
RELIABILITY AND VALIDITY MEASUREMENT OF EMOTIONAL INTELLIGENCE, SELF-COMPASSION AND PSYCHOLOGICAL WELL-BEING AMONG NGO VOLUNTEERS

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Abstract: Reliability and validity are important components to be focused on in conducting research. According to previous research, psychometric properties of emotional intelligence, self-compassion and psychological well-being not widely tested by the sample of volunteers. The aim of this study is to examine the reliability and validity for three instruments: Emotional Competence Inventory (ECI), Self-compassion Scale (SCS) and Scale of Psychological Well-being (SPWB). This study is conduct using quantitative research design by using questionnaires. There were 377 volunteers of NGO in Sabah involved as sample in this study. The data was analyzed by Statistical Packages for Social Science (SPSS) version 29. Results show that the score of Cronbach's alpha for ECI is 0.972; while for SCS is 0.848 and for SPWB is 0.764. The results show that three instruments used in this study are reliable. Meanwhile for validity, the correlation coefficients between each subscales and overall scores of ECI components or the value of r , vary from 0.907 to 0.973, showing statistical significance at a level of $p < 0.05$. For instrument SCS, the value of r for the subscales are between 0.488 and 0.773 with the $p < .05$. While for SPWB, the value of r of every subscales are between 0.574 and 0.823 with the $p < .05$. In conclusion, the three instruments used in this research show the value of r of all items very beneficial and strongly valid. All of the items from these three instruments remain. The implication of this study is that the findings could serve as a reference to future works for researchers that

are interested in measurement studies of emotional intelligence, self-compassion and psychological well-being, especially in volunteer context.

Keywords: Reliability, Validity, Psychological Well-being

INTRODUCTION

The psychological state of an individual with an adequate degree of emotional and behavioral adjustment is known as psychological well-being. A person's ability to enjoy life and find a balance between everyday activities and efforts to develop psychological resilience can be considered in excellent mental health, according to positive psychology or holistic perspectives (Afsana, 2016).

According to Zeike, Bradbury, Lindert and Pfaff (2019), psychological well-being is a multifaceted notion that encompasses self-esteem, satisfaction with life's elements, and how well things are going in life. This is crucial to understand a person's future goals when working on any task and to gauge how satisfied they are with the work they are performing. Volunteering is regarded as an activity as well, and it is crucial to show how satisfied a person is with their work of volunteering.

Volunteering has several benefits for the individual as well as the communities and organizations they assist. According to Faletahan, van Burg, Thompson, and Wempe (2021), volunteers choose to work for and stay with non-profit organizations because they are involved in important volunteer work and, as a result, experience self-satisfaction and meaningful existence.

Then, many volunteers said that working with associations had enhanced their self-worth, listening comprehension, and patience. The social aspect of their skill acquisition is important because their learning is based on interactions in communal contexts (Khasanzyanova, 2017). Adha, Budimansyah, Kartadinata and Sundawa (2019) noted that the freedom of expression, employment, and innovation that exists now has led to persons participating in a greater variety of activities. People who engage in a range of patterns of activities that characterize themselves as active citizens consequently become more critical and open to change.

Non-government organizations (NGOs) are not government or business agencies but more charity and advocacy groups (Suis, Rusdy & Fahrudin, 2017). The latest number of NGOs registered under the Registrar of Societies (ROS) is 72,444 (Mohd Salleh, 2022). The statistics increase year by year making the NGO one of the most important organizations in Malaysia. In addition, NGOs are always being associated with volunteers. Most NGOs use volunteers as manpower to run projects or community programs in delivering aid and services.

Nowadays, volunteering can be defined as productive activity and compatible with the behavioral approach because it is defined as an activity that produces goods and services below the market rate (Wilson, 2000). There are differences between paid workers and volunteers when they are carrying out tasks within an organization (Cho, Wong & Chiu, 2020). Volunteers working with NGOs are expected to deliver what has been planned or requested, which impact their mental health, especially their psychological well-being.

