The Role of Demographic Characteristics and Spiritual Dimensions in Predicting Empathy: A Study in Muslim Pre-Service Teachers

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Abstract

Although many studies have examined the relationship between spirituality and empathy, very few studies have focused on demographic and spiritual dimensions in influencing empathy for pre-service teachers. This study analyzes the effect of gender, age, and years of formal education on spirituality and empathy and analyzes the influence of the spiritual dimensions on empathy. This research is a cross-sectional study, with 319 Muslim pre-service teachers as respondents. The data collection technique used an online questionnaire adapted from the Spirituality Assessment Scale (SAS) and the Interpersonal Reactivity Index (IRI). The results show that age affects spirituality, while empathy is influenced by age and gender. One unanticipated finding was that years of formal education had no effect on either spirituality or empathy. The most important finding of this study is the higher the level of innerness, the more likely it is to have high empathy. This study's findings are useful as an assessment material and creating counseling designs to increase empathy for pre-service teachers. This is a part of forming the ideal profile of counselors in schools later. Integrating Islamic values is also an essential alternative in counseling for Muslims.

Keywords: empathy, muslim, pre-service teacher, spirituality, and university
INTRODUCTION

Empathy has a pivotal role in learning, and prospective teachers are an asset that is the main element in determining education's success. Many teachers cannot perceive learning situations based on students’ perceptions or egocentricity, causing learning objectives not to work optimally. Especially during the Covid-19 pandemic, most learning uses online learning approach, various online learning platforms, such as Google Classroom, Facebook, WhatsApp, Google Met, etc. are used in learning (Dhawan, 2020; Lewis, 2020; Ngussa et al., 2021). Unfortunately, previous studies have stated that online learning causes students to become bored and engage in deviant behavior (Babvey et al., 2021). This situation requires high empathy, especially for teachers to their students. This is justified by the fact that high scores for empathy correlate positively with low levels of violence in school (Espejo-Siles et al., 2020).

Empathy is crucial to use when dealing with unexpected situations. Therefore, teacher need to invite students to do self-talk on how to deal with unexpected situations (Hall & Smotrova, 2013). Through empathizing, prospective teachers can learn to protect students from negative emotions (Fitriyah, 2017; Habsy et al., 2019; Jaber et al., 2018; Kurniasih et al., 2020; Purwoko & Fitriyah, 2017). Therefore, education is needed for pre-service teachers to get empowered with ability to increase empathy toward the learners (Jaber et al., 2018; Setiyowati et al., 2019; Taufiq & Herdi, 2020). In a learning situation, the teacher is an actor of behavior and cognitive in determining attitudes towards students in particular (Alfaiz et al., 2019). However, not much has been discussed on how educational interventions can improve pre-service teacher’s empathy, which is an important aspect for learners to succeed in their academic journey.
Rationale of the Current Study

In recent years, there has been an increasing interest in correlation research between empathy and spirituality. Students' spirituality is proven to be able to increase their commitment and professional attitude (Chiang et al., 2020; Ross et al., 2018). This commitment and professionalism are significant in supporting the professionalism of pre-service teachers. In addition, previous research results suggest that spirituality has benefits in increasing well-being which could be a solution to one's psychological problems (DePue & Lambie, 2014; Feizi et al., 2020; Lal, Sahu, et al., 2020; Palmer Kelly et al., 2020; Prosek et al., 2020; Woollacott et al., 2020). On the other hand, spirituality is an essential component in shaping a holistic university curriculum (Cruz et al., 2017). Therefore, it is important to improve not only students’, but also that of teachers’ spirituality.

When spirituality is associated with empathy, most of previous studies results show a positive relationship (Fitriyah et al., 2020; Hardy et al., 2012; Lal, Tharyan, et al., 2020; Moloney & Gair, 2015; Stewart & Lawrence, 2020). But researchers have not treated the variables in much detail. However, there is still uncertainty whether each variable's tendency is influenced by their demographic profile such as gender, age, and years of education. According to researchers’ knowledge, there has been no detailed investigation of the correlation between spirituality and empathy (Giordano et al., 2014; Hotoleanu & Dumitrascu, 2016), especially in the Muslim community context. This study has been propelled by the fact that religious and cultural backgrounds greatly influence community behavior (Alfaiz, 2017; Counted et al., 2018; Hefti, 2011; K. S. Johnson et al., 2011), and therefore, this study’s topic was deemed necessary.

