

# Adaptation of Three Psychological Measurement Instruments Assessing Impact of the COVID-19 Pandemic: Fear of COVID-19 Scale, Coronavirus Anxiety Scale, and Altruism

**Angela Oktavia Suryani**  
**Laura Francisca N. Sudarnoto**  
**Benedicta Prihatin D. Riyanti**

Atma Jaya Catholic University of Indonesia

<https://doi.org/10.37517/978-1-74286-697-0-05>

*Angela Oktavia Suryani is an assistant professor at the Faculty of Psychology, Atma Jaya Catholic University of Indonesia, specializing in psychological measurement and cross-cultural psychology research methods. Her researches are on psychological test constructions and adaptation, as well as cross-cultural psychological aspects comparisons.*

## Abstract

The COVID-19 pandemic has been going on for more than two years and has caused problems for the world community. One of the impacts of COVID-19 is psychological barriers, including decreased well-being, increased stress, anxiety, depression, loss of family members, and being laid off. Is there still energy in a difficult situation like this to give empathy and have a sense of wanting to help without reward (altruism)? The psychological condition of the impact of COVID-19 is the background for the need to carry out valid and reliable psychological measurements. This study aims to identify the psychometric properties of three psychological instruments adapted to the Indonesian culture. These instruments measure the psychological impact related to the context of COVID-19, including Fear of COVID-19, Anxiety toward COVID-19, and Altruism. This research is part of an international umbrella research themed: "International and Multidimensional Perspectives on the Impact of COVID-19 across Generations (IMPACT-C19)," which involves more than 16 countries. This study implemented a convenience sampling method to recruit 176 participants. The adaptation stages included translating the instruments from English into Indonesian (using the translator's discussion method), back-translation from Indonesian to English, harmonizing the translation results, and statistical testing. We applied Confirmatory Factor Analysis (CFA) to test the instrument's validity and the McDonald's Omega method to test reliability. The results showed that the Fear of COVID-19 scale was valid with adequate goodness of fit values, namely  $\chi^2(21) = 375.47$ ,  $p = 0.10$ , TLI = 0.98 (recommended 0.95), CFI = 0.97 (recommended = 0.95), RMSEA = 0.06 (suggested < 0.08), with a reliability coefficient of 0.81. The anxiety toward the COVID-19 scale is also valid with excellent goodness of fit values, namely  $\chi^2(10) = 336.59$ ,  $p = 0.34$ , TLI = 1.00, CFI = 1.00, RMSEA = 0.03, with a reliability coefficient of 0.83. The

results of the Altruism CFA test showed that all items were valid with good goodness of fit values, namely  $\chi^2 (10) = 147.37$ ,  $p = 0.22$ ,  $TLI = 0.99$ ,  $CFI = 0.96$ ,  $RMSEA = 0.05$ , with a reliability coefficient of 0.70. The research results showed that the three instruments are valid with good goodness of fit and adequate reliability coefficient.

## Introduction

WHO (World Health Organization) officially declared Coronavirus disease 2019 (Coronavirus Disease 2019, shortened to COVID-19) as a pandemic (WHO, 2019) on 12 March 2020. The impact of COVID-19 has caused severe health problems and death. Actions to prevent transmission are maintaining social distance and independent isolation (Cameron et al., 2020). These efforts have been carried out by governments worldwide, including Indonesia, by implementing social distancing policies, namely imposing Large-Scale Social Restrictions (LSSR) (Government of Indonesia, 2020).

Regulation of LSSR implementation is limited to regional scope as an addition to health quarantine at homes and hospitals. This policy follows Law No. 6 of 2018 concerning health quarantine in Indonesia (Government of Indonesia, 2018). Even though it prevents more people from getting infected, the implementation of this procedure significantly impacted the community's social and economic life. Some industrial organizations cannot survive and lay off their employees (Taufik & Ayuningtyas, 2020). This problem also occurs in other countries (Vaziri et al., 2020). In addition to social and economic impacts, there are also psychological impacts experienced by the world community, such as decreased mental health and psychological well-being, increased stress, anxiety, and depression (Hamza et al., 2020; Ifdil et al., 2020; Marmarosh et al., 2020; Rodríguez-Hidalgo et al., 2020). Other psychological impacts are negative attitudes, stereotyping, and stigma for individuals infected with COVID-19 (Earnshaw et al., 2020). The results of Özdin & Özdin's research (2020) show that the groups most affected psychologically are women, individuals with a history of psychiatric illness, individuals who live in urban areas, and those with chronic co-morbidities. This study's results align with Pedraza et al.'s research (2020) that women are more likely to feel anxious than men during the COVID-19 pandemic; older people feel less anxious even though they belong to a group that is vulnerable to transmission of COVID-19.

