# Moral Education in the Digital Age: A Durkheimian Exploration of Values Transmission through Online Learning

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## ABSTRACT

Émile Durkheim's perspective on moral education emphasizes the importance of social interaction and community ties in shaping the moral development of individuals. Educational institutions have traditionally provided a crucial environment for fostering moral values through personal exchanges between students and teachers. However, the shift towards online learning platforms, characterized by digital interfaces and remote communications, is likely to disrupt this vital social dynamic. Without face-to-face engagement in campus settings, students may lack the personal experiences essential for their moral development, which may impact the development of social cohesion and solidarity as envisioned by Durkheim. This study was organized to determine the relationship between online learning and value transfer with social interaction as a mediating variable. The findings from this survey of 2,000 students of Allama Iqbal Open University (AIOU) in Islamabad, Pakistan, who were undergoing online education, revealed important insights into the impact of this mode of learning on value transfer. Using SPSS V-22 and AMOS V-23 for analysis, the study identified a significant impact of online learning on value transfer, with social interaction acting as a key mediating factor. Ultimately, the study concluded that students engaged in online learning face challenges in moral development, primarily due to the lack of social interaction inherent in online learning. This highlights the crucial role of personal engagement in educational settings to foster moral development among students.

**Keywords:** Moral education, Online learning, Emile Durkheim, Value transmission, Education

## INTRODUCTION

Émile Durkheim, a prominent classical sociologist, emphasized the importance of moral education in promoting social cohesion and solidarity within societies (Lukes, 2020; Abbott, 2019). He argued that moral education plays a crucial role in instilling shared values, norms, and beliefs that bind individuals together and contribute to the functioning of a cohesive social order (Indriani & Eshumuddin, 2022; Goul et al., 2020). Durkheim believed that schools, as important institutions in modern societies, should serve as the primary agents of moral education (Durkheim, 2012). Moral education involves teaching students the importance of social norms, mutual respect, and collective responsibilities (Durkheim, 2005). By instilling a collective consciousness and a sense of belonging to a moral community, moral education helps individuals develop a strong moral compass and contributes to maintaining social stability and moral order (Mottaqin et al., 2023; Abbott, 2019).

In the era of digital advancement and technological progress, the educational environment has undergone a massive transformation (Abdullah et al., 2023; Haleem et al., 2022). With the development of online learning platforms, education has become more accessible, and people can interact with a wide range of information from anywhere in the world (Ulanday et al., 2021; Dhawan, 2020). While greater accessibility encourages diversity and democratizes education, it also presents new challenges in upholding ethical values. Ethical principles are often inculcated in traditional educational settings through social interactions and group activities (Mohammad et al., 2023). But the fragmented and sometimes impersonal mode of communication provided by the digital world may erode the social connections necessary for ethical growth (Yusnita et al., 2023). The proliferation of algorithm-based recommendations and user-generated content on online platforms makes value transfer more difficult (Muttaqin et al., 2023). Ideological polarization and moral relativism arise as a result of learners being exposed to a variety of conflicting viewpoints in the absence of structured curricula and authoritarian guidance. According to Durkheim, moral education is closely linked to shared rituals and community consciousness, which may be affected in the digital realm where personalization and individual autonomy are prioritized (Cotterill, 2017).

When exploring the effectiveness of moral education in the digital age, it has become clear that the intersection of traditional educational practices with emerging digital platforms presents both challenges and opportunities (Jandrić, 2017). Conveying ethics and values in online learning environments is a delicate and complex endeavour (Rudestam & Schoenholtz-Read, 2010), especially at institutions such as AIOU, which serves a diverse and international student body. The Durkheimian perspective provides a valuable framework for analyzing the dynamics of moral education in this context, focusing on ethical frameworks, social cohesion, and the unique challenges posed by virtual communications (Indriyani & Ishomuddin, 2022). By applying this lens, researchers can delve deeper into how digital technologies impact the dissemination of moral values and explore strategies for enhancing the effectiveness of moral education in the digital realm. The role of the AIOU as a leading provider of online education underscores the importance of addressing these issues to ensure that ethical values are not lost in the transition to digital learning environments, but are instead thoughtfully and purposefully integrated into the educational experience of students around the world. This ongoing investigation contributes significantly to understanding the evolving landscape of ethical education and its implications in an increasingly digital society. In order to achieve the above research objectives, the following research questions were addressed:

- Is there any significant prelateship between online learning and social interaction?
- Is there any significant prelateship between social interaction and value transmission?
- Is there any significant prelateship between online learning and value transmission?
- Does social interaction mediate the relationship between online learning and value transmission?