This study aimed: (1) To analyze the effect of gender, age, and years of formal education on spirituality. (2) To analyze the effect of gender, age, and years of formal education on empathy. (3) To analyze the influence of the spiritual dimensions on empathy.
This study provided new insights into demographics variables roles and spiritual dimensions in relation to empathy in Muslim pre-service teachers. It sought to explore the profile of spirituality and empathy among the Muslim pre-service teachers from 27 universities in East Java, Indonesia. While previous studies only discussed the correlation between variables, they slightly involved the role of gender and age (Giordano et al., 2014; Hotoleanu & Dumitrascu, 2016). The role of the demographic variable is essential to classify the level of either spirituality or empathy. In the future, empathy levels can be grouped according to gender, age, and years of formal education. Furthermore, there needs to be a solution to increase empathy. We predict it through the role of spiritual dimensions so that the spiritual dimensions are the strength in counseling to develop empathy.

**Hypotheses**

These hypotheses are:

1. There is an effect of gender, age, and years of formal education on spirituality.
2. There is an influence of gender, age, and years of formal education on empathy.
3. There is the influence of the spiritual dimensions on empathy.

**METHODS**

**Research Design**

This is a cross-sectional study. Through this research, it can be found the dynamics of the correlation between demographic characteristics and spiritual dimensions towards empathy for Muslim pre-service teachers in East Java Province, Indonesia.

**Participants**

A total of 319 pre-service teachers from universities with faculty of education in East Java, Indonesia, participated in this study. And all of the respondents are Muslim. Table 1
shows the demographic characteristics, in terms of age, gender, and years of formal education.

### Table 1.

**Demographic characteristics details of respondents**

<table>
<thead>
<tr>
<th></th>
<th>n (%)</th>
<th>Range</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Respondents by gender</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>54 (16.9%)</td>
<td>18 – 22</td>
<td>20.09</td>
<td>1.01</td>
</tr>
<tr>
<td>Female</td>
<td>265 (83.1%)</td>
<td>17 - 22</td>
<td>20.31</td>
<td>1.19</td>
</tr>
<tr>
<td><strong>Respondents by years of formal education</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13 years</td>
<td>89 (27.9%)</td>
<td>17 – 22</td>
<td>19.19</td>
<td>.95</td>
</tr>
<tr>
<td>14 years</td>
<td>117 (36.7%)</td>
<td>19 – 22</td>
<td>20.11</td>
<td>.76</td>
</tr>
<tr>
<td>15 years</td>
<td>97 (30.4%)</td>
<td>19 – 22</td>
<td>20.78</td>
<td>.68</td>
</tr>
<tr>
<td>16 years</td>
<td>16 (5%)</td>
<td>20 – 22</td>
<td>21.50</td>
<td>.63</td>
</tr>
</tbody>
</table>

Table 2 summarizes the means, standard deviations (SD), and the observed range for study measures. The highest mean for the spiritual variable is the interconnectedness (IT) dimension at 27.95, and the standard deviation is 2.99. On the other hand, the empathy dimension with the most significant mean is personal distress (PD), with a score of 24.35, and the standard deviation is 2.41.

### Procedure

Participants in this study are voluntary without any compensation. The researcher asked the respondent's consent to fill out this questionnaire and explained that filling out this questionnaire took approximately 10 minutes. Respondents who agree will continue the filling stage. Participants were asked to fill out a questionnaire to measure spirituality, empathy, and demographic characteristics through the google form. Ethical approval is carried out with ethical license number 237/EC/KEPK/UNUSA/2020. Online questionnaires were distributed via social media WhatsApp.
Table 2.

Summary of means, standard deviations (SD), and observed range for study measures.