Lakhan et al. (2020) found that the general population's prevalence rates of depression, anxiety, stress, sleep problems, and psychological distress were higher during the COVID-19 pandemic. This deplorable atmosphere of life needs special attention and service from psychologists. Therefore, in response to this pandemic situation, a research team from Indonesia joined in umbrella research with the theme: "International and Multidimensional Perspectives on the Impact of COVID-19 across Generations (IMPACT-C19)". The study is cross-cultural research on measuring psychological aspects related to COVID-19 organized by The Research Initiatives Work Group (RIWG) and the American Psychological Association (APA) COVID-19 Task Force, led by Radosveta Dimitrova from Stockholm University, Sweden, and Rita Rivera from Albizu University Miami, USA. This cross-cultural research involved researchers from 16 countries. This research represents Indonesia. In this cross-cultural research, the participating countries use the same measurement tools. Before measuring and comparing test scores between cultures, researchers should examine the instrument to what extent the participants in those countries understand the item in the same psychological meaning considering that culture shapes human behavior (Segal, 1986; Triandis & Suh, 2002). Therefore, we adapted three instruments measuring the psychological impact of COVID-19: fear of COVID-19, anxiety toward COVID-19, and altruism.

## Anxiety towards COVID-19

Anxiety is a state of apprehension or worry that complaints that something terrible will happen soon (Nevid et al., 2017). Anxiety is a natural reaction that can be experienced by anyone when seeing various situations or events that can trigger anxiety. Kaplan et al. (2010) stated that anxiety is a human response to a threatening situation. It occurs ordinarily in human development when s/he faces a change in new experiences and finds self-identity and the meaning of life. At low levels, anxiety helps individuals to stay alert, to take steps to prevent danger and minimize the impact of that hazard. But if anxiety is very high, it will be disturbing. This excessive anxiety will create behavior that is not adaptive and may endanger the person. For that reason, anxiety cannot be considered a mild disorder. The symptoms can lead to anxiety disorder if we do not prevent and cure it. According to Adwas et al. (2019), anxiety disorders manifest in mood disorders, thinking, behavior, and physiological activity. General symptoms of anxiety that accompany disturbances in sleep, concentration, and social and or occupational functioning. Anxiety is associated with restlessness, difficulty concentrating, going blank, muscle tension, irritability, and feeling tense and tired quickly. Causes of anxiety include stress, physical conditions, genetics, and environmental factors.

Individuals' negative experiences and exposure to negative issues in mass or social media regarding the growing health crisis can add to their level of anxiety and fear (Kumar & Somani, 2020; Lee, 2020b; Shuja et al., 2020). It happens because individuals do not think clearly and rationally when reacting to COVID-19, followed by very high levels of anxiety (Ahorsu et al., 2020; Lee, 2020a). Nikčević and Spada (2020) noted several studies showing that the pandemic situation affects psychological conditions beyond the pandemic disease (stress, post-traumatic stress, health anxiety, and suicidal ideation). Puspita et al. (2021) conducted an exploratory study involving teenagers in Indonesia that showed that the majority (80%) of the participants were at a mild level of anxiety, a small number were at a moderate level (9%), and severe level (11%).

Attention to anxiety about COVID-19 has prompted several experts to develop anxiety measurement tools for COVID-19, such as The Fear of COVID-19 Scale (Ahorsu et al., 2020), the first measuring tool to identify fear of COVID-19 in general. Another researcher is Lee (Lee, 2020a, 2020b), who developed the Coronavirus Anxiety Scale (CAS). This measuring tool is reliable and valid for correlation with other psychological variables related to COVID-19, such as fear of COVID-19. CAS also has good discrimination power in measuring psychological-functional disorders; therefore, it is valid for research on COVID-19 and clinical practice (Nikčević & Spada, 2020).