## LITERATURE REVIEW

### Online Learning

Online learning is simply an electronic resource that helps one facilitate learning outside of traditional classroom settings; it can consist of different approaches and methods (Hui et al., 2021). It is usually used in teaching in a synchronous learning manner where students and even teachers participate through real-time communication such as online classes, video conferencing,

and live chat (Otomo et al., 2021). This approach takes a similar structure to the traditional classroom setting, which is the same as the old face-to-face type approach, with the ability for participants to work together, participate in discussions, and get quick feedback on their work (Means et al., 2014). On the other hand, asynchronous learning gives the student a great deal of freedom due to pre-recorded lectures, discussion boards, and assignments that he or she has to do at his or her own pace (Khan et al., 2023; Bach et al., 2006). The blended learning approach generally bypasses all these timelines and learning style differences by allowing students to access course materials at their own schedule and pace. Blended learning includes a form of hybrid learning environment with exposure to digital, face-to-face, and online/offline tools (Tayebinik & Puteh, 2013). Other approaches applied include adaptive learning, which uses algorithms to be able to adapt learning according to individual proficiency and preferences, and experiential learning, which leverages simulations, virtual labs, and interactive multimedia to be able to increase engagement and retention (Hockly, 2018).

## Moral Education

Moral education is a complex and evolving process in which individuals learn, internalize, and demonstrate the moral principles, values, and virtues that guide their personal and social relationships within society (Durkheim, 2012). It is not simply training in moral ideas or a code of conduct but also involves the development of empathy, compassion, integrity, and self-accountability (Kohlberg, 1971). Methods and approaches to obtaining moral education can include formal education, family education, religious organization, and influence from the larger culture (Gul et al., 2020). Moral education primarily aims to enhance an individual's ability to reason morally so that they can successfully negotiate difficult and treacherous moral problems and arrive at valid solutions. Thus, this process is said to be intrinsically linked to the social and cultural environment in which it occurs, as the moral climate of a given society develops through norms, beliefs, and values (Hand, 2017). Moral education is also a lifelong process in which changes occur alongside changing societal dynamics and change due to individual experiences, rather than an immutable task (Kohlberg, 1966). Ultimately, moral education develops a person's moral autonomy that enables him or her to act honourably and make valuable contributions to society (Wong, 2023).

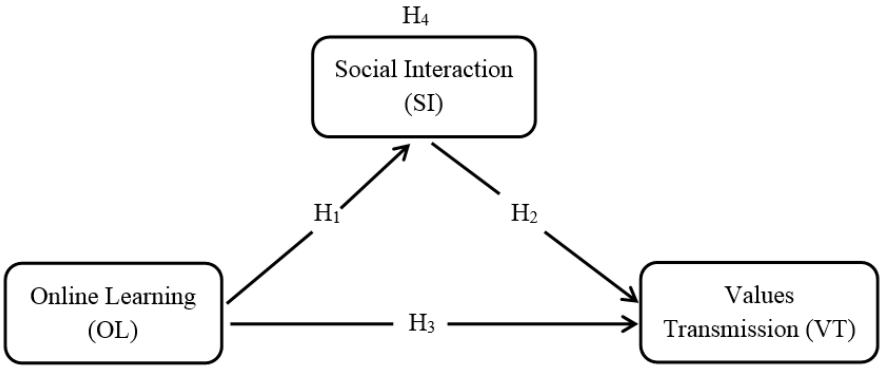
## Durkheim's Moral Education

Émile Durkheim introduced the role of moral education as a tool for achieving social cohesion and raising collective consciousness among members of a society (Indriani and Eshumuddin, 2022). The basic idea of Durkheim's thesis is that moral ideas should be deeply rooted in the collective conscience of a society, not in personal preferences (Durkheim, 2012; Kohlberg, 1966). He asserted that social order and solidarity lie in the "internalization" of common norms, values, and beliefs in people during socialization (Althoff and Berkowitz, 2006; Dale, 2007). He saw schools as one of the important ways to allow social norms and develop a sense of belonging and responsibility (Saha, 2001). In moral education, a sense of moral duty towards the welfare of others is formed, and moral ideals are added to it. In turn, these individuals are shaped into a compass that guides behaviour through moral rituals, celebrations, and shared experiences that help in cohesion among members of the society (Maeda et al., 2009).

## Role of Educational Institutions in Moral Education

Educational institutions are essential to the dissemination and maintenance of ethical ideals as they are the pillars of moral training in society (Abdullah & Ali, 2024; Wringe, 2006). These institutions, which range from early childhood education to higher education, provide structured environments in which students can acquire new skills and knowledge while fostering the growth of morality and ethical responsibility (Abdullah, 2024; Lakshmi & Paul, 2018). Through formal curricula, extracurricular activities, and lived experiences of community learning, educational institutions aid in the process of socialization, the process by which people absorb cultural norms, values, and moral principles (Althof & Berkowitz, 2006). Teachers also serve as moral mentors and role models, modelling virtue and encouraging moral conversation that fosters critical thinking and ethical reasoning (Sultana & Fatima, 2022). Institutions integrate moral education into the heart of the educational process to foster an environment that values empathy, respect for diversity, and commitment to social justice (Gul et al., 2020). Moreover, schools may bridge the moral gap between personal morality and collective well-being by instilling in their students a sense of civic engagement and duty (Maeda et al., 2009). As catalysts for the growth of moral awareness, ethical consciousness, and responsible citizenship, educational institutions play a more important role in moral education than simply distributing knowledge (Durkheim, 2012).

**Figure 1** *Hypothetical Model*




## Hypotheses

$H_1$ – Online learning has a statistically significant relationship with social interaction.
$H_2$ – Social interaction has a statistically significant relationship with value transmission.
$H_3$ – Online learning has a statistically significant relationship with value transmission.
$H_4$ – Social interaction mediates relationship between online learning and value transmission.