<table>
<thead>
<tr>
<th>Variable</th>
<th>M</th>
<th>SD</th>
<th>Observed Range</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Lower</td>
</tr>
<tr>
<td>Spirituality Assessment Scale (SAS)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MP</td>
<td>12.79</td>
<td>1.51</td>
<td>4.00</td>
</tr>
<tr>
<td>IN</td>
<td>26.75</td>
<td>3.25</td>
<td>10.00</td>
</tr>
<tr>
<td>IT</td>
<td>27.95</td>
<td>2.99</td>
<td>11.00</td>
</tr>
<tr>
<td>TS</td>
<td>15.05</td>
<td>2.13</td>
<td>6.00</td>
</tr>
<tr>
<td>Interpersonal Reactivity Index (IRI)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EC</td>
<td>18.68</td>
<td>1.82</td>
<td>7.00</td>
</tr>
<tr>
<td>PD</td>
<td>24.35</td>
<td>2.41</td>
<td>9.00</td>
</tr>
<tr>
<td>PT</td>
<td>17.80</td>
<td>1.89</td>
<td>7.00</td>
</tr>
<tr>
<td>FS</td>
<td>19.62</td>
<td>2.56</td>
<td>8.00</td>
</tr>
</tbody>
</table>

SAS-MP Meaning of Purpose, SAS-IN Innerness, SAS-IT Interconnectedness, SAS-TS Transcendence; IRI-EC Empathic Concern, IRI-PD Personal Distress, IRI-PT Perspective-taking, IRI-F Fantasy

Data Collection

The data collection method used an online questionnaire distributed to undergraduate students in the field of education, in East Java. The questionnaire package included demographic characteristics. To measure the spirituality variable, we used the Spirituality Assessment Scale (SAS), while to measure the empathy variable we used the Interpersonal Reactivity Index (IRI). Both questionnaires were originally in English, so they needed an adaptation process into Indonesian before being used. The adaptation process follows WHO standards; forward translation, expert panel Back-translation, pre-testing and cognitive interviewing, and final version (WHO, 2021).

Spirituality Assessment Scale (SAS) consists of four dimensions; meaning of purpose, innerness, interconnectedness, and transcendence. The original version of this instrument has an alpha coefficient of .94 (Howden, 1992). Meanwhile, previous studies reported that this instrument was valid and reliable to use in their country. The SAS instrument test on undergraduate students in Indonesia also show alpha coefficients of .89 (Juwita et al., 2019).
In this study, the reliability of the instrument showed an excellent impression at .87. Coefficient alphas of .8 to .9 are preferred (Hair et al., 2021).

Interpersonal Reactivity Index (IRI) has a 28-item questionnaire with the construct of empathic concern, fantasy, personal distress, and perspective-taking (Davis, 1980). IRI shows good performance and high consistencies (Murphy et al., 2020; Péloquin & Lafontaine, 2010), including the Dutch version ($\alpha \geq .7$) (Corte et al., 2007) and the French version ($\alpha = .7 - .8$) (Gilet et al., 2013), IRI still shows high consistencies. In this current study, the IRI had an internal consistency reliability coefficient of .755. It is higher than the minimum value of .7 (Hair et al., 2021), specified as acceptable for a newly developed instrument, indicating solid reliability. The scale score reliabilities of the IRI subscales were similar to or greater than the internal consistencies of the original version (from .72 to .78) (Davis, 1980).

**Data Analysis**

Data were analyzed using IBM SPSS version 21 for Windows. Demographic characteristics were analyzed using descriptive statistics and hypothesis testing using binary logistic regression. According to Johnson & Wichern (2007), the use of binary logistic regression test is intended to: (1) Determine the effect of several independent variables from two categories on the dependent variable. (2) The independent variables do not need intervals, are not normally distributed, are not linearly related, or have the same variance in each group. (3) Logistic regression can also determine the relationship and strength between variables. (4) Does not require the assumption of a linear relationship between the dependent and independent variables. (5) Finally, logistic regression can predict the probability of success over failure, and the result is an odds ratio.
RESULTS AND DISCUSSION

Results

The first set of questions aimed to analyze the effect of gender, age, and years of formal education on spirituality. Table 3 shows an overview of the Binary Logistics Regression analysis results between demographic characteristics and spirituality. What stands out in the table is the variable age affects a person's spirituality. The respondent's probability if the higher the age, the lower the chance to have the spirituality of 0.560 times.

The second set of questions aimed to analyze the effect of gender, age, and years of formal education on empathy. Table 3 shows an overview of the Binary Logistics Regression analysis results between demographic characteristics and empathy. The most interesting aspect of this table is gender and age affect pre-service teacher empathy. Respondents who are male have 0.210 times the opportunity to have high empathy compared to women. Or, female respondents have 4.762 times the chance to high empathy than men. Meanwhile, the higher the age of the respondent, the chance to have empathy is 0.559 times.

