

Research Article

10.33897/fujp.v10i1.892

Examining the Predictors of Prosocial Behavior among University Students: The role of Empathy and Social Values

Saira Faiz¹, Dr. Sadia Musharraf¹, Dr. Syeda Sajida Firdos¹

¹The Women University, Multan

For Correspondence: Saira Faiz. Email: sairafaiz25509@gmail.com

Abstract

Method. This cross-sectional research examined the predictors of prosocial behavior among university students such as empathy and social values. This study employed a cross-sectional quantitative design. The sample comprised N=400, equally distributed male and female university students. The age range of the participants ranged from 18 to 45 years. Non-probability, convenience sampling was used to draw this sample. The data were collected through both an online survey and an in-person questionnaire. The 16-item Toronto Empathy Questionnaire (Spreng, 2009), the 25-item Asian Values Scale- Revised (AVS-R), and the 16-item Prosocial Behavior Scale (PBS) were administered. Data was analyzed using SPSS (version 27).

Results. The quantitative analysis found that female university students showed higher levels in the context of empathy, social values, and prosocial behavior, additionally, there is also found that urban university students exhibited higher levels of empathy, social values, and prosocial behavior. It was also revealed that prosocial behavior is positively correlated with empathy and social values in university students.

Conclusion. Furthermore, it was also evidenced based on of findings, that prosocial behavior significantly impacts empathy. Study provided important and practical implications for both academic institutions and as a whole society. Highlighting the connection between empathy, social values, and prosocial behavior, study supports the development of educational programs, community initiative services and interventions aimed at enhancing empathy and promoting social values among university students.

Keywords: Examining, predictors, empathy, social values, prosocial behavior, university students



Foundation University Islamabad

© The Author(s). 2020 Open Access This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit <http://creativecommons.org/licenses/by/4.0/>. The Creative Commons Public Domain Dedication waiver (<http://creativecommons.org/publicdomain/zero/1.0/>) applies to the data made available in this article, unless otherwise stated in a credit line to the data.

Introduction

The experienced behind social acts is often not clear and may or may not be prioritised for the helping of others. On the contrary, compassion is an act that is initiated by empathy and a sincere and heartfelt interest of the well-being of people. It goes further than the feeling of someone and a wish to assist and alleviate his or her suffering. Prosocial behavior refers to the altruistic acts to serve for society, playing an significant role in the educational experience among university students. Prosocial behavior is characterized by the intentional actions aimed at helping other people (Eisenberg et al., 2016). Prosocial behavior is influenced by several personal and social traits such as prosocial norms, emotional expressivity, social cognition, social adjustment, and social support among university students (Chandradasa & Galhena, 2022).

Empathy serves as an significant element of social acts that enhances one's ability to understand and respond appropriately to other people's cares, achieve emotional communication, and promote prosocial behavior. It is defined as the ability to recognize and share the emotional experiences of other people, maintaining a significant role in human relationships. In the university context, empathy is considered a source that enhances student's adaptability particularly through their voluntary actions. It enables people to engage in emotional moments, which brings about compassion and collaboration (Griffiths et al., 2023). Moreover, empathy is important in multiple domains, such as education, technology, and healthcare area etc. (Hojat, 2016). Empathy plays an important role in the university context, particularly in enhancing student's adaptability and overall other people's psychological well-being (Vinayak & Judge, 2018).

Social values such as altruism, social norms, and an experience, play a significant role in influencing the prosocial behavior among university students. These values including an ethical and moral principles interconnect with the thoughts and behaviors of individuals, providing a framework for considering what is right and just within the society. Social values can be a good motivator to make students actively participate in their academic

communities and society in general when they relate with prosocial behaviors (Chowdhury, 2018). Moreover, these values impact prosocial behavior among university students not only informs educational activities and also holds the whole society (Eisenberg et al., 2016).

