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**Social Media Use and Online Prosocial Behaviour
among High School Students:
The Role of Moral Identity, Empathy,
and Social Self-Efficacy****S. F. Shodiq^a ✉, S. Syamsudin^a, A. Dahliyana^b, I. Kurniawati^b, A. Faiz^c**^a Muhammadiyah University of Yogyakarta, Yogyakarta, Indonesia^b Indonesian University of Education, Bandung, Indonesia^c University Muhammadiyah of Cirebon, Cirebon, Indonesia✉ sadamfajarshodiq@fai.umy.ac.id*Abstract*

Introduction. The digital landscape is becoming increasingly important in shaping adolescents' social interactions. Most researchers examine the negative effects of social media, but there are virtually no publications on the positive effects of social networks on the formation of prosocial behaviour in the digital space. The purpose of this study is to analyze the influence of social networks, moral identity, empathy, and social self-efficacy on the formation of prosocial behaviour in students on the Internet.

Methods and Materials. A total of 430 students participated in the study in public high schools in Yogyakarta, Indonesia. The data obtained were analyzed using the software tool Smart-PLS, which is used for structural equation modeling analysis, related to the constructs of revisit intention and suggestion intention. Two types of analyses, external and internal models, were applied in this paper.

Results. The materials of the article prove the positive influence of social networks, moral identity, belongingness, and social self-efficacy on prosocial behaviour of adolescent students on the Internet. Social interaction through digital media enables students to engage in prosocial behaviours: sharing positive experiences, emotional support, etc. Moral identity becomes a key factor in cyberspace in terms of determining how interaction responds to content on the Internet. Empathy acts as a link that facilitates the transformation of information received through social media into positive reactions. Social self-efficacy is the psychological basis that motivates people to maintain positive behaviour on the Internet as well as in social networks.

Discussion and Conclusion. The results of the study will be essential for the development of students' prosocial behaviour on the Internet in schools through various educational programs, especially in the context of online interactions; provide a solid foundation for the creation of educational programs that help reinforce moral and ethical values, as well as improve students' empathy and social self-efficacy skills.

Keywords: online prosocial, social media use, moral identity, empathy, social self-efficacy

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Использование социальных сетей и просоциальное поведение в сети Интернет среди старшеклассников: роль моральной идентичности, сопричастности и социальной самоэффективности

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Аннотация

Введение. В настоящее время цифровой ландшафт приобретает все большее значение в формировании социального взаимодействия среди подростков. Большинство исследователей рассматривают негативное влияние социальных сетей, однако практически отсутствуют публикации, посвященные положительному воздействию социальных сетей на формирование просоциального поведения в цифровом пространстве. Цель исследования – анализ влияния социальных сетей, моральной идентичности, эмпатии (сопричастности) и социальной самоэффективности на формирование просоциального поведения студентов-подростков в сети Интернет.

Материалы и методы. В исследовании приняли участие 430 учащихся государственных средних школ Джокьякарты (Индонезия). Полученные данные проанализированы с помощью программного инструмента Smart-PLS, используемого для анализа методом моделирования структурными уравнениями, который связан с конструктами переосмысления (revisit intention) и предположения (suggestion intention). В работе применены два типа анализа – внешняя и внутренняя модели.

Результаты исследования. Материалы статьи доказывают положительное влияние социальных сетей, моральной идентичности, эмпатии и социальной самоэффективности на просоциальное поведение студентов-подростков в сети Интернет. Социальное взаимодействие через цифровые медиа позволяет учащимся участвовать в просоциальных действиях: обмениваться положительным опытом, эмоциональной поддержкой и др. Моральная идентичность становится ключевым фактором в киберпространстве с точки зрения определения реакции взаимодействия на контент в сети Интернет. Эмпатия выступает связующим звеном, которое способствует преобразованию информации, полученной через социальные сети, в положительные реакции. Социальная самоэффективность является психологической основой, мотивирующей людей поддерживать положительное поведение в Интернете и в социальных сетях.

Обсуждение и заключение. Результаты исследования могут быть полезны для развития просоциального поведения учащихся в сети Интернет в школах с помощью различных программ обучения особенно в контексте онлайн-взаимодействий; обеспечивать прочную основу для создания образовательных программ, способствующих укреплению моральных и этических ценностей, а также улучшать эмпатию и навыки социальной самоэффективности учащихся.