## METHODOLOGY

### Method and Participants

The study was conducted through quantitative method under a cross-sectional survey research design. All students of AIOU formed the total population of the study. AIOU is the largest university in Pakistan, providing online education from high school to doctoral level. The total student population currently enrolled at AIOU is 1,027,000 (AIOU, 2023). Faculty and program details for the population are added to Table 1.

**Table 1** *Breakdowns of Population*

| Faculty | Up to Bachelor * | MA | MPhil | PhD | Total |
|---|---|---|---|---|---|
| AIS | 167,241 | 61,205 | 11,088 | 2,597 | 242,131 |
| Edu | 145,227 | 38,765 | 8,659 | 1,574 | 194,225 |
| NS | 275,596 | 85,222 | 15,821 | 4,482 | 381,121 |
| SSH | 139,846 | 57,333 | 10,371 | 1,973 | 209,523 |
| Total | 727,910 | 242,525 | 45,939 | 10,626 | **1,027,000** |

*Note.* * Up to bachelor education includes (secondary school certificate (SSC 9 & 10 grades), higher secondary school certificate (HSSC 11 & 12 grades), and bachelor of arts/science (BA/BS 13 & 14 grades).

## Sampling

A sample of 2000 students was selected through stratified random sampling. The rationale behind using stratified sampling was that the population was divided into different groups, such as faculties and programs. At the time of this study, four faculties—Arabic and Islamic Studies (AIS), Education (Edu), Natural Sciences (NS), and Social Sciences and Humanities (SSH)—were operating at the university. The sample was selected proportionally based on the overall size of each faculty and program. The researchers approached the admissions department of the university and asked them to generate lists of all students along with their faculties and programs of enrolment. They were also asked to exclude all students who were receiving any type of face-to-face education on campus. After receiving the lists, the researchers selected a sample from each faculty and program proportionally through systematic sampling. Using a table of random numbers, the researchers selected a sample by looking at the last four digits of the table of random numbers. The breakdown of the sample by faculty and programs is added to Table 2.

**Table 2** *Breakdowns of Sample*

| Faculty | Up to Bachelor | MA | MPhil | PhD | Total |
|---|---|---|---|---|---|
| AIS | 327 (23%) | 120 (25%) | 19 (24%) | 5 (24%) | 480 (24%) |
| Edu | 284 (20%) | 77 (16%) | 15 (19%) | 3 (15%) | 380 (19%) |
| NS | 540 (38%) | 168 (35%) | 27 (34%) | 8 (42%) | 740 (37%) |
| SSH | 269 (19%) | 115 (24%) | 19 (23%) | 4 (19%) | 400 (20%) |
| Total | 1420 (71%) | 480 (24%) | 80 (4%) | 20 (1%) | **2,000** |

## Instrumentation

A self-developed questionnaire was used through Google Form to collect data. Three scales: online learning, social interaction, and value transfer were included in the questionnaire. The online learning (OL) scale was developed as an independent variable containing eight items, the value transfer (VT) scale was developed as a dependent variable containing 13 items, while the social interaction (SI) scale served as a mediator variable containing a total of 10 items. All the scales were developed on a 5-point Likert scale (1 = strongly disagree, 2 = disagree, 3 = uncertain, 4 = agree, 5 = strongly agree), containing a total of 31 items. The scales were validated through face, content, and construct validity in order to ensure whether they measured what the researcher intended to measure. The scales were discussed with a panel of six experts who had extensive

experience in online education. All the panel members were university professors with strong research profiles. Following the panel's suggestions and recommendations, some inclusions, exclusions, and required modifications were made to the scales for improvement. The validity of the instruments was further strengthened by construct validity with the help of convergent and discriminant validity after the data collection process and the construction of a measurement model in confirmatory factor analysis (CFA) (see Tables 4 and 5). During the pilot testing phase, 200 students (10% of the population sample) received the questionnaire; as a result, 173 completed questionnaires were received. In order to assess the feasibility and design of the study instrument, this pilot testing was necessary. Some items were simplified and made clearer in response to the input received. In particular, unclear wording in one item was clarified, and the main item was split into two distinct items. It is worth noting that in order to prevent bias or familiarity effects, students who participated in the pilot testing phase were not allowed to engage in the main data collection procedure again. The study focused on ensuring the external reliability of the research measures, which involved the use of a test-retest method. This method assessed external reliability by examining the stability of the results over time. By sending 100 questionnaires to the respondents and then repeating this process a month later with the same respondents, the researcher analyzed the consistency of the responses using Pearson's correlation (see Table 4). In addition, the internal reliability of the scales was ensured through split-half reliability, Cronbach's alpha, and composite reliability (CR). The process of assessing the internal reliability of the research instruments began with the analysis of the empirically tested data. Each item in the scales was assigned a numerical value, and then the items were divided into two groups: even numbers and odd numbers. After that, Pearson's correlation was used to examine the association between these two groups of items. This analysis aimed to ascertain whether the even and odd items measured the same underlying constructs consistently (see Table 4). In addition to assessing the internal reliability through Pearson's correlation of the even and odd items, the study used Cronbach's alpha to assess the internal consistency. This statistical method calculated the reliability coefficient for each item, and only items with a coefficient of $\geq 0.70$ were considered sufficiently reliable and were retained in the scales. Furthermore, the confirmatory factor analysis (CFA) process established composite reliability (CR), providing further validation of the internal consistency of the scales as well as reliability (see Table 4).