Ryff (2013) stated that well-being is linked with participation in volunteer work beyond work and family life. Volunteer activity can enhance psychological well-being among people as mentioned in Thoits and Hewitt (2001) about the relationship between volunteer work and well-being. Giving back to the community is an action that can improve one's happiness and mental health, according to Ali, Khan, and Zehra (2016). Through their humanitarian activities, volunteers often express feelings of satisfaction, purpose, and contentment.

Prior research by Matthews & Nazroo (2021) also showed that volunteering had a greater potential to improve one's health and general well-being. The study highlights the idea that volunteering is a powerful force that can affect a person's physical and mental health in addition to being a selfless act. The findings of Rogerson, Barton, Braggs and Pretty (2017) corroborate this as well; both new and returning volunteers exhibit increases in their mental health, with the greatest changes being seen in those who began the program with the lowest degree of well-being.

In order to build a good environment in an organization, emotional stability needs to be an emphasis by the organization. According to George

in Shukla, Adhikari and Ray (2016) emotions are feelings with high intensity triggered by the internal or external of the individual, demand attention and interrupt cognitive processes. Lin, Liebert, Tran, Lau and Salles (2016) explained that individuals with higher emotional intelligence can perceive, process and regulate their emotions effectively which can lead to well-being and less emotional disturbance.

High emotional intelligent individuals can benefit others' psychological health. This is due to the fact that emotionally intelligent people follow their emotions rather than their perceptions, actions, and thought processes, that establishes the foundation for relationship management, self-awareness, self-motivation, empathy, and personal development—all of which enhance people's pleasure and sense of fulfilment in life (Mehmood & Gulzar, 2014).

It is important to understand the role that emotions play in volunteers' psychological health since they have a significant impact on how people experience and see their volunteer work. First, the volunteers' motivation to participate in the volunteering activities was thought to stem from their good emotions. The intrinsic drive, which includes things like a sense of purpose, self-fulfilment, and the desire to have a good influence would increase the participants' well-being and level of life satisfaction. (Lorente-Ayala, Vila-Lopez & Kuster-Boluda, 2020).

Performing acts of altruism can elicit feelings, such as empathy, compassion, and altruistic joy. With the sense of purpose and belonging they foster, these selfless deeds establish an emotional connection that can enhance psychological health. According to Miles, Andiappan, Upenieks and Orfanidis (2022), one effective tactic is to engage in prosocial behaviors, or deeds motivated by the desire to assist others. Prosocial behavior has been shown to enhance a number of mental states, including life satisfaction, psychological flourishing, and general well-being.

Next is the relationship between self-compassion and psychological well-being. According to Neff and Germer (2017), after a few discussions and research conducted, their outcome is when people take care of themselves and have compassion actually can help their psychological health. Mindfulness is where we know our suffering and can respond to it with

kindness. Actually, the suffering is the same as other people experience. This can enhance our intrapersonal and interpersonal well-being.

Individuals rarely have a great deal of compassion for themselves, but they frequently feel it for others. Goertz, Keltner and Simon-Thomas (2010) claim that compassion entails both sensitivity to the experience of pain and a strong desire to make that suffering lessened. This entails becoming more conscious of other people's suffering without running away from it or distancing oneself from it, allowing compassion and a wish to lessen their suffering to surface (Wispe, 1991). Understanding the frailty and imperfections of the human condition and being prepared to show compassion to others in their moments of failure or error are also necessary components of compassion.

Volunteers' psychological well-being may be greatly enhanced by having the capacity for self-compassion, or the capacity to treat oneself with love and understanding in having difficulty and adequacy in life. Here are a few advantages that self-compassion may have for volunteers. First off, volunteers may find it easier to handle difficulties if they practice self-compassion. It may be simpler for people who are aware of their thoughts and feelings and watch them without making judgments to tolerate unpleasant experiences rather than to avoid or change them. This can lessen the feeling of being unduly identified with and overcome by negative effects (Beato, Costa & Nogueira, 2021).