Ключевые слова: онлайн-просоциальность, использование социальных сетей, моральная идентичность, эмпатия, социальная самоэффективность

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Introduction

Over the past few decades, the digital landscape has been increasingly important in shaping adolescent social interactions [1; 2]. Teenagers make extensive use of digital tools, which enable them to engage in interactions with other people¹. Social interaction using digital devices, known as online interaction, can have both positive and negative impacts. The negative impact of social interactions encourages negative online or antisocial behaviour such as cyberbullying, cyber harassment, and cyber-attacks [3–5]. Meanwhile, scholars still need to discuss information regarding the positive impact of online social interactions, such as teenagers' online prosocial behaviour [6]. Online prosocial behaviour is voluntary actions performed in electronic or virtual environments to benefit others or promote pleasant and balanced relationships [6]. Behaviours such as sharing information or resources online, sending pleasant, helpful, or entertaining comments to others, saying nice things to someone, doing a favour, or even giving a “like” are examples of online prosocial behaviour.

Online prosocial behaviour for teenagers is crucial in developing a healthy and sustainable digital environment. In an era where technology and social media dominate daily interactions, teens must understand the positive impact of online actions that support, inspire, and build community. Prosocial behaviour helps create a positive atmosphere on online platforms, provides emotional support, and encourages the constructive exchange of ideas. It can even counter cyber aggression effectively [7]. This provides individual benefits for youth and establishes positive norms and values in cyberspace, creating a safe and inclusive environment for all users. Engaging in positive online communication

can increase social connectivity, improve the quality of relationships, and improve adolescents' well-being and self-esteem [8]. Engaging in prosocial activities online can produce beneficial consequences in personal, social, and societal aspects. By practicing online prosocial behaviour, teens can also develop the interpersonal skills necessary to participate positively in society. Good online interactions can strengthen skills such as empathy, cooperation, and understanding of other people's perspectives. In addition, prosocial behaviour helps teenagers understand the consequences of irresponsible or harmful online actions to become part of a responsible and wise generation that uses technology.

Previous studies have highlighted the importance of online prosocial behaviour in adolescents, especially in answering the question of how to instil online prosocial behaviour [6; 9; 10]. Several antecedent factors shape online prosocial behaviour, such as social media use [11–13], moral identity [9; 14], empathy [9; 13], and social self-efficacy [9; 15]. The use of social media can have a significant positive impact on online prosocial behaviour. While there is a risk of negative behaviour, such as online bullying and spreading harmful content, social media also provides a platform for individuals to participate in prosocial actions. Through online fundraising, awareness campaigns, and sharing positive information, social media allows users to support various causes and communities. These positive interactions can strengthen social bonds, promote empathy, and increase awareness of social issues. Therefore, by using social media wisely, users can play an active role in building a prosocial online environment, supporting positive engagement, and strengthening social connections in cyberspace.

¹ Eurostat. Being Young in Europe Today. Publications. Luxembourg: Office of the European Union; 2015.

One of the things highlighted by scholars to look at the antecedent factors of online prosocial behaviour is moral identity [9; 16]. Moral identity provides ethical guidance for individuals when interacting on social media or other online platforms. A strong moral identity can encourage individuals to consider the moral impact of their online behaviour, avoid actions that may harm others, and even encourage them to actively engage in prosocial actions such as providing moral support, sharing positive information, or supporting charitable initiatives online. With a formed moral identity, individuals are more likely to internalize positive norms in their online behaviour. This can create a safer, more inclusive, and positive online environment for all users.

Another crucial factor in forming online prosocial behaviour is empathy [9; 13]. Empathy has a crucial role in instilling prosocial online behaviour because the ability to feel and understand the feelings of others forms the basis for a positive and caring response to the needs of others in cyberspace. With empathy, individuals tend to be better able to understand other people's experiences and perspectives in online interactions. Apart from that, another aspect that is considered to play a role in influencing online prosocial behaviour is communication skills. Communication via digital media can increase teenagers' social competence, close friendships, and social connectedness [17]. Social self-efficacy is considered to play an important role in building online prosocial behaviour [9; 18]. Social self-efficacy can increase individuals' self-confidence in communicating and interacting with other people in cyberspace so that they are more motivated to utilize online platforms for positive purposes. Additionally, social self-efficacy helps overcome barriers and fears that may arise in actively participating in prosocial behaviour online, such as fear of rejection or negative criticism.

In previous literature, most studies highlight the negative impact of social media use. However, limited studies still discuss the positive effects of social media use on online prosocial behaviour for teenagers by involving mediators of moral identity, empathy, and social self-efficacy. Therefore, this study

attempts to fill the gap in this study by developing a structural model for strengthening online prosocial behaviour among teenagers by involving the factors of social media use, moral identity, empathy, and social self-efficacy among teenagers. Specifically, this study aims to examine the influence of social media use, moral identity, empathy, and social self-efficacy on online prosocial behaviour of school teenagers. Another aim is to examine the mediating role of moral identity, empathy, and social self-efficacy on the relationship between social media use and online prosocial behaviour in school adolescents.