In the today's era of hustle and selfishness, empathy and social values play a significant role in influencing student's connection with prosocial acts (Quain et al., 2016). Different factors that impact prosocial behavior, that is particularly significant: empathy and social values. these values can be brought into practice and reinforced in the universities. Prosocial behavior, empathy, and social values are strongly linked to each other, influencing individual's interactions and also their well-being (Sharma & Tomer, 2018). Studies have indicated that prosocial values such as empathy, moral reasoning and social interaction are critical determinants that increase and impact on the well-being of others in the society's (Ibanez et al., 2023). Therefore, educating university students on social values and fostering prosocial behaviors from an earlier age is more important, as it can shape their empathy levels and social interactions positively (Villardón-Gallego et al., 2018). Ultimately, it is essential for building a compassionate and supportive society between empathy, social values, and prosocial behavior.

The past studies conducted on the relationship between prosocial behavior and empathy have pointed out the role of empathy as a potent motivating power and also showed the main determinants that contribute to the occurrence of prosocial behavior's (Gordon, 2014). Interestingly, the current research suggests that distinctive types of prosocial actions, such as minor acts of assistance (e.g., reaching for an item that someone cannot reach), participating in fundraising, and providing reassurance to others, are mostly not related to each other, suggesting that they may have unique underlying motivations (Malti & Dys, 2018).

Empathy predicts the prosocial behavior highly (Yin & Wang, 2023). Empathy and sympathy are allowed to inspire experienced social behavior, and paintings with kids show that sympathy (and once in a while empathy) is associated with supporting others certainly at a younger age (Malti & Dys,

2018). On the opposite hand, the concept of empathy by Decety et al. (2016) believes that prosocial behavior necessitates empathy. A comprehensive understanding and formation of relationships with empathy can greatly facilitate the facilitation of prosocial behaviors as theorized by Lockwood and others (Lockwood et al., 2014).

Social values for example empathy are also play an important role in predicting prosocial behavior. Researchers suggests that society requires its young people to embrace values that encourage socially responsible behavior and active participation in community and social responsibilities (Malin & Pos, 2015). Previous scholars such as Inglehart and Schwartz have utilized advanced statistical methods to point out the constructs that can capture various tendencies and dimensions of these values. These boundaries are internally consistent which implies the relationship between positive values among themselves. This kind of analysis has been helpful in sorting out those individuals who are inclined to either extreme of the scale in the same dimensions. Studies further show that individuals who hold strong social values tend to participate in different activities that contribute to the well-being of other people and contribute positively to societal development (Fischer et al., 2019).

Empathy, prosocial behavior, and social values among university students are closely linked, and influence to each other. Research indicates that empathy has a positive association with prosocial behavior in university students (Jiang et al., 2021). Factors for example quality of life and pleasure in helping other people predict higher level of empathy, specially among female students in university (Duarte et al., 2016). In addition, perceived social and personal values has a positive effect pro-environmental behavioral intentions among university students, emphasizing the importance of incorporate prosocial values in educational practices (Hamrouni, 2024). Besides, social support is important in times of crisis like the COVID-19 where it mediates the relationship between prosocial behavior and resilience among the university students, and the importance of support as a protective factor in fostering prosocial behavior is considerable (Sun et al., 2021).

Conceptual Framework

Conceptual framework describes the predictors of prosocial behavior among university students, especially focusing on empathy and social values, and their framework as follows:

Independent Variables/Predictors:

- Empathy: The ability to understanding and sharing the feelings/emotions of other people.
- Social Values: Beliefs and principles that what is socially important and acceptable for other people.

Dependent Variable/Outcome:

- Prosocial Behavior: Those voluntary actions such as supporting, sharing, and comforting etc. that help others.

Research Gap and Rationale of the Study

Previous research has laid the foundation for understanding the interrelationship and as a separate construct of empathy, social values, and prosocial behavior. However, although studies have explored individual traits for example empathy, there is a lack of comprehensive studies in both empathy and social values as a key predictors of prosocial behavior. Such a gap will not only result in a greater theoretical knowledge of prosociality but also a guide on how a more caring, socially responsible community of the university can be achieved in practice. This study is motivated to understand and nurture of prosocial behavior among university students. It reacts to the changing demands of our global society, to the necessity of the educational institution in forming the future leaders, and to the necessity of instilling empathy and social principles in the young adults. This research is likely to have a positive impact on the society at large as well as on the students, hence the applicability and significance of the field of study.