Additionally, self-compassion helps lessen compassion fatigue and burnout. Burnout or compassion fatigue can strike volunteers, especially when they work in emotionally draining or high-stakes situations. When an individual is emotionally exposed to another person's suffering and does not receive the necessary support, either personally or organizationally, to manage this uncomfortable situation, compassion fatigue sets in (Figley in Cañas-Lerma, Campos-Vidal & Verger, 2022). In volunteers, self-compassion acts as a protective barrier against overwhelming oneself and excessive self-criticism.

There are many research of emotional intelligence, self-compassion and psychological well-being. However, in this current study, the variables will be focus on subject of NGO volunteers in Sabah. Before the final

analysis are done, the psychometric properties of the instruments used need to be identified.

The psychometric properties tested in this research are the reliability and validity of the instruments. These tests are very important because in quantitative research, many predictors and outcome variables are abstract concepts that are referred to as theoretical structures. Employing a valid and reliable measurement tool to assess these abstract concepts is crucial for ensuring the research's quality (Surucu & Maslakci, 2020).

In addition, according to Thompson (2003) in Mohajan (2017), researchers often neglect to report the reliability of their measures and fail to understand the critical connection between scale validity and effective research. This can lead to measurement errors. Measurement error not only hampers the ability to achieve significant results but also undermines the effectiveness of scores in producing quality research. Establishing reliability and validity in research is crucial to ensure that the data are robust and replicable, and that the results are accurate (Mohajan,2017).

Research Objective

This study is carried out to examine the reliability and validity of items in independent and dependent variables. In this study, the independent variables are emotional intelligence and self-compassion. The dependent variable is psychological well-being.

Two important criteria in measurement are reliability and validity. In quantitative research, reliability refers to the consistency, stability, and repetition of outcomes; for example, a researcher's result is regarded dependable if consistent results were produced in similar but different contexts (Mohajan, 2017). Then, Zohrabi (2013) stated that validity is tested to that extent the instruments purposely need to be measured and can explain research findings.

METHODOLOGY

Research Design

The quantitative research approach is being used in this study's research design. The goal of the design is to assist in achieving the goals that have been established. According to Kandel (2020), the research's variables are

measurable, making it possible to apply statistical methods to analyse the numerical data. The measuring procedure is critical to quantitative research because it provides the crucial connection between empirical observation and the mathematical articulation of quantitative relationships.

Data for this study were gathered through a survey. According to Monfared and Derakhshan (2015), scientists will look for a sample size that yields a 95% confidence interval or above. Researchers who use quantitative data will benefit from this as it allows them to use a high sample size. Quantitative data aids in generalising the phenomena they wish to research, in contrast to qualitative data, which is limited to a single person or group.

Participants

The sample size is determined in accordance with the standards put forth by Krejcie and Morgan (1970), who produced a table that is frequently cited. Building on the work of Krejcie and Morgan, Bukhari (2020) created the Bukhari Sample Size Calculator to improve the ease of determining sample size. To summarize, 379 volunteers connected to non-governmental organizations in Sabah make up the study's sample size.

Intead of 379 targeted participants, 400 questionnaires were distributed to volunteers who join the volunteering activities with different NGO in Sabah. This strategy was to prevent inadequacy of the sample size for the final analysis. Following a week, protocols were put in place to collect input. In the end, 381 completed surveys were gathered; of those, 377 were judged appropriate for examination following the resolution of incompleteness.

Instruments

Questionnaires were employed as a research instrument in this study. Birmingham and Wilkinson (2003) state that gathering data from people in a comprehensible format can be economical and effective. The questionnaire used in this study were divided into 4 parts, i.e. Parts A, B, C, and D. The instrument employed in earlier studies has a high Cronbach's alpha value. The Emotional Competence Inventory was used to gauge the subjects' emotional intelligence. The Self-compassion Scale by Neff

(2003) is the next tool used to measure self-compassion. Finally, the researcher employed Ryff and Keyes' Scales of Psychological Well-Being (1995) to measure psychological well-being.

The purpose of Part A is to gather the demographic profile of the subject. In order to address the research questions, the questions in this part were constructed in accordance with the goals of the study. Items in this area include gender (male or female), age, education level (SPM, pre-university, diploma, A/O-level, bachelor's degree, master's degree, or doctor of philosophy), ethnicity (Malay, Chinese, Indian, Kadazandusun, Murut, Bajau, Bugis, or others), and age. Respondents were instructed to check the appropriate column and provide an answer based on it.