Literature Review

Social Media Use and Online Prosocial Behaviour. Online prosocial behaviour can be characterized as voluntary actions carried out in electronic environments with the aim of providing benefits to certain individuals or fostering positive relationships with others [6]. This includes actions such as providing emotional support to friends via electronic channels, sharing educational materials and information with classmates online, and helping friends in virtual environments. Examples of prosocial behaviour on the Internet are small actions, such as liking a friend's post or sending someone a kind message. This behaviour contributes to fostering positive relationships with others [19]. Discussions regarding the impact of social media use are often associated with negative impacts [3; 5], and the positive impacts (such as online prosocial behaviour) are still rarely highlighted.

The link between social media use and online prosocial behaviour is particularly important in the context of adolescents and the rest of school. Adolescents often use social media as a primary channel for interacting with peers and developing their social identity [2]. In this environment, social media use can serve as a platform for observing, imitating, and supporting prosocial behaviour [11]. Apart from that, social media use has an important role in forming online prosocial behaviour [20; 21]. When teens see positive examples of online action, such as supporting a friend who is struggling or participating in a charity campaign, they are more likely to be inspired to take part in similar behaviour.



In addition, the intensity of social media use among school adolescents can have a significant influence on their online prosocial behaviour [12]. Adolescents who intensively use social media have the potential to expand their social networks and engage in prosocial actions more actively. They can easily participate in charity campaigns, share information about social issues, and provide online support to peers in need [6]. However, conversely, excessive use of social media can also create the risk of unhealthy online behaviour, such as cyberbullying or adverse social comparison, which can hinder the development of prosocial behaviour [5; 22]. Thus, we believe that social media use affects the strengthening of online prosocial behaviour of school teenagers.

Hypothesis 1. Social media use influences school teenagers' online prosocial behaviour.

Moral Identity. Moral identity is a measure of the extent to which a person's self-concept revolves around being a moral person [23]. Moral identity includes a collection of moral characteristics and is related to the extent to which these attributes have significance to a person's sense of self [24]. Based on the social cognitive approach, moral identity may involve the possession of a mental knowledge structure called a moral self-schema; this schema can be triggered by changes in circumstances [23]. Moral identity, as a social self-schema, can be characterized as a collection of qualities structured based on self-perception. The psychological mechanisms discussed here function as a link between moral reasoning and moral behaviour [24]. On the other hand, moral identity symbolization measures a person's tendency to openly present himself as a moral person [25]. Previous studies stated that moral identity was found to have a positive correlation with charitable behaviour [16] and ethical behaviour towards organizations [26]. Thus, this study believes that moral identity influences the online prosocial behaviour of school teenagers.

In addition, moral identity may be one mechanism that has the potential to mediate the relationship between social media use and online prosocial behaviour. Previous studies have shown that moral identity acts as a mediator in online prosocial behaviour [9]. In the context of social media, individuals who have a strong

moral identity are more likely to project these positive values in their online interactions. Moral identity may act as a mediator by linking the intensity of social media use with increased prosocial behaviour. Adolescents who develop a positive moral identity may be more likely to use social media to voice support for positive social issues

Hypothesis 2. Moral identity has a positive influence on the online prosocial behaviour of school teenagers.

Hypothesis 3. Moral identity mediates the relationship between social media use and online prosocial behaviour among school teenagers.

Empathy. Empathy is the ability to understand and indirectly feel the emotions of others [27; 28]. According to N. Eisenberg, empathy is an important component of moral function [29]. Empathy consists of two cognitive elements, namely perspective-taking and fantasy, and two emotional components (empathic and personal distress) [30]. The cognitive aspect of empathy includes the ability to understand and analyse another person's intentions, thoughts, or beliefs. On the other hand, the emotional aspect of empathy involves experiencing an emotional response towards another person, which arises from recognizing their emotional state.

The experience of empathy plays an important role in building strong social relationships with individuals in online environments [31]. Engaging in online social relationships requires understanding others' emotions, exchanging information, and exchanging personal experiences [31]. Empathy plays a central role in shaping online prosocial behaviour among school adolescents [9; 10]. Empathy, as the ability to feel and understand the feelings of others, is the basis for positive responses to the needs and suffering of others. In online contexts, adolescents who have high levels of empathy are more likely to engage in prosocial actions because they can respond more sensitively to the experiences and feelings of their peers. The ability to feel and understand other people's perspectives online can encourage teens to provide support, motivate, and inspire positivity.

In the online context, social media use is associated with increased cognitive

and affective empathy over time [21]. Specifically, teenagers' use of social media increases their ability to understand (cognitive empathy) and share feelings with their friends (affective empathy). Previous research shows that engaging in online chat leads to the manifestation of empathy² and that there is a favourable correlation between online communication with others and expressions of empathy [32; 33]. Computer users are thought to have higher levels of empathic concern than tablet or cell phone users³. Ultimately, higher levels of social media use were predicted to be associated with higher manifestations of empathic concern.

Hypothesis 4. Empathy has a positive influence on the online prosocial behaviour of school teenagers.