Objectives

1. To examine the association among prosocial behavior, empathy, and social values among university students.

2. Check the impact of empathy and social values on prosocial behavior amongst university students.

Hypotheses

1. Empathy, social values, and prosocial behavior will have a significant and positive strong correlation in university students.
2. There will be a positive and moderate impact of empathy and social values on prosocial behavior in university students.
3. Female university students will show higher levels of empathy, social values, and prosocial behavior as compared to male university students.
4. University students from rural areas will show higher levels of empathy, social values, and prosocial behavior as compared to urban area students in university.

Method

Sample

The sample of university students ($N = 400$) was recruited for this study through a non-probability convenient sampling strategy. Participants were chosen from various academic disciplines and educational programs like undergraduates and postgraduates, and the age range of the participants was 18-45 years.

Study design and Procedure

The research design of the study is quantitative and cross-sectional research design. For this study convenient sampling method was used, and the criterion for the chosen data collection method was to ensure inclusivity and accessibility; therefore, data were collected both online and in person to reach a diverse range of participants. The sample used was chosen so that it has enough statistical power and representativeness to distinguish meaningful relations between variables.

Instruments

Three instruments were used for the collection of data. The self-structured demographic sheet along with the consent informed also be used. 1. Toronto Empathy Questionnaire (TEQ) (Spreng et al., 2009), the Toronto empathy questionnaire was applied to mark university students' empathy. The Cronbach's α of the empathy questionnaire is (.85) which shows an excessive reliability. 2. Asian Values Scale -Revised (AVS-R) (Kim & Hong, 2004,) this scale measures the cultural values and beliefs that are commonly associated with Asian societies and cultures. The reliability of the Asian values scale is (.80) which suggests an excessive reliability. 3. Prosocial Behavior Scale (PBS), (Caprara et al., 2005), the prosocial behavior scale is organized with the encouragement of using to mark the prosocialness of individuals. The alpha-Cronbach coefficients of the prosocial behavior scale are (.91).

Results

Table 1

Independent t-test for Comparing Empathy, Social Values, and Prosocial Behavior among Female and Male Students in University

Variable	Females		Males		<i>t</i> (390, 398)	<i>p</i>	Cohen's <i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Empathy	55.0	7.5	52.4	7.9	3.49	<.001	0.35
Social values	66.7	5.9	63.0	5.1	4.97	<.001	0.40
Prosocial behavior	60.7	11.5	55.6	11.4	4.42	<.001	0.44

Note. ****p*<.001.

Table one showed that females ($M = 55.0$) exhibited higher scores on empathy compared to male university students ($M = 52.4$). An independent samples t-test showed that the difference in empathy is significant ($p = .000***$), and the impact size is medium ($d = 0.35$). Findings showed that females ($M = 66.7$) exhibited higher scores on social values in comparison to male university students ($M = 63.0$). An independent samples t-test showed that the difference in social values is significant ($p = .000***$), and the impact size is medium ($d = 0.40$). Findings confirmed that females ($M = 60.7$) exhibited higher scores on prosocial behavior compared to male university students ($M = 55.6$). An independent samples t-test showed that the difference in prosocial behavior is ($p = .000***$), and the impact size is medium ($d = 0.44$).

Table 2

Independent t-test for Comparing Empathy, Social Values and Prosocial Behavior among Rural Area and Urban Area Students in University

Variable	Rural		Urban		<i>t</i> (392, 398)	<i>p</i>	Cohen's <i>d</i>			
	Area		Area							
	<i>n</i> =168	<i>n</i> =232	<i>M</i>	<i>SD</i>						
Empathy	52.4	6.8	54.6	8.3	-2.91	.004	-0.29			
Social Values	64.5	5.9	65.9	5.4	-2.40	.017	-0.24			
Prosocial behavior	57.1	11.1	58.9	12.1	-1.55	.121	-0.16			

Note. **p*<.05.