## Fear of COVID-19

Individuals experiencing a fearful situation, especially situations of unforeseen uncertainties, understandably give rise to physiologically and psychologically tense moods. Usually, they sense fear at an ordinary (short-term) level as a response to a stressor. It is a biologically based protective mechanism to avoid threats to the body (Hardi, in Ermolaev et al., 2020). The fear experienced related to COVID-19 can be more aggressive and have a negative impact due to excessive information in society, even the existence of incorrect information (hoaxes) circulating widely on social media. Researchers from various countries have studied and researched the phenomenon of fear (fear) of the COVID-19 pandemic. For example, Wakashima et al. (2020) examined a sample of 450 Japanese citizens. Results show the factor structure of the Japanese FCV-19S (the fear of COVID-19 scale), including seven items, and one factor was

equivalent to the original FCV-19S. The scores of FCV-19S have a positive association with anxiety and depression and with perceived susceptibility to infection (Wakashima et al., 2020). Other researchers, Ermolaev et al. (2020), have examined the psychological characteristics of Russian citizens' social fear in the context of the COVID-19 pandemic. The study results reveal that social fear associated with fear of failure and defeat, rejection and suppression, loss, communication, and independence is dominant among citizens actively broadcasting information and news about COVID-19.

### **Altruism (related COVID-19 pandemic)**

Altruism is an essential behavior related to the existence and survival of various species worldwide, including humans. The survival and maintenance of life and social control are highly dependent on the altruism of members at multiple levels. Altruism refers to any organism's behavior to increase others' welfare at their own expense, even at the risk of their own life. Altruism is unconditional kindness without expecting that kindness to happen to him again. Altruistic people will assist and achieve satisfaction by helping others (Nielsen, 2010; Penner et al., 2005; Smith et al., 2006). Penner et al. (2005) explain the existence of internal motivation as a characteristic of altruistic behavior. Altruism is a moral behavior necessary to maintain social balance and survival.

Altruistic behavior develops from the moral teachings of religion. Altruism also develops due to cultural and moral influences. The psychoanalysis theory views the superego as responsible for filtering human behavior, including altruistic behavior. It collaborates with culture, norms, and social values to direct human behavior (Nielsen, 2010). Another perspective shows that altruistic behavior is proven to be influenced by parenting styles. Longitudinal research from Hastings et al. (2000) found that authoritative parenting was associated with more prosocial behavior. Other researchers found a link between genes, personality, social environment, and helping behavior (Penner et al., 2005).

Related to the COVID-19 pandemic, Grimalda et al. (2021) study in US and Italy found that infected people donated more to others than those who did not infect. In Indonesia, the concept of *gotong royong* during the pandemic is salient among urban residents. *Gotong royong* is a joint activity/working together to achieve the desired result without expecting any return. Helping behavior, such as giving donations, information, food, etc., increased during the pandemic (Faedlulloh, 2021).

### **Research questions**

Considering the need to explore the psychological impact of the COVID-19 pandemic, we need to have valid and reliable psychological instruments to measure the effect. Here, we formulated the research question regarding that need: what is the validity and reliability of the adapted instrument?

## **Method**

### **Procedure**

The procedure for adapting measuring instruments in this study follows the guidelines for translation and equivalence testing of measuring instruments used in cross-cultural research (Abubakar et al., 2013). The procedure includes the following five stages: forward translation, back-translation, harmonization step, quality check dan statistical evaluation.

## Instruments

### *Fear of COVID-19 Scale*

In this study, we adapted the fear of COVID-19 Scale developed by Ahorsu et al. (2020). This instrument consists of seven statements regarding fear and worries about the dangerous COVID-19. Indicators include symptoms of fear, such as thoughts about dying from contracting the virus, worry about hearing news about this virus, palpitations, difficulty sleeping at the thoughts of this virus, etc.

### *Corona Anxiety Scale*

The adaptation involved Coronavirus Anxiety Scale (CAS) developed by Lee (2020a). This measuring instrument contains five statements that measure anxiety symptoms reflected in the body, including (1) Dizziness (dizziness/headache), (2) Sleep disturbance, (3) Tonic immobility (feeling paralyzed suddenly), (4) Appetite loss (loss of appetite), and (5) Abdominal distress (tension/abdominal pain). Participants should respond to what extent they experienced these symptoms during the past two weeks, from not at all (score 0) to nearly every day (score 4).

### *Altruism*

We adapted a subscale of the Prosocial Personality Battery, self-report altruism, constructed by Penner et al. (2005). The scale consists of five items comprising helping behavior to neighbors and strangers. The participants should state whether they do those behaviors frequently, from never (score 1) to very often (score 5).