Hypothesis 5. Empathy mediates the relationship between social media use and online prosocial behaviour among school teenagers.

Social Self-Efficacy. Social self-efficacy refers to an individual's belief in their ability to communicate and interact effectively with others [33]. Self-efficacy, according to A. Bandura, is the positive self-belief in one's potential and ability to achieve goals effectively and produce favourable results⁴. Social self-efficacy, on the other hand, relates to the ability to navigate and interact effectively in social situations. In the online context, increasing the number of online communication partners boosts social competence [34].

The significance of social self-efficacy or social self-confidence in shaping online prosocial behaviour among teenagers cannot be overstated. Adolescents with high social self-efficacy are more confident in taking the initiative to provide support, share positive information, and engage in online activities that support the community. Previous studies have shown a positive correlation between self-efficacy and prosocial behaviour [35]. Specifically, social self-efficacy is positively associated with online prosocial behaviour [9]. Other research also supports the idea that self-efficacy predicts prosocial behaviour [36; 37].

With high social self-efficacy, adolescents are more likely to become agents of change in their online environments, establish positive norms, and guide their peers toward more prosocial behaviour. Strengthening social self-efficacy enables adolescents to face online challenges with more confidence and actively contribute to a positive and empowering online environment.

Hypothesis 6. Social self-efficacy has a positive influence on the online prosocial behaviour of school teenagers.

Hypothesis 7. Social self-efficacy mediates the relationship between social media use and online prosocial behaviour among school teenagers.

Referring to the existing theoretical base, it is very important to instil online prosocial behaviour in school teenagers. Social media use is an important factor that shapes online prosocial behaviour. Apart from that, this study model also believes that there is an indirect influence of social media use on online prosocial behaviour through the mediators of moral identity, empathy and social self-efficacy of school teenagers. The conceptual model of this study is shown in Figure 1.

Materials and Methods

Participant. The respondents involved in this study were 430 students consisting of 55% male students and 45% female students in one of the state schools in the city of Yogyakarta, Indonesia. Their average age was 17 years, and participants reported spending an average of 4 hours surfing online per day. Most students (84%) come from urban areas and the rest from rural areas. Also, informed consent was obtained from all respondents for participation in the research/processing of the responses.

Measures and Procedures. Students' perceptions of online prosocial behaviour were assessed using the Online Prosocial Behaviour Scale [6]. The total number of items in this questionnaire is 10 items (for example, Say nice/friendly things to someone). Meanwhile,

² Rosen L. *iDisorder: Understanding Our Obsession with Technology and Overcoming Its Hold on Us*. New York: Palgrave Macmillan; 2012.

³ Collins F.M. *The Relationship between Social Media and Empathy*. Georgia: Southern University; 2014. Available at: <https://digitalcommons.georgiasouthern.edu/cgi/viewcontent.cgi?article=2189&context=etd> (accessed 05.02.2024).

⁴ Bandura A. *Self-Efficacy: The Exercise of Control*. New York: W.H. Freeman; 1997.

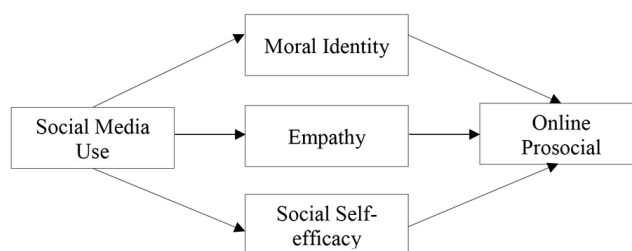


Fig 1. Conceptual Model of Cultivating Online Prosocial Behaviour

Source: Hereinafter in this article all figures were drawn up by the authors.

students' social media use was measured using a previous reference questionnaire, which had been adapted to the context of this study [38]. This questionnaire contains 6 items (for example, Social media is part of my everyday activity). Furthermore, this study uses the Moral Identity Scale [24] to measure students' moral identity. This scale consists of 10 items arranged in two dimensions: internalization (example item: "Being someone who has these characteristics is an important part of who I am") and symbolization (example item: "I often wear clothes that identify me as having these characteristics").

Students' perceptions of empathy were measured using a questionnaire from a previous study by J.D. Brett et al. [39]. This questionnaire consists of 20 items consisting of four dimensions, namely negative-cognitive empathy, positive-cognitive empathy, negative-affective empathy, and positive-affective empathy (each has five items). In addition, students' social self-efficacy was measured using the Self-Efficacy Scale [40]. The original questionnaire has three dimensions, namely academic self-efficacy, social self-efficacy, and emotional self-efficacy. This study uses one dimension of self-efficacy, namely social self-efficacy. The number of items in this questionnaire is 8 items (for example, How well can you express your opinion when other classmates disagree with you?). All scale items were administered using a five-point Likert scale style, with a rating of 1 representing "strongly disagree" and 5 representing "strongly agree" with each statement.