**Data Collection Procedure**

The first step in the data collection process was to obtain approval from university officials, who were informed of the purpose of the investigation and ensured that ethical issues were taken into account when collecting data. Next, 2,000 Google Forms questionnaires were emailed to selected students, along with an informed consent form that explained the objectives of the study and emphasized volunteerism, anonymity, and confidentiality. After participants were given 30 days to complete the questionnaire, 1,783 completed questionnaires were received, representing an impressive response rate of 89%. Significant missing data were found in 14 questionnaires after thorough screening, which led to their removal from subsequent data analysis in order to maintain the validity and reliability of the study's findings. This comprehensive approach to questionnaire administration and data management ensured that ethical principles were followed and robust analytical data was collected.

**Data Analysis Procedure**

After data collection was completed, Statistical Package for the Social Sciences (SPSS) version 22 and AMOS version 23 were used to analyze the raw data. First, principal components analysis (PCA) was used in exploratory factor analysis (EFA) to reduce the dimensionality of the dataset by condensing a large number of variables into a smaller set. Next, using confirmatory factor analysis (CFA), an evaluation model was created to assess the validity and reliability of the construct. Structural equation modelling (SEM) was also used to test the hypotheses, allowing for the estimation of mediation models as well as total, direct, and indirect effects. Sound and informed interpretation of the study results was made possible by the comprehensive analytical method that allowed for testing theoretical hypotheses, validating measurement tools, and investigating associations between variables. The normality of the data was determined with the help of Z-score, calculating skewness values using SPSS.

$$Z_{\text{skewness}} = \frac{\text{skewness}}{\sqrt{\text{s.e. skewness}}} \qquad Z_{\text{kurtosis}} = \frac{\text{kurtosis}}{\sqrt{\text{s.e. kurtosis}}}$$

According to Ho (2013), a calculated z-value surpassing ±1.96 indicates a rejection of the normality assumption at the 0.05 alpha level. In the case of the OL, SI, and VT, the Z values of each item, computed from the obtained skewness statistics, fall below ±1.96, not departing significantly from normality (see Table 7).

## RESULTS

Initially, the Kaiser-Meyer-Olkin (KMO) measure of sample adequacy was calculated at 0.943, indicating a high level of adequacy to conduct factor analysis on the dataset. This value suggested that the data were suitable for exploring underlying factors or dimensions. Additionally, Bartlett's test of sphericity yielded an approximate chi-square value of 22470.323 with 465 degrees of freedom (df) and a significant p-value of 0.000 ($p < 0.001$). A significant p-value indicates that the correlation structure between the variables in the dataset is not an identity matrix (i.e., the variables are correlated), further supporting the suitability of the dataset for factor analysis.

The goodness-of-fit measures shown in Table 3 assess how well the model fits the structures, using specific criteria based on the guidelines of Hu and Bentler (1999). For online learning (OL), the X2/df ratio is 2.503, which falls within the "acceptable" range (criteria: >1). The comparative fit index (CFI) for OL is 0.950, which meets the "excellent" criterion (>0.95). The standardized root mean square residual (SRMR) for OL is 0.071, which is slightly above the "acceptable" threshold (>0.08). The root mean square error of approximation (RMSEA) for OL is 0.044, which is well below the "acceptable" threshold (>0.06). The P-Close value for OL is 0.027, exceeding the "excellent" cut-off (>0.05).

**Table 3** *Goodness of Fit Measures*

| | $X^2$ | df | $X^2$/df | CFI | SRMR | RMSEA | PClose |
|---|---|---|---|---|---|---|---|
| Online Learning (OL) | 6115.37 | 445 | 2.503 | 0.950 | 0.071 | 0.044 | 0.027 |
| Social Interaction (SI) | 5172.51 | 445 | 2.142 | 0.967 | 0.063 | 0.039 | 0.023 |
| Value Transmission (VT) | 5821.43 | 445 | 1.711 | 0.982 | 0.050 | 0.033 | 0.031 |

*Note.* Cut-off criteria of Hu and Bentler (1999) was followed in fit indexes

Moving to social interaction (SI), the $X^2$/df ratio is 2.142 (acceptable), CFI is 0.967 (excellent), SRMR is 0.063 (acceptable), RMSEA is 0.039 (acceptable), and P-Close is 0.023 (excellent). Finally, for value transition (VT), the $X^2$/df ratio is 1.711 (acceptable), CFI is 0.982 (excellent), SRMR is 0.050 (acceptable), RMSEA is 0.033 (acceptable), and P-Close is 0.031 (excellent). These statistics indicate varying levels of fit for each construct, with strong model fit overall as particularly evident by the CFI and RMSEA indices across all three variables at the specified cut-off criteria.