## Participants

We recruited participants via a convenience sampling method utilizing students and lecturer networks in the university. Participants in this study were 176 students aged 18-63 years ( $M = 23.91$ ,  $SD = 8.62$ ), dominated by women as much as 77.3%. Based on religious demographic data, the participants are primarily Christian (Catholics, 45.5%; Protestants, 27.3%) since most participants were students at our university. At the time of data collection, most participants (93.8%) stated that they had never had an infection by COVID-19.

## Analysis methods

The psychometric tests carried out in this study included validity and reliability tests. The instrument validity test comprised content validity: expert judgment, readability, face validity, and construct validity test (confirmatory factor analysis). The goodness of fit criteria used in this study include the chi-square coefficient with  $p > 0.05$ ,  $CFI > 0.90$ ,  $TLI > 0.95$  and  $RMSEA < 0.08$  (Hu & Bentler, 1999). The reliability test applied to the McDonald Omega formula. We utilized JASP 0.14.3 to analyze the data.

## Results

### Translation

The forward and back translations from English to Bahasa Indonesia included six scholars in psychology and two translators with a psychology background. Seven people did the forward translation, and one did the back translation. The translator worked independently.

### Harmonization step

We employed a group discussion to evaluate the translation. When we disagreed on a translated word, for example, that did not match the Indonesian culture, we returned to the original term and discussed its psychological meaning. We ended the harmonization step when we reached a consensus for each item.

### Cognitive interview

We asked participants to fill out the instrument and evaluate whether the participants related to the items, understood the statement easily, and unambiguity. We selected two students who reported that all items relevant to them and the statement was clear.

### Statistic testing

#### *Fear of COVID-19 Scale*

The results of the CFA testing showed that all items measuring fear of COVID-19 were valid with adequate goodness of fit values, namely  $\chi^2 (21) = 375.47$ ,  $p = 0.10$ , TLI = 0.98, CFI = 0.97, RMSEA = 0.06. Reliability with McDonald's Omega shows a very good coefficient of 0.81. Table 1 describes the factor loading of each item in this scale.

**Table 1. The factor loading of adapted Fear of COVID-19 items**

No.	Original	Bahasa Indonesia	Factor loading
Fear1	I am most afraid of COVID-19	Saya sangat takut terhadap COVID-19	0.47***
Fear2	It makes me uncomfortable to think about COVID-19	Saya merasa tidak nyaman ketika memikirkan COVID-19	0.62***
Fear2	My hands become clammy when I think about COVID-19	Tangan saya menjadi basah/lembab ketika memikirkan COVID-19	0.55***
Fear4	I am afraid of losing my life because of COVID-19	Saya takut kehilangan nyawa karena terkena COVID-19	0.74***
Fear5	When watching news and stories about COVID-19 on social media, I become anxious	Ketika menyimak berita dan kisah-kisah mengenai COVID-19 di media sosial, saya menjadi gelisah	0.70***

No.	Original	Bahasa Indonesia	Factor loading
Fear6	I cannot sleep because I am worrying about getting COVID-19	Saya tidak dapat tidur karena kuatir terkena COVID-19	0.47***
Fear7	My heart races or palpitates when I think about getting COVID-19	Detak jantung saya sampai berdebar-debar atau berdetak cepat ketika memikirkan terjangkit COVID-19	0.72***

\*\*\*sig  $p < 0.001$

#### *Coronavirus Anxiety Scale*

The results of the CFA testing showed that the five items were valid in the construct validity test with excellent goodness of fit values, namely  $\chi^2 (10) = 336.59$ ,  $p = 0.34$ , TLI = 1.00, CFI = 1.00, RMSEA = 0.03 (recommendation < 0.08). Reliability with McDonald's Omega shows a very good coefficient of 0.83. Table 2 displays the factor loading of the items.

**Table 2. Factor loading of CSA-adapted items**

No.	Original	Bahasa Indonesia	Factor loading
CAS1	I felt dizzy, lightheaded, or faint	Saya merasa pusing, sakit kepala, atau merasa lemah	0.81***
CAS2	I had trouble falling or staying asleep	Saya mengalami kesulitan tidur	0.72***
CAS3	I felt paralyzed or frozen	Saya merasa seperti lumpuh atau membeku	0.55***
CAS4	I lost interest in eating	Saya menjadi kehilangan selera makan	0.63***
CAS5	I felt nauseous or had stomach problems	Saya merasa mual atau sakit perut	0.77***

#### *Self-report Altruism*

The results of the CFA testing showed that all items were valid with very good goodness of fit values, namely  $\chi^2 (10) = 147.37$ ,  $p = 0.22$ , TLI = 0.99, CFI = 0.96, RMSEA = 0.05. Reliability with McDonald's Omega shows an adequate coefficient of 0.70. Table 3 illustrates the factor loading of each item of this scale.