Analysis. The current study employed structural equation modelling (SEM) as a statistical method to analyse and interpret the gathered data. Smart-PLS is a software tool used to analyse structural equation modelling (SEM) models related to the constructs of revisit intention and suggestion intention. The criteria for assessing model fit are NFI (Normed Fit Index) values above 0.800 and SRMR (Standardized Root Mean Square Residual) values below 0.080. These values are seen as indicative of a suitable model⁵. PLS analysis utilizes two separate analytical methodologies, namely the outer model and the inner model. The assessment of the validity of the items or measurement indicators for each variable is conducted through the application of external model analysis. I. Ghazali states that an indicator is considered authentic if its loading factor parameter value is 0.70 or higher⁶. Moreover, in order to test this hypothesis, it is necessary to use a reference p-value that is equal to or lower than 0.05.

Results

Validity and Reliability Test. The results of testing the validity of the question items, which were carried out using the Partial Least Squares (PLS) algorithm, are shown in Figure 2. The test was carried out with a maximum literacy level of 300 and a stopping criterion of 7. At this initial stage of validity testing, it was seen that several questionnaire items needed to meet the criteria valid (below 0.70) namely MI1, MI2, MI3, and SSE2. Next, these four items were removed from the model, and the model was continued to run.

⁵ Hair J., Hult G. T., Ringle C. M., Sarstedt M. A Primer on Partial Least Squares Structural Equation Modelling (PLS-SEM). New York: Sage Publications; 2017.

⁶ Ghazali I. Structural Equation Modeling Metode Alternatif dengan Partial Least Squares (PLS). Semarang: Badan Penerbit Universitas Diponegoro; 2014.

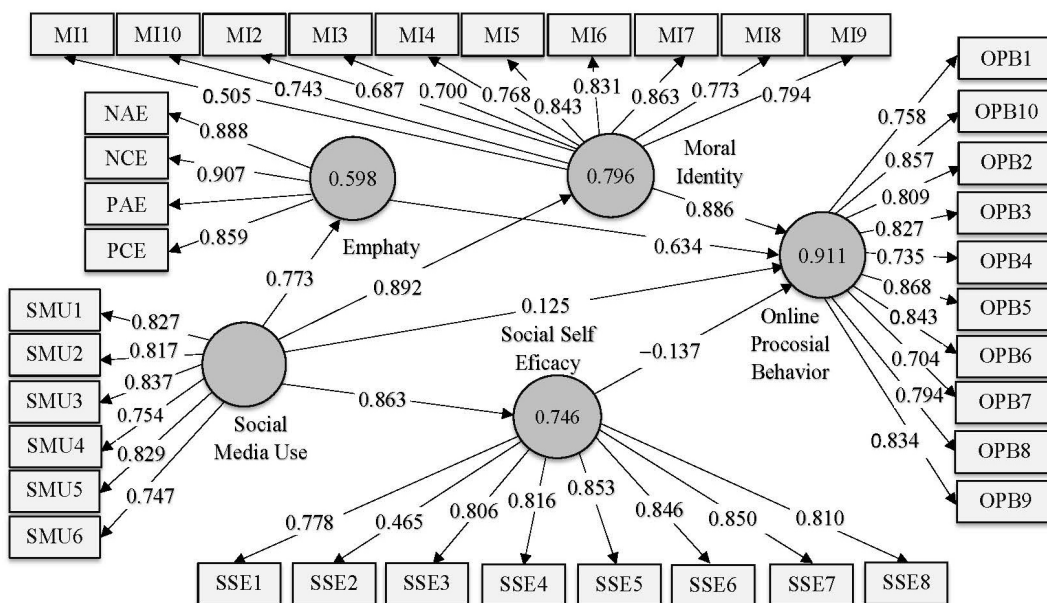


Fig. 2. First Model

Notes: OPB – online prosocial behaviour; SMU – social media use; MI – moral identity; NAE – negative-affective empathy; NCE – negative-cognitive empathy; PAE – positive-affective empathy; PCE – positive-cognitive empathy; SSE – social self-efficacy.

The modified running model is shown in Figure 3. Figure 3 shows that all items have factor loading scores above 0.70 and are declared valid. Thus, the number of each validated questionnaire item is 6 social media use items, 20 empathy items (there are 5 items in each dimension), 7 moral identity items, 7 social self-efficacy items, and 10 online prosocial behaviour items.

In the next step, this study tested the reliability of the questionnaire by conducting reliability testing. The reliability test results show that Cronbach's Alpha, Composite Reliability, and Average Variance Extracted (AVE) scores meet the specified standards (see Table 1). The Cronbach's Alpha score in Table 1 shows a score above 0.70 and is declared reliable. All questionnaire items were proven to be reliable for measuring online prosocial behaviour, social media use, moral identity, empathy, and social self-efficacy of adolescent students.