In Part B, Emotional Competence Inventory (ECI) is the tool used to assess volunteers' emotional intelligence. The original tool created by Boyatzis, Goleman, and Rhee (2000), who classified their findings regarding emotional competency into clusters, that includes self-awareness, self-management, social awareness and relationship management. The ECI is a 360-degree assessment tool designed to gauge the emotional intelligence of individuals and groups. It is taken from the emotional skills outlined in Dr. Daniel Goleman's *Working with Emotional Intelligence* (1998), the Hay/McBer's *Generic Competency Dictionary*, and the *Self-Assessment Questionnaire (SAQ)* developed by Dr. Richard Boyatzis (1996). This instrument consists of 63 items and there is no reverse item in it. The instrument was standardized to 5-point Likert scale start with 1 (never) to 5 (almost always)

Next in Part C, the participants were given the 26-item Self-Compassion Scale (Neff, 2003), which generates an overall self-compassion score by rating the positive and negative aspects of the three primary components of self-compassion. For the positive characteristics, there are three types of components: self-kindness, humanity, and mindfulness. The subscales measuring over-identified, isolation, and self-judgment will be used to assess the negative characteristics. Before being computed, this score will be reversed. On a scale of 1 (nearly never) to 5 (almost always), participants were asked to identify how often they behaved in the way described in each of the items throughout their difficult periods.

Then, for Part D instrument used is Scale of Psychological Well-being (SPWB) by Ryff (1989). Each of the six categories on this instrument—autonomy, environmental mastery, personal growth, positive interpersonal relationships, purpose in life, and self-acceptance—has three items. The participants were requested to assess their psychological well-being using a 7-point Likert scale, with 1 denoting severe disagreement and 7 representing strong agreement. After the data was gathered, the scores for the negative items 4, 5, 6, 7, 10, 14, 15, and 16 were reversed.

RESULTS

The data was analyzed using Statistical Packages for Social Science (SPSS) version 29. Subsequently, the internal consistency of the instrument was measured by previous researchers using the value of Cronbach's alpha to gauge its reliability.

Reliability Measurement

Cronbach's alpha has a reasonable value of .70, and values higher can be considered acceptable (Drost,2011). Internal consistency was assessed in this study. For each instrument used in this study, the reliability test was conducted to get Cronbach's alpha value.

The 63-item Emotional Competence Inventory (ECI) has high reliability, as indicated by high Cronbach's alpha values for the total items. The scale had a Cronbach's alpha of .972 which indicated that it was reasonably reliable. The Self-compassion Scale (SCS) then showed dependability, with Cronbach's alpha values of .848. Ultimately, dependability was shown by the Scale of Psychological Well-Being (SPWB), which had Cronbach's alpha values of .764. The results of the Cronbach's alpha value are tabulated below:

Table 1: Cronbach's alpha value

Instrument	Cronbach's alpha value	Degree of Reliability
ECI	0.972	High
SCS	0.848	High
SPWB	0.764	High

Validity Measurement

There is no set formula to verify that the instrument is legitimate, claim Westen and Rosenthal (2003). Rather, correlation is frequently employed to assess the instruments' construct validity. The value of r , which is obtained by computing the Pearson correlation coefficients of respondents' scores to a total score item, represents the construct validity in the current study. The criteria to interpret the score of Pearson are presented in Table 2:

Table 2: Interpretation of r value (R. Oktavia et.al,2018)

Validity coefficients value, r	Interpretation
Above 0.35	Strongly valid
0.21-0.35	Likely to be useful
0.11-0.20	Depends on circumstances
Below 0.11	Unlikely to be useful

The correlation magnitude (the value of r), between the subscales and overall score for ECI is between 0.907 and 0.973 with the $p < .05$. The strongest relationship is shown by subscale Social Skills with the value of r , .973. Then followed by Self-management with the value of r , .956. Next is the subscale Social Awareness with the value of r , .914. Lastly, the subscale Self-awareness with the value of r , .907. The results shown in table below:

