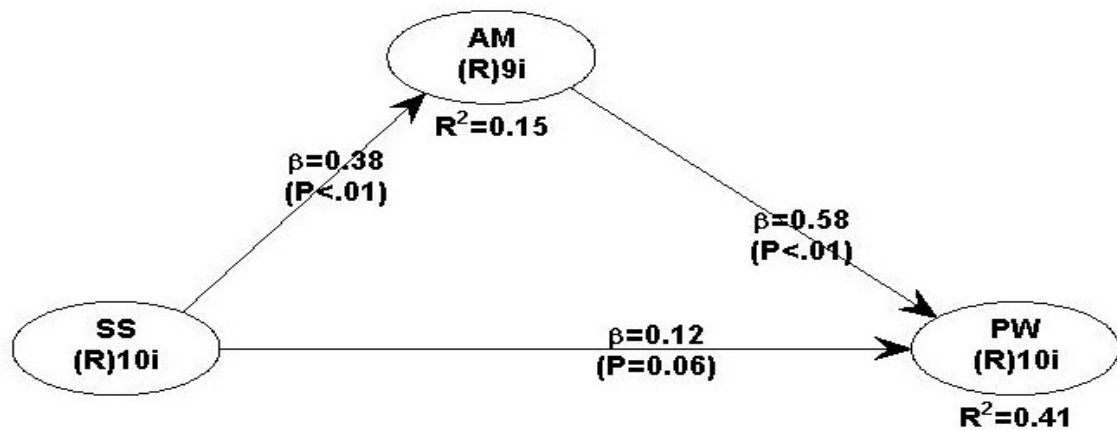

Figure 1. SEM PLS analysis - completed model

Figure 1 and Table 4 reveal that social support directly and significantly impacts Academic Motivation, as evidenced by a p-value of 0.001. Therefore, hypothesis one (H1) is accepted. The effect of academic motivation on psychological well-being is statistically significant, determined by a p-value of 0.001. Therefore, hypothesis two (H2) is accepted. Furthermore, the relationship between social support and psychological well-being is not statistically significant, as indicated by a p-value of 0.065. Therefore, hypothesis three (H3) is rejected. Hence, the impact of indirect testing and social support on psychological well-being through academic motivation resulted in a p-value of 0.000, indicating statistical significance. Based on the criteria established by (Hair et al., 2017), it can be concluded that academic motivation is a mediator in the relationship between social support and psychological well-being. Social support cannot affect psychological well-being if academic motivation mediates it.

Table 4. Hypothesis Testing

The effect between Variable	Direct Effect	Indirect Effect	p-value	Decision
Social Support →Academic Motivation	0.384	-	0.001[*]	H1 Supported
Academic Motivation →	0.584	-	0.001[*]	H2 Supported

Psychological Well-being				
Social Support → Psychological Well-being	0.121	-	0.065	H3 Not Supported
Social Support, →Academic Motivation, → Psychological Well-being		0.224	0.000[*]	H4 Supported

Note[*] Sig at <0.05

6. DISCUSSION

The results of the statistical tests prove that social support has an indirect and significant positive effect on psychological well-being. Social support can be obtained from family, friends, and special people in various dimensions, such as social, mental, emotional, and behavioral (Conceição et al., 2019). Mentors can help maintain students' emotional well-being by facilitating the need for relatedness through personal and professional support. Support from the group and mentors who support positively will help efforts to achieve a doctoral degree (Akojie et al., 2019). The research environment can impact Psychological Well-being. Even though sometimes their friends cannot help solve a problem, their mental support is sufficient. This support form does not always have to be related to dissertation preparation issues. Occasionally, students require a space to express their enjoyment and unhappiness; simply sharing stories helps to shift focus away from the monotonous routine of writing dissertations. Even mere expressions and prayers from neighbors and individuals who are not closely connected with them. These findings support theory and many studies that have been conducted previously. Psychological Well-being can be seen in several indications. Among them is that social integration from the faculty and the family will significantly contribute to individuals in the form of persistence in completing the dissertation (Rockinson-Szapkiw et al., 2016), positive stress, low anxiety, and depression. Barriers and challenges to completing studies require unique support and strategies to overcome them. The student's social environment can carry out this strategy according to their needs. Under their supervisors' guidance, doctoral students will feel that their emotional well-being is more maintained (Kumar, V., & Kaur, 2019). Supervisors who offer conferences can help students engage in the experience and connect with the broader community. During the psychological dimension study process, students will experience intellectual growth that shapes their thinking, find pleasure in discoveries, and perceive mistakes as valuable learning opportunities. It will persist as a lifelong initiative to cultivate open-mindedness and wisdom.

Social support is proven to have a significant effect on Academic Motivation. These findings support the theory and results of previous research that motivation does not only come from within the individual. However, internal motivation can be triggered by external motivation from social factors such as family, friends, teachers, and anyone with whom a person interacts. Psychological support from supervisors and academic colleagues will significantly determine the success of doctoral studies. Supervisors' experiences will provide insight into increasing persistence, engagement, satisfaction, and well-being. Social support will be internalized within a person, thereby increasing enthusiasm for achieving success and prosperity. Support from family is the strongest predictor of academic motivation. Academic motivation also has a significant effect on psychological well-being. As is known, self-determination theory is a theory of motivation and welfare. Achieving prosperity requires satisfying three basic psychological needs inherent in humans: autonomy, competence, and relatedness. Fulfilling these needs creates positive energy and passion,

encouraging optimal high-quality performance. Becoming a doctoral student is related to self-search, intellectual search, and informational search, which leads to improving one's level of well-being (Skakni, 2018). These results support the theory and previous research results that motivation is the key to completing doctoral studies (Lech et al., 2017)(Pretorius et al., 2019). Specifically, intrinsic motivation is also an essential and dominant factor in completing a dissertation (Ceglie, 2019).

Academic motivation serves as a comprehensive and direct mediator of the impact of social support on psychological well-being, and this mediation is both significant and complete. These findings corroborate earlier studies indicating that social support significantly enhances psychological well-being by increasing academic motivation. Therefore, achieving psychological well-being does not depend on social support only. Social support induces academic motivation, particularly internal motivation, enhancing the psychological well-being of PhD students. However, this dependence depends on the individual's interpersonal connections with family, friends, and significant individuals. The level at which social assistance can fulfill fundamental psychological needs depends upon individual perceptions. Providing surroundings that are considered adequate to fulfill fundamental psychological requirements can enhance internal motivation and lead to psychological well-being and vice versa.

7. CONCLUSION AND IMPLICATION

The analysis reveals that social support positively and significantly affects academic motivation. Academic motivation has a significant positive effect on Psychological Well-being. However, social support has no significant effect on psychological well-being. Moreover, academic motivation was an intermediary factor in social support's impact on doctorate students' psychological well-being. The doctoral program, as well as the support of family and friends, can effectively contribute to the enhancement of doctoral students' well-being. The results of this study surely enrich the limited literature regarding doctoral students psychological well-being. Furthermore, this study also will have wide-ranging advantages for stakeholders of doctoral programs in Indonesia and globally.

This research is limited to doctoral students exclusively from universities in Yogyakarta, Indonesia, and includes a wide range of scientific disciplines. There are likely multiple significant differences between students at private and public educational institutions across different scientific disciplines. Hence, the forthcoming study is expected to investigate more areas and differentiate between scientific disciplines, particularly the social and physical sciences. Additionally, exploring other variables not addressed in this study may be advantageous.

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