**Table 3. Factor loading of adapted Self-report Altruism items**

No.	Original	Bahasa Indonesia	Factor loading
SRA1	I have helped carry a stranger's belongings (e.g., books, parcels, etc.)	Saya pernah membantu seorang yang tidak saya kenal membawa barang-barangnya (seperti buku, bingkisan, dsb)	0.78***
SRA2	I have allowed someone to go ahead of me in a line (e.g., supermarket, copying machine, etc.)	Saya pernah mengizinkan seseorang mendahului saya dalam sebuah antrian (seperti di supermarket, ketika <i>foto-copy</i> , dsb)	0.54***
SRA3	I have let a neighbor whom I didn't know too well borrow an item of some value (tools, dish, etc.)	Saya pernah mengizinkan tetangga yang tidak terlalu saya kenal meminjam sebuah barang (perkakas, piring, dsb)	0.81***
SRA4	I have, before being asked, voluntarily looked after a neighbor's pets or children without being paid	Saya pernah secara suka rela (sebelum diminta) menjaga binatang peliharaan atau anak-anak tetangga tanpa upah	0.67***
SRA5	I have offered to help a handicapped or elderly stranger across a street	Saya pernah menawarkan bantuan kepada seorang asing penyandang disabilitas atau lansia untuk menyeberangi jalan	0.77***

## Conclusion

This study aims to examine the validity and reliability three adapted instrument measuring the psychological impact of the COVID-19 pandemic, the fear of COVID-19 Scale, Coronavirus Anxiety Scale, and Self-Report Altruism. The adaptation process follows the stages proposed by Abubakar et al. (2013). Participants in this study were Atma Jaya Catholic University students, both from undergraduate and postgraduate levels. The data collection process uses the Qualtrics online media carried out by the IMPACT-C19 team. Data collection using this media reached 301 participants, but only 176 participants could process complete data. However, the amount of data is still sufficient to be processed using the CFA method.

The results of the validity test showed that all measuring instruments were valid with satisfactory goodness of fit CFA values. In general, it can be concluded that all items are relevant for use in the Indonesian group. However, this research has not involved participants from other parts of Indonesia who are assumed to have a culture that is different from the conditions of the COVID-19 pandemic in the Greater Jakarta area where most of the participants in this study came from. Recommendations for further research, measuring instruments can be tested on a wider group that covers the complete territory of Indonesia (Western, Central and Eastern Indonesia). The results of reliability testing using McDonald's Omega show that all measuring instruments are reliable with good coefficients. This shows that the items of the measuring instrument consistently measure the construct to be measured. It can be concluded that this measuring tool is ready to be used in subsequent studies.