Table 3: Pearson Correlation Coefficients, r of ECI

Instrument	Subscale	Validity coefficient values, r	Interpretation
ECI	Self-awareness	0.907**	Very beneficial (strongly valid)
	Self-management	0.956**	Very beneficial (strongly valid)
	Social Awareness	0.914**	Very beneficial (strongly valid)
	Social Skills	0.973**	Very beneficial (strongly valid)

** Correlation is significant at the 0.01 level (2-tailed).

The correlation magnitude (the value of r), between the subscales and overall score for SCS is between 0.488 and 0.773 with the $p < .05$. The strongest relationship is shown by subscale self-judgment, followed by isolation and over-identified. The weakest relationship shown by subscale self-kindness but still it is strongly valid. The results shown in table below:

Table 4: Pearson Correlation Coefficients, r of SCS

Instrument	Subscale	Validity Coefficients Values, r	Interpretation
SCS	Self-kindness	0.488**	Very beneficial (strongly valid)
	Self-judgement	0.773**	Very beneficial (strongly valid)
	Common humanity	0.610**	Very beneficial (strongly valid)
	Isolation	0.723**	Very beneficial (strongly valid)
	Mindfulness	0.555**	Very beneficial (strongly valid)
	Over-identified	0.707**	Very beneficial (strongly valid)

** Correlation is significant at the 0.01 level (2-tailed).

The correlation magnitude (the value of r), between the subscales and overall score for SPWB is between 0.574 and 0.823 with the $p < .05$. The strongest relationship is shown by subscale self-acceptance followed by personal growth and environmental mastery. The results shown in table below:

Table 5: Pearson Correlation Coefficients, r of SPWB

Instrument	Subscale	Validity Coefficients Value, r	Interpretation
SPWB	Autonomy	0.739**	Very beneficial (strongly valid)
	Environmental mastery	0.764**	Very beneficial (strongly valid)
	Personal growth	0.789**	Very beneficial (strongly valid)
	Positive relations	0.568**	Very beneficial (strongly valid)

** Correlation is significant at the 0.01 level (2-tailed).

DISCUSSION

The data was analyzed in terms of psychometric properties of measurement for emotional intelligence, self-compassion and psychological well-being. For emotional intelligence, researcher used Emotional Competence Inventory, for self-compassion researcher used Self-compassion Scale and for psychological well-being, Scale of Psychological Well-being was used.

Reliability Measurement of Instruments

The reliability of measurement considering the Cronbach's alpha values after undergoing reliability analysis in SPSS. The value of Cronbach's alpha of ECI in this study is .971. Internal consistency of items in instrument ECI shows that the items are reliable and sample of volunteers can be measured by using this instrument. This finding is supported by Adey (2015) that studies the samples of high school teachers. Other than that, the Cronbach's alpha by Hay Group (2005) for ECI is .63. In Malaysia, a research on MARDI employees' emotional intelligence by using ECI. The Cronbach's alpha value is .952 (Amira, Muhammad Ajib & Fatimah, 2016) showing the reliability of the instrument.

Next is Cronbach's alpha for SCS is .799. This shows that it is reliable and acceptable to use the instrument in actual study. This is supported by finding in the research by Neff (2003), who originally developed the SCS instrument. The Cronbach's alpha in the study is .92. In the context of Malaysia, the study is supported by findings from 222 Malaysian adults, demonstrating strong evidence for reliability through internal consistency and test-retest measures (Abdul Hamid, Saleh, Azmi, Doan, Jing, Yee, & Jie, 2019). Additionally, this is further reinforced by a study on adolescents in Malaysia, where Cronbach's alpha values ranged from .76 to .95, indicating strong reliability (Khatib, Hoesni, and Manap, 2018).

Then, for SPWB Cronbach's alpha coefficient is .898. It is considered high and acceptable to proceed with the actual study. This is supported by Akin (2008) who used SPWB to measure the psychological well-being of students in Turkey. The value of Cronbach's alpha of the scale is between .87 to .96. Next, the study supported by the finding is from Garcia, Kazemitabar & Asgarabad (2023). The Cronbach's alpha from the study is within the acceptable range.