SEM Analysis Using Smart-PLS. The present study aims to examine the hypothesis through the utilization of structural equation modelling analysis, which allows for the

assessment of both direct and indirect impacts. Before testing the hypothesis on each structural equation modelling path, it is imperative to assess the model fit criteria of the SEM model in the initial stage. The fit model test employs the Normed Fit Index (NFI) and Standardized Root Mean Square Residual (SRMR) as evaluation criteria. According to J. Hair et al., a fit model is required to possess an NFI value greater than 0.8 and an SRMR value lower than 0.08⁷. The model fit test results show that the NFI value is 0.843, and the SRMR is 0.061. This finding means that the study model has met the model fit criteria. The output results of the SEM model analysis using the bootstrapping method are shown in Figure 4.

The process of hypothesis testing involves the utilization of bootstrapping, which entails the use of a subsample consisting of 500 observations, in addition to a significance threshold of 0.05. The applied approach for calculating the confidence interval is Bias-corrected and accelerated (BCa) bootstrap. Additionally, a two-tailed type test is performed. The results of hypothesis testing using SEM SmartPLS

⁷ Hair J., Black W.C., Babin B.J., Anderson R.E. Multivariate Data Analysis: A Global Perspective. New Jersey: Pearson Education; 2010.

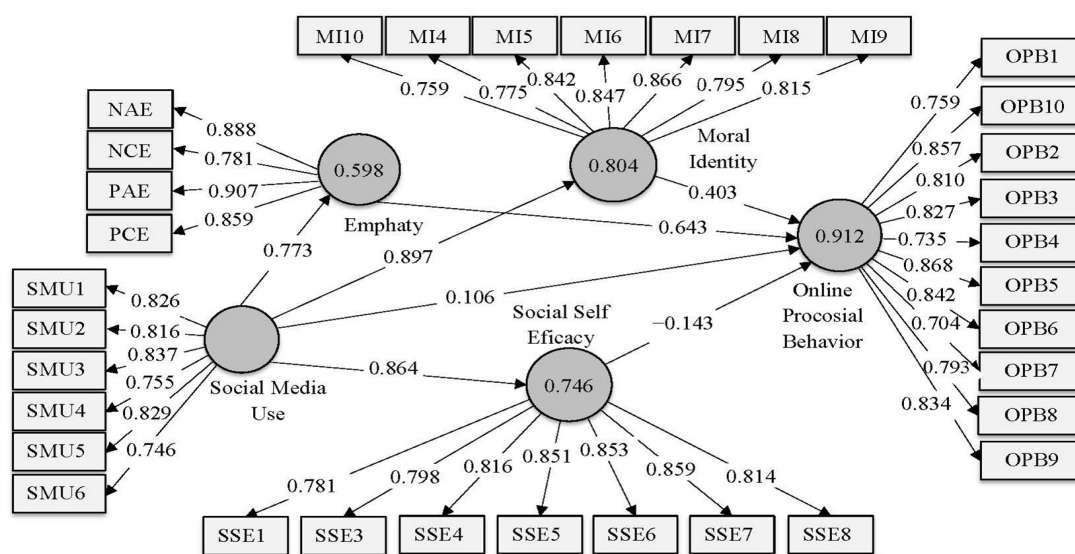


Fig. 3. Modification Model

18 analysis are shown in Table 2. In the first hypothesis test, the T statistic value was 2.051 (p -values = 0.041), meaning that the hypothesis was accepted, namely that there is an influence of social media use on online prosocial behaviour of school teenagers. The second hypothesis tests the influence of moral identity on the online prosocial behaviour of school teenagers. The findings reveal that the t-statistic score was 7.557 (p -value = 0.000), and the second hypothesis was accepted. This means that moral identity has a positive influence on the online prosocial behaviour of school teenagers.

Apart from that, this study also tested the influence of empathy on online prosocial behaviour of school teenagers. The test results show a t -statistic score of 15.662 (p -value = 0.000); the fourth hypothesis is

accepted. This means that empathy has a positive influence on the online prosocial behaviour of school teenagers. Another finding is that social self-efficacy has a positive influence on the online prosocial behaviour of school teenagers (t -statistic = 3.298, p -value = 0.001); the sixth hypothesis is accepted.

Finally, we also tested the mediating role of moral identity, empathy, and social self-efficacy on the relationship between social media use and online prosocial behaviour. The results of the analysis revealed that partially the three mediators (moral identity, empathy, and social self-efficacy) succeeded in mediating the relationship between social media use and online prosocial behaviour. Thus, the third (moral identity), fifth (empathy), and seventh (social self-efficacy) hypotheses can be accepted.