Table 4 provides a comprehensive overview of the composite reliability (CR), Cronbach's alpha (α), test-retest reliability, and split-half reliability measures for the variables. The CR values for OL, SI, and VT are 0.980, 0.969, and 0.973, respectively, indicating high internal consistency and reliability of the measurement scales. Similarly, the alpha (α) coefficients for OL, SI, and VT are 0.80, 0.82, and 0.81, confirming the reliability of the constructs.

**Table 4** *Composite Reliability (CR), Cronbach's alpha (α), Test-Retest, and Split-half Reliability*

| | | | | Test-Retest Reliability | | | | Split-half Reliability | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | CR | α | | Retest | Retest | Retest | | Odd | Odd | Odd |
| OL | .980 | .80 | Test | .717*** | -- | -- | Even | .845*** | -- | -- |
| SI | .969 | .82 | Test | -- | .903*** | -- | Even | -- | .753*** | -- |
| VT | .973 | .81 | Test | -- | -- | .883*** | Even | -- | -- | .805*** |

*Note.* *** $p < 0.001$.

Test-retest reliability coefficients for OL, SI, and VT showed high consistency over time, with values of 0.717, 0.903, and 0.883, respectively. Split-half reliability assessments were conducted using even and odd items. For OL, the split-half correlation coefficient is 0.845, for SI is 0.753, and for VT is 0.805, all indicating strong internal consistency within the constructs.

Table 5 shows the results of the validity assessment using the Fornell-Larcker criterion, focusing on the average variance extracted (AVE), the average shared variance (MSV), and the maximum shared variance ratio (MaxR(H)). The AVE values for online learning (OL), social interaction (SI), and value transfer (VT) are 0.795, 0.757, and 0.819, respectively, indicating that a significant portion of the variance in each construct is captured by its measured indicators. The MSV values for OL, SI, and VT are 0.400, 0.598, and 0.591, respectively, indicating that the constructs share a moderate amount of variance with other constructs in the model.

**Table 5** *Discriminant and Convergent Validity through Fornell-Larcker Criterian*

| | AVE | MSV | MaxR(H) | OL | SI | VT |
|---|---|---|---|---|---|---|
| OL | 0.795 | 0.400 | 0.990 | **0.892** | | |
| SI | 0.757 | 0.598 | 0.972 | 0.616*** | **0.870** | |
| VT | 0.819 | 0.591 | 0.978 | 0.632*** | 0.773*** | **0.905** |

*Note.* *** $p < 0.001$.

The MaxR(H) values for OL, SI, and VT are 0.990, 0.972, and 0.978, respectively, indicating that each construct shows a significant association with its own indicators compared to the associations with the indicators of the other constructs. In addition, the table includes correlations between the constructs, showing significant correlations between SI and OL (0.616) and VT and SI (0.773), as well as a highly significant correlation between VT and OL (0.632).

**Table 6** *Grouped Psychometric Properties and Discriminant Validity through HTMT Criterion*

| | M | SD | OL | SI | VT |
|---|---|---|---|---|---|
| OL | 3.532 | 1.121 | | | |
| SI | 3.657 | 1.095 | 0.517 | | |
| VT | 3.529 | 1.146 | 0.572 | 0.476 | |

Table 6 presents the aggregate psychometric properties and assesses the discriminant validity using the Heterotrait-Monotrait (HTMT) criterion between the constructs. The mean aggregated scores for OL are 3.532 (SD = 1.121), SI is 3.657 (SD = 1.095), and VT is 3.529 (SD = 1.146). The HTMT value between OL and SI is 0.517, between SI and VT is 0.572, and between VT and OL is 0.476. According to the HTMT criterion, values less than 0.85 indicate adequate discriminant validity, indicating that these constructs are distinct from each other. The results of the table support the idea that OL, SI, and VT represent distinct dimensions or factors within the conceptual framework of the study, with minimal overlap in measurement, thus strengthening the validity of the measurement model used in the analysis. Furthermore, Table 7 shows that all Z values fall within the range of ±1.96, indicating no violation of normality of the data (Ho, 2013).