## References

- Abubakar, A., Dimitrova, R., Adams, B. G., Jordanov, V., & Stefenel, D. (2013). *Procedures for translating and evaluating equivalence in questionnaires for use in cross-cultural studies. Bulletin of the Transilvania, 6(56), 79–86.*
- Adwas, A. A., Jbireal, J. M., & Azab, A. E. (2019). Anxiety: Insights into Signs, Symptoms, Etiology, Pathophysiology, and Treatment. *The South African Journal of Medical Sciences*. <http://www.easpublisher.com/easjms/>
- Ahorsu, D. K., Lin, C. Y., Imani, V., Saffari, M., Griffiths, M. D., & Pakpour, A. H. (2020). The fear of COVID-19 Scale: Development and initial validation. *International Journal of Mental Health and Addiction, 27, 1–9.* <https://doi.org/10.1007/s11469-020-00270-8>
- Cameron, C. D., Hutcherson, C. A., Ferguson, A. M., Scheffer, J. A., Eaton, L. A., & Kalichman, S. C. (2020). Social and behavioral health responses to COVID- 19: lessons learned from four decades of an HIV pandemic. *Journal of Behavioral Medicine, 43(3), 341–345.* <https://doi.org/10.1007/s10865-020-00157-y>
- Earnshaw, V., Brousseau, N., Hill, E., Kalichman, S., Eaton, L., & Fox, A. (2020). Anticipated stigma, stereotypes, and COVID-19 testing. *Stigma and Health, 5(4), 390–393.* <https://doi.org/10.1037/sah0000255>
- Ermolaev, V. V., Sorokoumova, E. A., Voroncova, J., Nasonova, D. K., & Chetverikova, A. I. (2020). Psychological features of social fears associated with the COVID-19 content of news feed in Russia. *Eurasian Journal of Biosciences, 14, 2403-2409.*
- Grimalda, G., Buchan, N. R., & Ozturk, O. D. (2021). Exposure to COVID-19 is associated with increased altruism, particularly at the local level. *Scientific Reports, 11, 18950.* <https://doi.org/10.1038/s41598-021-97234-2>
- Hamza, C. A., Ewing, L., Heath, N. L., & Goldstein, A. L. (2020). When social isolation is nothing new: A longitudinal study psychological distress during COVID-19 among university students with and without preexisting mental health concerns. *Canadian Psychology/Psychologie canadienne*. Advance online publication. <https://doi.org/10.1037/cap0000255>
- Hastings, P. D., Zahn-Waxler, C., Robinson, J., Usher, B., & Bridges, D. (2000). The development of concern for others in children with behavior problems. *Developmental Psychology, 36(5), 531–546.* <https://doi.org/10.1037/0012-1649.36.5.531>
- Ifdil, I., Yuca, V., & Yendi, F. M. (2020). Stress and anxiety among late adulthood in Indonesia during COVID-19 outbreak. *Jurnal Penelitian Pendidikan Indonesia, 6, 31-46.* <https://doi.org/10.29210/02020612>
- Government of Indonesia [Pemerintah Indonesia]. (2018). *Undang-Undang Nomor 6 Tahun 2018 tentang Keekarantinaan Kesehatan* (PDF), Jakarta: Kementerian Sekretariat Negara Republik Indonesia
- Government of Indonesia [Pemerintah Indonesia]. (2020). *Peraturan Pemerintah Nomor 21 Tahun 2020 tentang Pembatasan Sosial Berskala Besar dalam rangka Percepatan Penanganan Corona VirusDisease 2019 (COVID-19)* (PDF). Kementerian Sekretariat Negara Republik Indonesia

- Innamorati, M., Ebisch, S. J. H., Gallese, V., & Saggino, A. (2019). A bidimensional measure of empathy: Empathic Experience Scale. *PLOS ONE*, *14*(4), e0216164. <https://doi.org/10.1371/journal.pone.0216164>
- Kaplan, H. I., Sadock, B. J., & Grebb, J. A. (2010). Kaplan-Sadock Sinopsis Psikiatri Ilmu Pengetahuan Perilaku Psikiatri Klinis. Dalam *Gangguan Kecemasan*. Binarupa Aksara.
- Kumar, A., & Somani, A. (2020). Dealing with Corona virus anxiety and OCD. *Asian Journal of Psychiatry*, *51*, 102053. <https://doi.org/10.1016/j.ajp.2020.102053>
- Lakhan, R., Agrawal, A., & Sharma, M. (2020). Prevalence of depression, anxiety, and stress during COVID-19 pandemic. *Journal of Neurosciences in Rural Practice*. <https://www.thieme-connect.com/products/ejournals/html/10.1055/s-0040-1716442>
- Lee, S. A. (2020a). How much "Thinking" about COVID-19 is clinically dysfunctional? *Brain, behavior, and immunity*, *87*, 97–98. <https://doi.org/10.1016/j.bbi.2020.04.067>
- Lee, S. A. (2020b). Coronavirus Anxiety Scale: A brief mental health screener for COVID-19 related anxiety. *Death Studies*, *44*(7), 393–401. <https://doi.org/10.1080/07481187.2020.174848116>
- Marmarosh, C. L., Forsyth, D. R., Strauss, B., & Burlingame, G. M. (2020). The psychology of the COVID-19 pandemic: A group-level perspective. *Group Dynamics: Theory, Research, and Practice*, *24*, 122–138. <https://doi.org/10.1037/gdn0000142>
- Nevid, J. S., Rathus, S. A., & Greene, B. (2017). *Abnormal Psychology in a Changing world*. 10th edition. Prentice-Hall
- Nielsen, M. L. (2010). Incorporating a concept of altruism into psychoanalytic theory. *International Journal of Applied Psychoanalytic Studies*, *7*(4), 262–280. <https://doi.org/10.1002/aps.248>
- Nikčević, A. V., & Spada, M. M. (2020). The COVID-19 anxiety syndrome scale: Development and psychometric properties. *Psychiatry Research*, *292*, 113322. <https://doi.org/10.1016/j.psychres.2020.113322>
- Özdin, S., & Özdin, Ş. B. (2020). Levels and predictors of anxiety, depression, and health anxiety during COVID-19 pandemic in Turkish society: The importance of gender. *International Journal of Social Psychiatry*, *66*(5), 504–511. <https://doi.org/10.1177/0020764020927051>
- Pedraza, P., Guzi, M., & Tjidsens, K. (2020). *Life dissatisfaction and anxiety in COVID-19 pandemic*. Joint Research Centre. <https://core.ac.uk/download/pdf/326047012.pdf>
- Penner, L. A., Dovidio, J. F., Piliavin, J. A., & Schroeder, D. A. (2005). Prosocial Behavior: Multilever Perspective. *Annual Review of Psychology*, *56*, 365–392. <https://doi.org/10.1146/annurev.psych.56.091103.070141>
- Puspita, I. M., Rozifa, A. W., & Nadhiroh, A. M. (2021). Gambaran Kecemasan Dan Kepatuhan remaja Putri Terhadap Kebiasaan Baru di Masa Pandemi COVID-19. *Journal of Midwifery Science*, *5*(1), 52–61. <http://jurnal.univrab.ac.id/index.php/jomis/article/view/1492>