Table two showed that the urban area ($M = 54.6$) exhibited higher scores on empathy compared to the rural area university students ($M = 52.4$). An independent samples t-test showed that the difference in empathy is significantly positive ($p = .004*$), and the impact size is less than small ($d = -0.29$). Findings showed that urban areas ($M = 65.9$) exhibited higher scores on social values compared to rural area university students ($M = 64.5$). An independent samples t-test showed that the difference in social values is significantly positive ($p = .017*$), and the impact is less than small ($d = -0.24$). Findings showed that there is no significant difference in prosocial behavior ($p = .121$), and the impact size is less than small ($d = -0.16$).

Table 3*Correlation between the Empathy, Social Values, and Prosocial Behavior among University Students*

Variable	1	2	3
1. Empathy	--		
2. Social values	.323***	--	
3. Prosocial behavior	.463***	.214***	--

Note. *** $p < .001$.

Table three revealed that empathy are significantly positively correlated with social values ($r = .323***$) and prosocial behavior ($r = .463***$), also, the social values is significantly positively correlated with prosocial behavior ($r = .214***$).

Table 4*Multiple Regression Analysis of Empathy and Social Values on Prosocial Behavior*

Variable	B	SE	t	p	95% CI
Constant	12.91	6.26	2.06	.040	[25.2, .61]
Empathy	.66	.07	9.39	.000	[.80, .52]
Social values	.15	.00	1.53	.126	[.34, -.04]

Note. CI = confidence interval. *** $p < .001$.

Table ten confirmed that the R^2 value of .22 showed that the predictors defined 22% variance in the final results variable $F(2, 397) = 55.67$, ($p = .040***$), and the results showed that empathy positively predicted prosocial behavior ($\beta = .44$, $p = .000***$) while social values have a non-significant impact on prosocial behavior ($\beta = .07$, $p = .126$).

Discussion

Firstly, in Table 1, the outcomes of the independent samples t-test examining empathy, social values, and prosocial behavior levels among females and males revealed a statistically significant difference. These findings are consistent with previous literature suggesting a gender difference in the prosocial motivation of females being stronger than that of males. For example, a study conducted by Eisenberg and Lennon found that females were more likely to interact in prosocial behavior together with assisting others and expressing situations for his or her well-being. Overall, those effects offer similar proof for the assumption that females are extra prosocially influenced than males. These findings assist the assumption that women have a better stage of empathy, social values, and prosocial behavior than male university students. However, it's far crucial to be aware that there is different research that found differences in empathy, social values, and prosocial behavior levels between females and males e.g., (Baron & Wheelwright, 2004).

Secondly, the findings of the analysis, as shown in Table 2, indicate that there's a significant difference in empathy and social values between urban area and rural area university students. There is no significant difference in prosocial behavior between urban area and rural area university students. Hence, it is inconclusive to suggest that individuals residing in rural regions exhibit high levels of empathy, social values, and prosocial behavior compared to their urban counterparts as per the results of this study. Numerous variables may have contributed to the absence of a significant distinction in prosocial behavior levels between urban and rural students. For example, urbanization has some changes in social structure, which may enhances empathy, social values, and prosocial behavior specially in urban areas (Liu et al., 2017). Additionally, the findings of this study fail to support the idea that individuals living in rural areas exhibit higher levels of empathy, social values, or prosocial behavior, indicating a need for further research in this area/setting. Though the results might appear to make the hypothesis appear contradictory, however,

it should be mentioned that other researches have also provided evidence to show that even rural populations can display the high level of empathy, social values, and prosocial behavior. One such investigation conducted by Saroglou et al. (2008) revealed that individuals residing in rural areas manifested heightened degrees of empathy, social values, and prosocial behavior in comparison to their urban university students.