**Table 7** *Psychometric Properties (*N = 1783)

| Factor 1: Online Learning (OL) | | M | SD | FL | α | Z |
|---|---|---|---|---|---|---|
| OL6 | Conducting classes through video conferencing. | 3.51 | 1.09 | .816 | .78 | 1.49 |
| OL3 | Providing pre-recorded video lectures. | 3.33 | 1.17 | .807 | .83 | 1.73 |
| OL2 | Developing multimedia learning content. | 3.72 | 1.10 | .795 | .81 | 1.88 |
| OL7 | Setting up online discussion boards or forums. | 3.62 | 1.16 | .791 | .90 | 1.85 |
| OL8 | Offering virtual laboratory experiences. | 4.03 | 0.99 | .790 | .75 | 1.82 |
| OL1 | Administering quizzes through online platforms. | 3.52 | 1.15 | .788 | .84 | 1.75 |
| OL4 | Providing electronic textbooks and other digital resources. | 3.44 | 1.14 | .733 | .74 | 1.61 |
| OL5 | Utilizing educational apps and mobile learning platforms. | 3.09 | 1.22 | .711 | .77 | 1.88 |
| Factor 2: Social Interaction (SI) | | M | SD | FL | α | Z |
| SI3 | No interaction with classmate during academic activities. | 3.42 | 1.08 | .824 | .93 | 1.77 |
| SI2 | No personal interaction with teachers during lecture. | 3.61 | 1.06 | .808 | .84 | 1.79 |
| SI7 | No collaboration with peers in small groups or teams. | 3.45 | 1.13 | .804 | .72 | 1.81 |
| SI8 | No participation in extracurricular and cultural activities. | 3.91 | 1.02 | .789 | .80 | 1.85 |
| SI10 | No peer interaction during recess/relaxation time. | 4.10 | 0.96 | .786 | .78 | 1.90 |
| SI9 | No active involvement in school-sponsored social events. | 3.82 | 1.04 | .780 | .74 | 1.70 |
| SI4 | No involvement in community service/volunteer work. | 3.61 | 1.11 | .767 | .85 | 1.84 |
| SI5 | No involvement in peer support networks. | 4.24 | 0.92 | .765 | .78 | 1.53 |
| SI6 | No interaction with students from different grade levels. | 3.24 | 1.20 | .753 | .91 | 1.55 |
| SI1 | No participation in multicultural events. | 3.17 | 1.18 | .746 | .87 | 1.81 |
| Factor 3: Value Transmission (VT) | | M | SD | FL | α | Z |
| VT1 | Unable to produce a sense of empathy. | 3.43 | 1.14 | .887 | .80 | 1.66 |
| VT3 | Unable to develop a sense of mutual respect. | 3.77 | 1.11 | .884 | .82 | 1.61 |
| VT6 | Unable to learn how to develop self-discipline. | 2.81 | 1.19 | .883 | .91 | 1.72 |
| VT4 | Unable to develop a sense of cooperation. | 3.52 | 1.15 | .875 | .79 | 1.52 |

| | | | | | | |
|---|---|---|---|---|---|---|
| VT8 | Unable to get into the habit of sharing. | 3.21 | 1.20 | .863 | .86 | 1.73 |
| VT9 | Unable to learn how to set a role model in institutions. | 2.96 | 1.22 | .854 | .80 | 1.69 |
| VT11 | Online learning does not allow character building. | 4.13 | 1.01 | .836 | .72 | 1.72 |
| VT12 | Unable to learn through role-playing in class activities. | 3.51 | 1.14 | .832 | .75 | 1.87 |
| VT13 | No learning through engagement in community services. | 4.02 | 1.00 | .831 | .92 | 1.83 |
| VT5 | Unable to develop a sense of equality. | 3.43 | 1.10 | .830 | .88 | 1.91 |
| VT2 | Unable to develop a sense of integrity. | 3.31 | 1.20 | .786 | .83 | 1.88 |
| VT10 | Unable to develop a sense of punctuality. | 3.87 | 1.04 | .780 | .77 | 1.62 |
| VT7 | Unable to learn about morality in leadership. | 3.91 | 1.03 | .772 | .74 | 1.81 |

Table 8 presents the results of the mediation model analysis, depicting the relationships between the predictor variables (online learning - OL and social interaction - SI) and the outcome variables (social interaction - SI and value transfer - VT). Each row in the table represents a specific regression path in the mediation model. The columns display the standardized regression coefficients (β), standard errors (SE), t-values, and the coded confidence intervals (LBCI and UBCI) for each path. The β values indicate the strength and direction of the relationships: OL significantly predicts SI ($\beta = 0.7865$, $p < .001$) and VT ($\beta = 0.4439$, $p < .001$), while SI also significantly predicts VT ($\beta = 0.3869$, $p < .001$).

**Table 8** *Mediation Model Matrices*

| Outcome Variable | Predictor Variable | B | SE | t | Bootstrap LBCI | Bootstrap UBCI |
|---|---|---|---|---|---|---|
| SI | OL | .7865*** | .042 | 18.657 | .6605 | .9004 |
| VT | OL | .4439*** | .077 | 5.756 | .2397 | .6856 |
| VT | SI | .3869*** | .076 | 5.078 | .1739 | .6295 |

*Note.* *** $p < .001$. Bootstrapping was set at 5,000 samples.

The t-values reflect the significance of the regression coefficients, with all paths showing highly statistically significant associations ($p < .001$). The programmed confidence intervals also validate the strength of these relationships, providing lower bounds (LBCI) and upper bounds (UBCI) that do not include zero, confirming the reliability and statistical significance of the mediation model results.