Table 1. Questionnaire Reliability Test

Variable	Cronbach's Alpha	Rho_A (Dijkstra-Henseler's Rho)	Composite Reliability	Average Variance Extracted
Online Prosocial Behaviour	0.939	0.942	0.948	0.647
Social Media Use	0.889	0.889	0.916	0.644
Moral Identity	0.915	0.916	0.932	0.664
Empathy	0.882	0.890	0.919	0.739
Social Self-efficacy	0.922	0.924	0.937	0.681

Source: Hereinafter in this article all tables were drawn up by the authors.

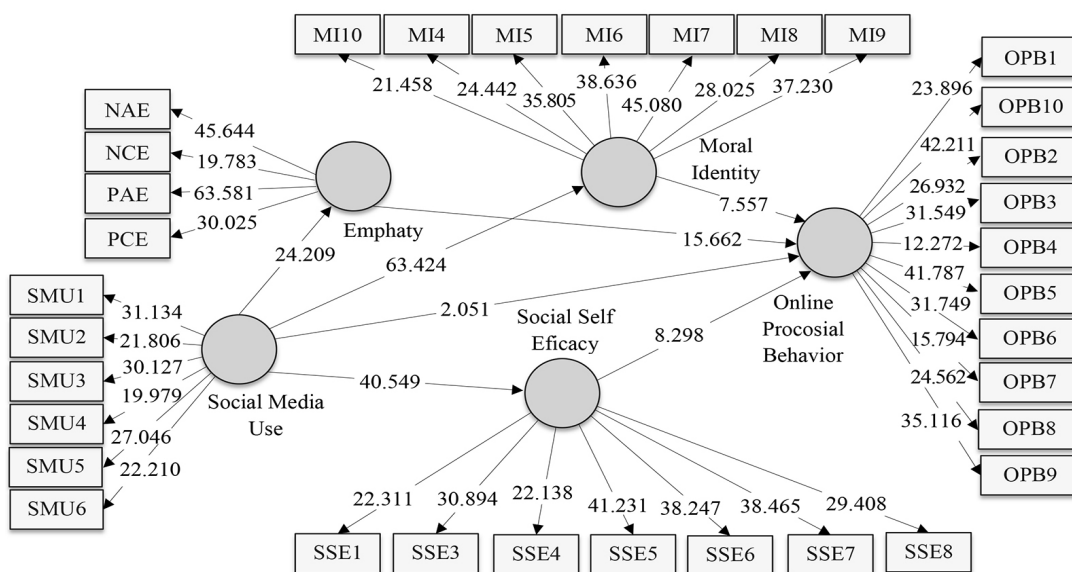


Fig. 4. Bootstrapping analysis (outer model)

Table 2. SEM analysis results

Path Analysis	Original Sample	Sample Mean	Standard Deviation	T Statistics	P Values
Social Media Use – Online Prosocial Behaviour	0.106	0.110	0.052	2.051	0.041
Moral Identity – Online Prosocial Behaviour	0.403	0.405	0.053	7.557	0.000
Social Media Use – Moral Identity – Online Prosocial Behaviour	0.361	0.363	0.048	7.478	0.000
Empathy – Online Prosocial Behaviour	0.643	0.643	0.041	15.662	0.000
Social Media Use – Empathy – Online Prosocial Behaviour	0.497	0.497	0.034	14.612	0.000
Social Self-Efficacy – Online Prosocial Behaviour	-0.143	-0.150	0.043	3.298	0.001
Social Media Use – Social Self-efficacy – Online Prosocial Behaviour	-0.124	-0.130	0.038	3.240	0.001
Social Media Use – Empathy	0.773	0.772	0.032	24.209	0.000
Social Media Use – Moral Identity	0.897	0.897	0.014	63.424	0.000
Social Media Use – Social Self-efficacy	0.864	0.864	0.021	40.549	0.000

Discussion and Conclusion

Research has been conducted on the impact of social media use on negative behaviour. However, the positive impact of using social media has yet to be widely studied. Therefore, this study aims to investigate the influence of social media use on the online prosocial behaviour of adolescent students. Apart from that, this study also tested the mediating role of moral identity, empathy, and social self-efficacy in the relationship between social media use and online prosocial behaviour.

The Influence of Social Media Use on the Online Prosocial Behaviour. The first hypothesis aims to test the influence of social media use on online prosocial behaviour of teenage students. Study findings prove that social media use has a positive influence on online prosocial behaviour. The results of this study confirm the findings of previous studies, which stated that the intensity of social media use among school teenagers has a significant influence on their online prosocial behaviour [12]. The influence of social media uses on online prosocial



behaviour is a significant phenomenon in the current context of digital interactions. Social interaction through digital media allows students to engage in prosocial actions. Through social media, students can build wider social networks, which can expand opportunities to engage in prosocial actions.