Thirdly, the study suggests there's a positive correlation between empathy, social values, and prosocial behavior among university students. This finding is consistent with preceding studies that have proven that societies that own excessive ranges of empathy and social values are much more likely to interact in prosocial behaviors, consisting of assisting others and volunteering. It is vital to be aware that whilst the correlation among empathy, social values, and prosocial behavior is statistically significant, the power of the relationship is mild and comparatively weak. The results, which were made after this research show that there are various issues that cause people to act pro social and it is not just empathy and social values. Overall, this research provides our knowledge of the connection between empathy, social values, and prosocial behavior, and highlights the need for similar studies in this area. These findings are steady with preceding studies that have proven a positive relation among empathy and prosocial behavior (Davis, 1983). However, there also is research which that observed a negative relation among those constructs (Eisenberg & Miller, 1987). Our study objectives are to contribute to the present literature through by exploring the interaction among those elements and shedding light on their predictive roles in prosocial movements inside the university context.

Lastly, using a multiple regression analysis, the effects of the analysis as shown in Table 4, indicate that the findings show that empathy is significantly impacted through one's very own prosocial behavior. The β value in the prosocial behavior and empathy regression information display that there is a positive relation among them however, we can see that the p-value suggests that the difference is statistically significant. The findings show that those social values are not significantly impacted

through own's very own prosocial behavior. The β value within the prosocial behavior and social values regression information shows that there is a positive relation among them however, we can see that the p-value suggests that the difference is not statistically significant. This result is constant within advanced research that confirms empathy should expect changes in prosocial behavior over time (Marshall et al., 2014). Empathy is a well-related component inside in the prediction of prosocial behavior (Luengo Kanacri et al., 2021). The findings additionally reveal how social values affect prosocial behavior to some extent. Therefore, the students in this study may have had more opportunities to engage in empathetic behaviors, leading to their slightly higher scores on the measure compared to social values. However, further studies are wanted to confirm those findings and to better understand them.

Conclusion

Conclusively, the study highlighted the significance of empathy, social values, and prosocial behavior in university students. The effects of this research assist in further studies through the mixed relation and impact of social values and empathy to enhance prosocial behavior. These findings indicate that females are extra prosocially influenced than males. Results of this study also suggest that university students from urban areas exhibits higher levels of empathy, social values, and prosocial behavior compared to their rural counterparts. The results have practical implications to universities and higher education institutions who would want to enforce a culture of empathy and social responsibility in students. The roles of empathy and social values in the prediction of prosocial behavior can be applied to inform the formulation of interventions, educational programs, and campus initiatives to facilitate prosociality. Students need to be aware of their own values and emotional states, and academic programs and universities should guide them in a positive direction to help enhance their prosocial behavior. In addition to that, this study lays the groundwork to future longitudinal studies and interventions in order to increase empathy and prosocial values among university students.

Recommendations

1. The outcomes of the research have large ramifications for counseling psychology.
2. University students ought to be recommended to illustrate and beautify social values via diverse techniques, such as education and awareness, role models and leaders, volunteerism and community service, dialogue and discussion, celebrating diversity, media and entertainment, policy and legislation, community engagement, strengthening social support systems, partnerships and collaboration.
3. This will inspire the rise of strong social ties, volunteerism, and assisting a stranger in need.
4. This discovery may also make it less complicated to set up and keep robust relationships with friends and own circle of relatives with the aid of giving humans a risk to empathize with one another.

Implications of the Study

1. The purpose of this research is to fill a gap in the literature by examining the predictive role of empathy in the relationship between social values and prosocial behavior among university students.
2. It additionally attempted to observe the outcomes of social values on students' prosocial behavior, empathy, and social values on empathy, in addition to the outcomes of empathy on students' prosocial behavior.
3. This research correctly demonstrates statistical proof that empathy, social values, and students' prosocial behavior are correlated, and predicts this relation to a few extents.
4. Future studies have to be achieved to observe those connections in extra elements and exactly are expecting different elements that affect those connections.

Funding

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Conflict of interest

The authors do not have any competing interests.

Availability of data

S.F, S.M, and S.S.F, all the authors participated in contributing to text and the content of the manuscript, including collecting data revisions and edits.

Ethical Approval

All authors approve of the content of the manuscript and agree to be held accountable for the work.