**Figure 2** *Structural Model (Unstandardized)*

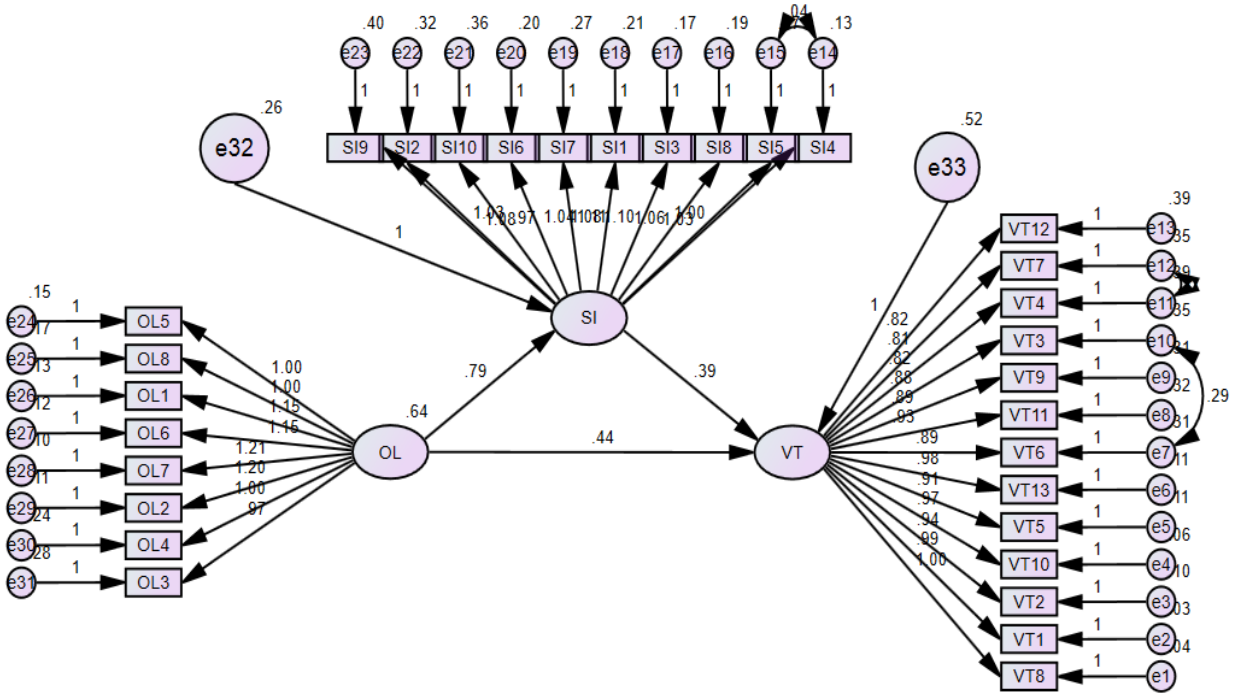



Table 9 provides a breakdown of the total, direct, and indirect effects of online learning (OL) on value transfer (VT) within the study framework. According to the statistics, the total effect of OL on VT is significant (β = 0.7460, p = 0.001), indicating a significant total effect of OL on VT. This total effect is divided into direct and indirect effects. The direct effect of OL on VT is estimated at β = 0.4430 (p = 0.000), which represents the part of the effect that operates directly without mediation. Meanwhile, the indirect effect of OL on VT through social interaction (SI) is estimated at β = 0.3030 (p = 0.001), indicating the effect of OL on VT that operates through the mediator SI.

**Table 9** *Total, Direct, and Indirect Effects of OL on VT*

| | Effect | SE | Bootstrap LBCI | Bootstrap UBCI | *p* | Relative Effect Size |
|---|---|---|---|---|---|---|
| Total | .7460 | .080 | .5872 | .9098 | .001 | --- |
| Direct | .4430 | .113 | .2397 | .6856 | .000 | 59.38% |
| Indirect | .3030 | .091 | .1432 | .4991 | .001 | 40.62% |

*Note.* Bootstrapping was set at 5,000 samples.

Relative effect sizes show that the direct effect accounts for approximately 59.38% of the total effect, while the indirect effect through SI accounts for approximately 40.62%. These results highlight the complex pathways through which OL influences VT, emphasizing the importance of considering both direct and indirect effects in understanding the relationships between variables in the mediation model of the study.

## DISCUSSION

The results show a significant relationship between these factors, supporting the study hypothesis that online learning is associated with social interaction. The results suggest that social interaction among students enrolled in online education may differ from that of students enrolled in regular on-campus education. These findings are consistent with those of Yosnita et al. (2023), who emphasized the distinct social dynamics of virtual learning, which made it difficult for students to build relationships with others and engage in the personal interactions that characterize on-campus environments. The association found underscores the importance of considering social factors when designing online learning environments and how they can impact students' experiences. These findings advance our knowledge of how different learning media influence students' social interaction habits.

The results also confirm the study hypothesis about the relationship between social interaction and value transmission. The results indicate that the lack of social interaction among online learning students contributes to the lack of transfer of moral principles. This finding is consistent with theoretical perspectives that highlight the importance of social environments in shaping students' values and beliefs. Face-to-face encounters between students in an educational setting can foster conversations, models, and shared experiences that help in disseminating moral values and ethical behaviour. The observed association emphasizes how students' moral development is influenced by interpersonal interactions in traditional learning contexts. In support of these findings, Saha (2001) concluded that schools are important ways to enable social norms and develop a sense of belonging and responsibility through social interaction. In another study, Mohamed et al. (2023) reported that moral principles are often instilled in traditional educational settings through social interactions and group activities. These findings enhance our knowledge of the processes by which social interactions help students transfer values to each other.

The results suggest a noteworthy link between online learning and value transformation. The results suggest that, compared to traditional face-to-face learning environments, online learning may pose some difficulties or limitations in terms of supporting students' moral development. This finding is consistent with concerns expressed in educational research about the potential effects of digital learning environments on students' overall development, including moral dimensions. Mataqin et al. (2023) asserted that the proliferation of algorithmic recommendations and user-generated content on online platforms makes value transfer more difficult. Given its remote and sometimes lonely nature, online learning may offer fewer possibilities for the kind of social connections and shared experiences that traditional classroom settings help transmit moral values (Cotterill, 2017).