The third set of questions aimed to analyze the effect of the spiritual dimensions (meaning of purpose, innerness, interconnectedness, and transcendence) on empathy. Table 3 shows an overview of the Binary Logistics Regression analysis results between the spiritual dimensions and empathy. Interestingly, the data in this table is that the indicator of innerness in the spirituality variable affects a person's empathy. The better the respondent's innerness, the higher the chance to have high empathy is 6.367 times than those with low innerness.

Discussion

Several reports have shown that spirituality's role in a psychological and social context has been widely studied (Dose et al., 2014; Edwards et al., 2010; Mohan & Uys, 2006). Spirituality in the relationship between educators and students is useful as a critical psychological problem for students, so prospective teachers need to learn it (Espejo-Siles et
al., 2020; Hall & Smotrova, 2013). Pre-service teachers' spirituality is one-factor affecting empathy that needs attention, especially for universities where prospective teachers receive education in preparation for their future career (Jaber et al., 2018).

Table 3. Binary Logistics Regression Results Between Demographic Characteristics and Spirituality / Empathy

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Regression Coefficient</th>
<th>Significance</th>
<th>Odd Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spirituality</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>-.101</td>
<td>.883</td>
<td>.904</td>
</tr>
<tr>
<td>Age</td>
<td>-.581</td>
<td>*.071</td>
<td>.560</td>
</tr>
<tr>
<td>Years of Formal Education</td>
<td>.595</td>
<td>.125</td>
<td>1.813</td>
</tr>
<tr>
<td>Constant</td>
<td>6.497</td>
<td>.259</td>
<td>663.379</td>
</tr>
<tr>
<td>Empathy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>-1.560</td>
<td>***.004</td>
<td>.210</td>
</tr>
<tr>
<td>Age</td>
<td>-.581</td>
<td>*.054</td>
<td>.559</td>
</tr>
<tr>
<td>Years of Formal Education</td>
<td>.488</td>
<td>.179</td>
<td>1.628</td>
</tr>
<tr>
<td>Constant</td>
<td>8.350</td>
<td>.125</td>
<td>4228.872</td>
</tr>
<tr>
<td>Spiritual Dimensions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meaning of Purpose</td>
<td>1.099</td>
<td>.342</td>
<td>3.000</td>
</tr>
<tr>
<td>Innerness</td>
<td>1.851</td>
<td>**.012</td>
<td>6.367</td>
</tr>
<tr>
<td>Interconnectedness</td>
<td>1.485</td>
<td>.137</td>
<td>4.414</td>
</tr>
<tr>
<td>Transcendence</td>
<td>-.204</td>
<td>.737</td>
<td>.815</td>
</tr>
<tr>
<td>Constant</td>
<td>-1.020</td>
<td>.426</td>
<td>.361</td>
</tr>
</tbody>
</table>

* = significant at .1 | ** = significant at .05 | *** = significant at .01

The current study found that gender had no effect on the spirituality of pre-service teachers. However, this result has not previously been described. Previous research has stated that women are more spiritual than men (Luna et al., 2019). However, in terms of organizational leadership, men are more spiritual than women (Šilingienė & Škėrienė, 2015). A possible explanation for this might be that the level of spirituality in both men and women is determined by the respondent's situation. Another important finding was that the higher a person's age, the lower his spirituality. Comparison of the findings with those of other studies confirms that the variable age affects the spirituality of both men and women (Šilingienė & Škėrienė, 2015). However, previous research found that the higher the age, the higher the spirituality (Zimmer et al., 2016), this is inversely proportional to these findings. A possible description for this might be that the definition of spiritual in the previous study focused more
on a religious ritual routine, in contrast to this study which focused on the relationship between humans and God and the universe.