References

Baron-Cohen, S., & Wheelwright, S. (2004). The empathy quotient: an investigation of adults with Asperger syndrome or high functioning autism, and normal sex differences. *Journal of autism and developmental disorders*, 34, 163-175. <https://doi.org/10.1023/B:JADD.0000022607.19833.00>

Caprara, G. V., Steca, P., Zelli, A., & Capanna, C. (2005). A new scale for measuring adults' prosocialness. *European Journal of psychological assessment*, 21(2), 77-89. <https://doi.org/10.1027/1015-5759.21.2.77>

Chandradasa, I., & Galhena, B. (2022). Develop Emotionally Intelligent Undergraduates towards Pro-Social Behaviour for Promoting Resilience of Society. <https://doi.org/10.4038/sljms.v4i1.91>

Chowdhury, M. (2018). Emphasizing morals, values, ethics, and character education in science education and science teaching. *MOJES: Malaysian Online Journal of Educational Sciences*, 4(2), 1-16.

Davis, M.H. (1983). Measuring individual differences in empathy: Evidence for a multidimensional approach. *Journal of personality and social psychology*, 44(1), 113. <https://psycnet.apa.org/doi/10.1037/0022-3514.44.1.113>

Decety, J., Bartal, I. B.-A., Uzefovsky, F., & Knafo-Noam, A. (2016). Empathy as a driver of prosocial behaviour: highly conserved

neurobehavioural mechanisms across species. *Philosophical Transactions of the Royal Society B: Biological Sciences*, 371(1686), 20150077. <https://doi.org/10.1098/rstb.2015.0077> doi.org/10.3389/fneur.2023.1202173

Duarte, J., Pinto-Gouveia, J., & Cruz, B. (2016). Relationships between nurses' empathy, self-compassion and dimensions of professional quality of life: A cross-sectional study. *International journal of nursing studies*, 60, 1-11. <https://doi.org/10.1016/j.ijnurstu.2016.02.015>

Eisenberg, N., & Miller, P. A. (1987). The relation of empathy to prosocial and related behaviors. *Psychological Bulletin*, 101(1), 91. <https://psycnet.apa.org/doi/10.1037/0033-2909.101.1.91>

Eisenberg, N., Spinrad, T. L., & Valiente, C. (2016). Emotion-related self-regulation, and children's social, psychological, and academic functioning. *Child Psychology*, 219-244. <https://doi.org/10.4324/9781315764931>

Fischer, R., Karl, J. A., & Fischer, M. V. (2019). Retracted: Norms across cultures: A cross-cultural meta-analysis of norms effects in the theory of planned behavior. *Journal of Cross-Cultural Psychology*, 50(10), 1112-1126. <https://doi.org/10.1177/0022022119846409>

Gordon, H. (2014). *Investigating the relation between empathy and prosocial behavior: An emotion regulation framework* Virginia Tech].

Griffiths, N., Thomas, K., & Dyer, B. (2023). An Evolutionary Theory of Values. <https://doi.org/10.31234/osf.io/cwuta>

Hamrouni, M. (2024). HIGHER EDUCATION STUDENT'S INTENTION AND PRO-ENVIRONMENTAL BEHAVIOR GAP, THE ROLE OF UNIVERSITY PRACTICES, SOCIOCULTURAL FACTORS, AND INDIVIDUAL NORMS.

Hojat, M. (2016). Empathy in health professions education and patient care. <https://doi.org/10.1007/978-3-319-27625-0>

Ibanez, A., Matallana, D., & Miller, B. (2023). Can prosocial values improve brain health? *Frontiers in Neurology*, 14, 1202173. <https://doi.org/10.3389/fpsyg.2021.693174>

Jiang, Y., Yao, Y., Zhu, X., & Wang, S. (2021). The influence of college Students' empathy on prosocial behavior in the COVID-19 pandemic: the mediating role of social responsibility. *Frontiers in psychiatry*, 12, 782246. <https://doi.org/10.3389/fpsyg.2021.782246>