The results show a strong mediating effect, substantiating the study hypothesis that social contact mediates the link between online learning and value transmission. This finding suggests that the impact of online learning on students' social interaction could explain some of the effect on value transmission. Durkheim (2012) believed that schools, as important institutions in modern societies, should act as key agents of moral education. In other words, the decrease in personal contacts associated with online learning may have an indirect effect on value transmission by reducing the potential for social engagement and interpersonal exchanges that foster moral development. Warring (2006) stated that educational institutions are essential for the dissemination and maintenance of moral ideals because they are the pillars of moral training in society. Sultana and Fatima (2022) concluded that teachers act as moral mentors and role models, modelling virtue and encouraging moral conversation that fosters critical thinking and moral reasoning. This

research underscores the importance of considering how social interaction shapes students' values in learning environments. This study's identification of the mediating link enhances our knowledge of the complex interactions between many elements of learning environments and how they influence students' moral development.

The findings of this study underscore the relevance of Emile Durkheim's theory of moral education in the context of the digital age, highlighting the role of social interaction in the transmission of values through online learning. Durkheim (2005) emphasized that moral education relies on social bonds and collective experiences to instil shared values, and this research demonstrates that online learning environments can facilitate such processes. The statistically significant relationships between online learning, social interaction, and value transmission suggest that online platforms can serve as effective mediums for fostering social connections that promote the internalization of moral values. Furthermore, the mediating role of social interaction indicates that the quality and nature of interactions in digital spaces are crucial for the successful transmission of values.

## CONCLUSION AND RECOMMENDATIONS

In conclusion, Durkheim's ideas on moral education support these findings, revealing that social interaction plays a crucial role in the transmission of values. In contrast, online education doesn't allow students to make face-to-face interactions with peers and teachers, which ultimately prevents students from learning social and cultural morals. The findings confirm an important link between online learning and social interaction, and highlight the significant differences in social interaction between students in virtual and traditional campus environments. This underscores the importance of considering social factors when designing online learning environments to enhance students' experiences. Second, the findings validate the hypothesis that social interaction contributes significantly to the transmission of moral values, especially in face-to-face learning environments where interpersonal dynamics play a pivotal role in promoting moral behaviour. Furthermore, the study suggests that online learning may pose challenges in supporting students' moral development due to reduced opportunities for social engagement and shared experiences. Finally, the mediating effect of social interaction between online learning and value transmission underscores the indirect effect of virtual education on students' moral development. Together, these findings advance our understanding of the complex interplay between educational media and social dynamics, paving the way for future investigations into specific mechanisms that influence moral development in virtual learning environments.

Based on the study findings, several recommendations can be made to enhance the effectiveness of online learning environments and promote positive social interactions and moral development among students. First, educational institutions may prioritize incorporating interactive features and collaborative activities within online courses to simulate real-time social interactions and enhance peer engagement. This could include virtual group projects, discussion forums, and live video conferencing sessions. Second, educators and course designers should emphasize the importance of promoting ethical discussions and values in online learning contexts, and incorporate moral development components into curriculum design and instructional strategies. Third, efforts can be made to provide opportunities for students in online programs to engage in offline or blended activities that facilitate face-to-face interactions and in-person relationships, such as networking events, workshops, or field trips. By implementing these

recommendations, institutions can create more inclusive and enriching learning experiences for students engaged in online learning.

## IMPLICATIONS

First, the study highlights the need for inclusive and flexible approaches to online learning that focus on moral development and social interaction in addition to the dissemination of academic knowledge. Educational institutions should recognize the potential limitations that online learning settings impose on the development of moral principles and social interactions, and seek to fill these gaps through the use of innovative teaching methods. Second, the study underscores the importance of continuing to investigate and evaluate online learning practices in order to understand their effects on students' moral and social development. This may help guide evidence-based treatments and program improvements aimed at maximizing student learning outcomes in online learning environments. Finally, the study adds to a larger conversation about how education is changing in digital environments and underscores the value of comprehensive student support and engagement tactics that go beyond traditional constraints of time and space.

## DIRECTIONS FOR FUTURE RESEARCH

Future studies in the field of social interaction and online learning may go further in understanding the complex factors that influence students' moral development and social experiences in these virtual learning environments. In particular, future research may examine how technology-based communication tools—such as social networking sites, virtual reality headsets, and online collaboration tools—help students participating in online learning establish meaningful social connections with each other. Furthermore, research may focus on identifying effective tactics and measures that promote positive social interaction and value dissemination in virtual learning environments, taking into account the heterogeneous backgrounds and dispositions of learners. Furthermore, in order to assess the long-term effects of virtual education on social interaction and ethical behaviours, longitudinal studies may monitor the social and moral development trajectories of students enrolled in online programs over time. By filling these research gaps, researchers may provide important insights into the planning and implementation of online learning programs that promote students' holistic development and create supportive learning communities in the context of digital learning environments.

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