Validity Measurement

The validity is then tested by considering the coefficient values, r in which Pearson correlation was done between subscales with total score of items of the instruments.

The value r for construct validity on instrument ECI consists of four subscales under the instrument. The value of r is between .907 (Self-awareness) until .973 (Social Skills). According to interpretation from R Oktovia *et.al* (2018), the result shows that all the subscales are strongly

valid and very beneficial. This supported by the findings from Leong (2019), showing the strong validity of ECI for the sample of enforcement agencies in Sabah. In addition, for future research other than the instrument currently used in this research, other instrument of Emotional Competence Inventory-Revised (ECI-R) can be used as it is validity confirmed with 34 items (Bueno, Correia & Peixoto,2021)The value of r for instrument SCS consists of six subscales and the value of r is between .488 (Common Humanity) until .773 (Self-judgement). Subscales for SCS considered strongly valid and can be proceeded to measure self-compassion of NGO's volunteers in Sabah. The validity is supported by Neff (2016) mentioning that the SCS seems to be a valid measure of self-compassion both in terms of psychometric properties and theoretical consistency. Its current structure offers researchers considerable flexibility in how they utilize it to address their specific research inquiries and theoretical viewpoints. Simultaneously, findings by Neff & Tóth-Király (2022) that gather few research that used SCS on a variety population conclude that the SCS is deemed reliable and demonstrates sufficient levels of convergent, discriminant, predictive, and known-group validity.

Lastly, instrument SPWB consists of six subscales and the value of r starting from .568 (Positive Relations) until .789 (Personal Growth). All subscales of SPWB have strong validity as the value of r is all above .35 (Oktovia *et.al*,2018). This finding is supported by Garcia, Kazemitabar & Asgarabad (2023), highlighting the 18-item version of Ryff's Psychological Wellbeing Scale is a valid instrument designed to measure psychological well-being according to Ryff's multidimensional model. This scale has been extensively utilized in research related to positive mental health and various other fields, such as education.

Additionally, the development of Ryff's Psychological Well-being Scale is ongoing, with several versions created over time. According to Garcia et al. (2023), the scale has evolved from an initial 120 items to a few versions with 84, 48, 20, and most recently, 18 items, which was utilized in the current research. This research demonstrates that the 18-item instrument for measuring psychological well-being is both reliable and valid for use in future studies. Moreover, researchers in Malaysia are encouraged to explore psychological well-being further, given the country's diverse and multicultural population.

CONCLUSION

There are many instruments to measure variables of emotional intelligence, self-compassion and psychological well-being. Criteria for a suitable instrument to be used is based on their reliability and validity. The common analysis for reliability is by using reliability analysis in SPSS to identify the Cronbach's alpha coefficient. Then for construct validity is by using Pearson correlation analysis to identify the value of r .

Items in each subscale for three instruments in this study (ECI, SCS and SPWB) are considered reliable and valid to be used further without removing any item. This is because the value of Cronbach's alpha and r do not violate the value set for reliability and validity. Besides, the number of items are maintained and there are no items that need to be withdrawn as they have high reliability and validity.

Last but not least, this study will help for future researchers who interested in studying emotional intelligence, self-compassion and psychological well-being of the volunteers. They can refer to this current study as an indicator if they want to test these instruments on other populations.

Informed Consent Statement

All study participants provided informed consent before proceed answering questionnaire

Conflict of Interest

The authors declare that there is no conflict of interest in publishing this article.

Ethics Statement

The University of Malaysia Sabah's Faculty of Psychology and Education supplied the researchers with research ethics, which they used. Every technique carried out in this study that involved participants was done so in compliance with the ethical guidelines set forth by the authors' organization. By providing a list of the reference sources used in the citations, the writers further affirm that the publication complies with accepted scientific writing practices.

Author Contributions

Author¹: Conceived and design the analysis, collect the data, perform the analysis and wrote the paper

Author²: Conceived and design the analysis, supervision and edit the paper

Author³: Edit the paper

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Data Availability Statement

Data available upon request from authors

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