Kim, B. S., & Hong, S. (2004). A psychometric revision of the Asian Values Scale using the Rasch model. *Measurement and Evaluation in Counseling and Development*, 37(1), 15-27. <https://doi.org/10.1080/07481756.2004.11909747>

Liu, W., Wang, Z., Liu, X., Zeng, N., Liu, Y., & Alsaadi, F. E. (2017). A survey of deep neural network architectures and their applications. *Neurocomputing*, 234, 11-26. <https://doi.org/10.1016/j.neucom.2016.12.038>

Lockwood, P. L., Seara-Cardoso, A., & Viding, E. (2014). Emotion regulation moderates the association between empathy and prosocial behavior. *PloS one*, 9(5), e96555. <https://doi.org/10.1371/journal.pone.0096555>

Luengo Kanacri, B. P., Eisenberg, N., Tramontano, C., Zuffiano, A., Caprara, M. G., Regner, E., Zhu, L., Pastorelli, C., & Caprara, G. V. (2021). Measuring prosocial behaviors: Psychometric properties and cross-national validation of the prosociality scale in five countries. *Frontiers in Psychology*, 12, 693174. <https://doi.org/10.3389/fpsyg.2021.693174>

Malin, A. J., & Pos, A. E. (2015). The impact of early empathy on alliance building, emotional processing, and outcome during experiential treatment of depression. *Psychotherapy Research*, 25(4), 445-459. <https://doi.org/10.1080/10503307.2014.901572>

Malti, T., & Dys, S. P. (2018). From being nice to being kind: Development of prosocial behaviors. *Current Opinion in Psychology*, 20, 45-49. <https://doi.org/10.1016/j.copsyc.2017.07.036>

Marshall, S. L., Parker, P. D., Ciarrochi, J., & Heaven, P. C. (2014). Is self-esteem a cause or consequence of social support? A 4-year

longitudinal study. *Child development*, 85(3), 1275-1291. <https://doi.org/10.1111/cdev.12176>

Quain, S., Yidana, X. D., Ambotumah, B. B., & Mensah-Livivnstone, I. J. N. A. (2016). Pro-Social Behavior Amongst Students of Tertiary Institutions: An Explorative and a Quantitative Approach. *Journal of Education and Practice*, 7(9), 26-33.

Saroglou, V., Buxant, C., & Tilquin, J. (2008). Positive emotions as leading to religion and spirituality. *The journal of positive psychology*, 3(3), 165-173. <https://doi.org/10.1080/17439760801998737>

Sharma, S., & Tomer, S. (2018). Psychosocial antecedents of prosocial behavior and its relationship with subjective well-being in adolescents. *Indian Journal of Positive Psychology*, 9(1), 14-21. <https://doi.org/10.15614/ijpp.v9i01.11736>

Spreng, R. N., McKinnon, M. C., Mar, R. A., & Levine, B. (2009). The Toronto Empathy Questionnaire: Scale development and initial validation of a factor-analytic solution to multiple empathy measures. *Journal of personality assessment*, 91(1), 62-71. <https://doi.org/10.1080/00223890802484381>

Sun, S., Goldberg, S. B., Lin, D., Qiao, S., & Operario, D. (2021). Psychiatric symptoms, risk, and protective factors among university students in quarantine during the COVID-19 pandemic in China. *Globalization and health*, 17, 1-14. <https://doi.org/10.1186/s12992-021-00663-x>

Villardón-Gallego, L., García-Carrión, R., Yáñez-Marquina, L., & Estévez, A. (2018). Impact of the interactive learning environments in children's prosocial behavior. *Sustainability*, 10(7), 2138. <https://doi.org/10.3390/su10072138>

Vinayak, S., & Judge, J. (2018). Resilience and empathy as predictors of psychological wellbeing among adolescents. *International Journal of Health Sciences and Research*, 8(4), 192-200.

Yin, Y., & Wang, Y. (2023). Is empathy associated with more prosocial behaviour? A meta-analysis. *Asian Journal of Social Psychology*, 26(1), 3-22. <https://doi.org/10.1111/ajsp.12537>