- Rodríguez-Hidalgo, A. J., Pantaleón, Y., Dios, I., & Falla, D. (2020). Fear of COVID-19, Stress, and anxiety in university undergraduate students: A predictive model for depression. *Frontiers Psychology, 11*:591797. <https://doi.org/10.3389/fpsyg.2020.591797>
- Segal, M. H. (1986). Culture and behavior: Psychology in global perspective. *Annual Review of Psychology, 37*, 523-564. <https://doi.org/10.1146/annurev.ps.37.020186.002515>
- Senese, V. P., De Nicola, A., Passaro, A., & Ruggiero, G. (2018). The Factorial Structure of a 15-Item Version of the Italian Empathy Quotient Scale. *European Journal of Psychological Assessment, 34*, 344-351. <https://doi.org/10.1027/1015-5759/a000348>
- Shuja, K. H., Aqeel, M., Jaffar, A., & Ahmed, A. (2020). COVID-19 pandemic and impending global mental health implications. *Psychiatria Danubina, 32*, 32–35. <https://doi.org/10.24869/psyd.2020.32>
- Smith, S. W., Smith, S. L., Pieper, K. M., Yoo, J. H., Ferris, A. L., Downs, E., & Bowden, B. (2006). Altruism on American television: Examining the amount of, and context surrounding, acts of helping and sharing. *Journal of Communication, 56*(4), 707–727. <https://doi.org/10.1111/j.1460-2466.2006.00316.x>
- Taufik, T., & Ayuningtyas, E. A. (2020). Dampak pandemi COVID 19 terhadap bisnis dan eksistensi platform online. *Jurnal Pengembangan Wiraswasta, 22*(1), 21-32. <https://doi.org/10.33370/jpw.v22i01.389>
- Triandis, H. C., & Suh, E. M. (2002). Cultural influence on personality. *Annual Review of Psychology, 53*, 133-160. <https://doi.org/10.1146/annurev.psych.53.100901.13520>
- Vaziri, H., Casper, W. J., Wayne, J. H., & Matthews, R. A. (2020). Changes to the work-family interface during the COVID-19 pandemic: Examining predictors and implications using latent transition analysis. *Journal of Applied Psychology, 105*(10), 1073-1087. <https://doi.org/10.1037/apl0000819>
- Wakashima, K., Asai, K., Kobayashi, D., Koiwa, K., Kamoshida, S., & Sakuraba, M. (2020). The Japanese version of the Fear of COVID-19 scale: Reliability, validity, and relation to coping behavior. *PLoS ONE 15*(11), e0241958. <https://doi.org/10.1371/journal.pone.0241958>
- World Health Organization (WHO). (2019). *WHO announces COVID-19 outbreak as pandemic*. Retrieved January 4th, 2021. <https://www.euro.who.int/en/health-topics/health-emergencies/coronavirus-COVID-19/news/news/2020/3/who-announces-COVID-19-outbreak-a-pandemic>