Additionally, social media creates opportunities to share positive experiences, inspiration, and emotional support, all of which are forms of online prosocial behaviour. Excessive use of social media can also result in negative impacts, such as bullying or negative influence [3; 22]. Providing support through positive comments, sharing useful information, or participating in online charity campaigns can be a concrete manifestation of prosocial behaviour in cyberspace. Meanwhile, social media can also accelerate the dissemination of information regarding social and humanitarian issues, encouraging collective awareness and response. Therefore, a deep understanding of how to use social media positively is essential for creating a positive online environment to support the development of online prosocial behaviour.

The Role of Moral Identity on the Online Prosocial Behaviour. The role of moral identity in shaping online prosocial behaviour emerges as a key aspect in understanding individuals' positive actions in cyberspace. One of the findings of this study is that moral identity is proven to have a positive influence on the formation of online prosocial behaviour in teenage students. This finding is relevant to a previous study conducted by J. Leng et al., the results of which stated that moral identity encourages the cultivation of online prosocial behaviour and also acts as a mediator [9]. Additionally, research by K. Aquino and A. Reed found that individuals with stronger moral identities tend to be more motivated to engage in prosocial behaviour [24]. Students tend to respond more positively to situations that require support and can be more active in defending moral values in the online environment.

Another finding is that moral identity also acts as a mediator in the relationship between social media use and online prosocial behaviour among teenage students. Moral identity acts as an internal filter that mediates how individuals respond to interactions and

content on social media. Through a mediation process, moral identity can influence how social media users interpret, assess, and respond to online information or situations. Suppose an individual has a strong moral identity. In that case, they are more likely to bring their ethical values into online behaviour, such as providing support, sharing positive information, or speaking out on important social issues [9]. Conversely, a poorly defined or weak moral identity may reduce engagement in online prosocial behaviour.

The Role of Empathy in Online Prosocial Behaviour. This study also reveals that empathy has a positive influence on the online prosocial behaviour of school teenagers. Intense and positive interactions on social media platforms can also increase feelings of empathy and sensitivity to the needs and experiences of others, creating an online environment that is beneficial for all users. These findings support previous studies that stated that social media use is associated with increased cognitive and affective empathy over time [21].

The role of empathy in online prosocial behaviour is very significant because empathy creates the basis for a positive response to the experiences and needs of others in the digital environment. The ability to feel and understand the feelings of others motivates individuals to engage in supportive online behaviour. Previous research has shown that high levels of empathy are associated with more active participation in prosocial actions online [41]. Additionally, empathy can strengthen social bonds and solidarity in online communities, creating a supportive and inclusive environment. In addition, as a mediator between social media use and online prosocial behaviour, empathy acts as a link that facilitates the transformation of information obtained through social media into positive responses. Social media use can increase exposure to various realities and other people's life experiences. Empathy then plays an important role in turning this understanding into concrete, prosocial action. Previous research shows that engaging in online chat leads to manifestations of empathy⁸.

The Role of Social Self-Efficacy on the Online Prosocial Behaviour. This study reveals that social self-efficacy has a positive influence on the online prosocial behaviour

of adolescent students. As previous studies state, there is a positive relationship between self-efficacy and prosocial behaviour [35]. Individuals with high social self-efficacy tend to be more motivated to engage in prosocial behaviour in cyberspace. Other research states that prosocial behaviour is predicted by self-efficacy to impact change [36; 37]. Social self-efficacy creates a psychological foundation that motivates individuals to engage in supportive online behaviour and build positive online communities.

Individuals who possess strong social self-efficacy tend to feel confident in their ability to contribute positively to online communities, build positive relationships, and make a positive impact. Empirical research has demonstrated that there is a positive correlation between social self-efficacy and online prosocial behaviour. People who have higher levels of social self-efficacy are more likely to engage in supportive online actions [37]. Therefore, it is important to understand and enhance social self-efficacy to foster online prosocial behaviour, which can create a welcoming, inclusive, and productive virtual environment for everyone in the community.

The findings of this study hold significant implications for education and character development, particularly in the context of online interactions. The results provide a solid basis for creating educational programs that

help to strengthen moral and ethical values while also improving students' empathy and social self-efficacy skills. With these findings, educators can devise learning strategies that encourage positive social media use, help build a strong moral identity, and enhance interpersonal skills, such as empathy and social self-efficacy. By doing so, the research can help shape a learning environment that supports the character formation of adolescent students online, promoting constructive and online prosocial behaviour. Awareness of these key roles can provide a more comprehensive approach to education, addressing the unique challenges and opportunities associated with adolescent students' online interactions.

This study reveals that the online prosocial behaviour of adolescent students is positively influenced by several antecedent factors such as social media use, moral identity, empathy, and social self-efficacy. Apart from that, social media use also has an indirect influence on cultivating students' online prosocial behaviour through moral identity, empathy, and social self-efficacy. The results of this study provide important implications for teachers to develop character learning that promotes the strengthening of online prosocial behaviour. Online prosocial behaviour is a new form of character in the digital era that needs to be instilled in teenage students.

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