One exciting finding is gender and age affect empathy. The current study found that women have a higher chance of empathy than men. This finding is contrary to previous studies that have suggested no difference in the level of empathy between men and women (Kamas & Preston, 2021). A possible explanation for this might be that the respondent's situation determines the level of empathy. In this study, it was found that women were more empathetic when the respondents were pre-service teachers. In contrast, the respondents were economic gamers in previous studies, so there was no difference in their empathy for both men and women. Norms instilled in prospective teachers affect their empathy, while other respondents do not need it. The most important clinically relevant finding was the higher the age, the higher the chances of empathy. This finding is consistent with previous studies that age affects empathy. The higher the age, the higher the empathy (Spenser et al., 2020).

One unanticipated finding was that years of formal education had no effect on either spirituality or empathy for Muslim pre-service teachers. There has been no previous research examining this variable. However, the results of this study are very useful in providing recommendations on the university curriculum. Universities have an important role in building empathy for undergraduate students, especially pre-service teachers.

The most important finding of this study is the higher the level of innerness in the respondent, the more likely it is to have high empathy. So, it can be concluded that innerness is a spiritual dimension that affects empathy for Muslim pre-service teachers. Inner Resources was defined as the process of striving for or discovering wholeness, identity, and a sense of empowerment. Inner Resources was operationalized as the innerness or inner resources subscale of the Spirituality
Assessment Scale (SAS) (Howden, 1992). These findings contribute to making innerness the main force in indigenous counseling to increase the empathy of Muslim pre-service teachers.

**Implication**

The present study suggests that age is two factors that influence spirituality and empathy, while gender only affects empathy. These two factors are useful for classifying the level of spirituality and empathy before increasing empathy for pre-service teachers. Age factor affects spirituality and empathy. The provision of more serious counseling services is needed for older pre-service teachers to improve their spirituality. On the other hand, counseling needs to focus more on younger pre-service teachers to increase empathy.

Gender factors have a significant effect on empathy. The results of the study found that female pre-service teachers were more empathetic than males. University counseling services in increasing empathy should focus more on male pre-service teachers than women. The design of group counseling with the composition of men and women is also an interesting alternative to help increase the level of empathy in men through peer pressure from female pre-service teachers.

Another finding of this study is the significant role of the innerness dimension on empathy. The implication is that innerness is suggested to be the main focus in implementing spiritual counseling at universities. However, it should be noted that the essence of the innerness dimension must be different between religions, so an indigenous counseling approach is needed in this situation.

The implications of the research results on the steps of counseling are in sections two and three. Counseling steps; (1) establish the proper therapeutic relationship, (2) explore the psychological dynamics operating in the client (an assessment), (3) encourage the development of self-understanding (insight into purpose), (4) help the client make new choices (reorientation and reeducation) (Corey, 2013). In the second step, counselors need to
know the spiritual characteristics and empathy of a certain age and gender, so the results of this study are beneficial. Furthermore, in the third step, the innerness dimension plays a role in the process of self-understanding.

Limitation

There may be some limitations in this study. First, data collection using online and voluntary questionnaires may have given rise to some bias, especially in areas where internet connectivity is difficult. Second, the respondent's data on the age variable only comes from one group of young adults. For further research, it is better to involve respondents from various age groups, including children, adolescents, early adults, adults, and the elderly, to present more interesting facts.

CONCLUSION

The main goal of the current study was to analyze the effect of gender, age, and years of formal education on each spirituality and empathy. This study has identified that gender and age affect empathy, and only age affects spirituality. Another finding is that the innerness dimension affects empathy for Muslim pre-service teachers. The findings will be of interest to design indigenous counseling in universities to increase empathy for Muslim pre-service teachers. The results of this study are also helpful as a choice of indicators in determining the ideal profile of counselors or teachers in schools.

ACKNOWLEDGEMENT

We are grateful to all respondents involved in this research project. We are also grateful to the Direktorat Riset dan Pengabdian Kepada Masyarakat (DRPM), Kementerian Pendidikan, Kebudayaan, Riset, dan Teknologi, Indonesia, which supports funding of this
study with contract number 040/SP2H/LT/DRPM/2021. Furthermore, we thank to Universitas Nahdlatul Ulama Surabaya, for supporting this study.

AUTHOR CONTRIBUTIONS STATEMENT

F.K. and N.H. conceived of the presented idea. M.H. and I.H. developed the theory. F.K. and M.I. verified the analytical methods. M.I analyzed the data and interpreted it. N.H. encouraged F.K. to investigate and supervised the findings of this work. All authors discussed the results and contributed to the final manuscript.

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