

## Original Research

# Fostering empathy and social responsibility in pharmacy students through experiential service-learning: A qualitative study

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### Abstract

**Background:** Pharmacy education is increasingly incorporating experiential learning approaches to develop holistic healthcare professionals. Key competencies like empathy, social responsibility, and interpersonal skills are essential for patient-centered care. Kolb's Experiential Learning Theory and Mezirow's Transformative Learning Theory provide theoretical frameworks for understanding how real-world experiences can foster these essential skills. This study examines how service-learning experiences, such as volunteering, influence first-year pharmacy students' emotional growth, empathy, and reflective thinking. **Objective:** To explore the impact of service-learning through volunteering on pharmacy students' development of empathy, personal reflection, and social responsibility. Kolb's Experiential Learning Theory and Mezirow's Transformative Learning Theory are used as analytical frameworks. **Methods:** This exploratory qualitative study was conducted at Dubai Pharmacy College for Girls (DPCG) in the United Arab Emirates. A purposive sample of first-year Bachelor of Pharmacy students was recruited, and small group discussions were conducted on Microsoft Teams using an interview guide after students' participation in volunteering experiences at nursing homes for elderly individuals and shelters for children. The data were analyzed using thematic analysis, guided by Braun & Clarke's framework. Kolb's learning cycle and Mezirow's transformative learning model were used to interpret the data and map the themes to students' emotional and reflective development. **Results:** The analysis revealed six key themes from the students' reflections on their service-learning experiences. Emotional growth and personal reflection highlighted how students developed empathy and gratitude for their own lives through interactions with vulnerable populations. They also formed meaningful connections and engagement, building deep relationships with the elderly and children while learning valuable life lessons. Despite challenges and barriers, especially due to COVID-19 restrictions, students created meaningful connections. Kindness in action was evident as students engaged in acts of kindness, such as gift-giving and providing emotional support. Through learning and reflection, students recognized the impact of small gestures and honed essential social and emotional skills. Finally, students suggested improvements, advocating for extended interaction time and continuity in service-learning projects to achieve a more sustained impact. **Conclusion:** Service-learning activities foster significant emotional growth, empathy, and perspective transformation among pharmacy students. The study demonstrates how hands-on experiences combined with reflection can nurture empathy and social responsibility, contributing to the holistic development of future healthcare professionals.

**Keywords:** Positive psychology, Pharmacy education, Experiential learning, Transformative learning, Empathy

## INTRODUCTION

Pharmacy education is evolving beyond traditional didactic approaches, with a growing emphasis on developing holistic healthcare professionals who possess both technical expertise and essential interpersonal skills<sup>1,2</sup>. One of the most critical skills for pharmacy students is empathy, a key component of patient-centered care. Empathy, defined as the ability to

understand and share someone else's feelings by imagining oneself in their situation, significantly enhances patient satisfaction and outcomes<sup>3,4</sup>. However, fostering empathy in pharmacy students can be challenging within the constraints of a demanding undergraduate curriculum. To address this challenge, educators are increasingly integrating experiential service-learning into pharmacy education to cultivate empathy, reflection, and social responsibility.

David Kolb's Experiential Learning Theory (1984) provides a structured framework for understanding how students learn through experience<sup>5</sup>. According to Kolb, learning is a dynamic process that involves four stages: Concrete Experience (CE), Reflective Observation (RO), Abstract Conceptualization (AC), and Active Experimentation (AE). In the initial stage, students engage in direct experience (CE), such as interacting with patients in a real-world setting. They then reflect on this experience (RO), analyzing what happened and how it impacted their understanding. This reflection leads to the formation of broader concepts and ideas (AC), which students then apply in future situations (AE). In addition to Kolb's model, Transformative Learning Theory<sup>6</sup> provides another lens for understanding how service-learning impacts students' development. Mezirow's theory posits that learning

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is transformative when individuals are exposed to experiences that challenge their existing beliefs and assumptions, leading to a disorienting dilemma. Through critical reflection, learners reassess and transform their perspectives.

The integration of experiential learning and transformative learning in service-based activities is crucial for preparing pharmacy students to become empathetic, socially responsible professionals. Numerous studies have demonstrated that service-learning offers students the opportunity to develop essential skills such as communication, empathy, and cultural competence<sup>7-11</sup>. For example, pharmacy students who volunteered in a Medicare Outreach Program reported that their experience fostered meaningful learning and enhanced their sense of social responsibility<sup>7</sup>. Other studies show that volunteering enables students to interact with older adults and children, which helps them build communication skills and advocacy for vulnerable populations<sup>8-12</sup>. As these findings suggest, service-learning can provide a concrete foundation for fostering empathy and other critical skills in pharmacy students.

However, the exposure to pediatric and geriatric populations in many pharmacy programs remains limited, especially in the Gulf region<sup>10,13,14</sup>. Yet, pharmacy graduates are expected to care for these populations frequently in practice. Clinical placements and simulations provide experiential learning, but opportunities are limited. Volunteering thus presents a cost-effective and impactful experiential learning tool that allows students to engage directly with diverse community members, fostering empathy, communication skills, and cultural competence. Service-learning not only provides these valuable experiences but also facilitates transformative reflection, where students critically assess their biases and assumptions, leading to deeper, more meaningful learning. While the benefits of service-learning have been widely documented in Western contexts, there is a notable lack of research on its impact in the Gulf region, particularly in the United Arab Emirates (UAE). The UAE's diverse population makes it essential for pharmacy students to develop cultural competence by engaging with individuals from various backgrounds. Exposing students to diverse perspectives through service-learning can help them better meet the needs of the communities they will serve<sup>15-17</sup>.

This study aims to explore the volunteering experiences of first-year BPharm students at a pharmacy college in Dubai as they interacted with elderly individuals in nursing homes and children in shelters. Using Kolb's Experiential Learning Theory and Mezirow's Transformative Learning Theory as frameworks, this research evaluates how these experiences fostered empathy, personal reflection, and social responsibility.

## METHODOLOGY

### Study Design and Setting

An exploratory qualitative study was conducted at Dubai Pharmacy College for Girls (DPCG) in the United Arab Emirates (UAE). The study was based on semi-structured interviews conducted with students after their volunteering experiences

at shelter homes for older adults and children in Dubai. The aim was to explore students' reflections on the kindness-fostering project, which was integrated into their positive psychology course. This course was designed to foster skills such as kindness, empathy, and compassion while developing the students' awareness of their future roles as healthcare professionals.

### Participants and Sampling

A purposive sample of first-year Bachelor of Pharmacy students from DPCG was recruited for the study. These students participated in volunteering at either a geriatric nursing home or a children's shelter as part of their positive psychology course. The course emphasized understanding the positive aspects of human nature, such as kindness and empathy, while preparing students for the social responsibilities of their future profession.

### Inclusion Criteria

Participants were selected if they are:

- enrolled in the first-year positive psychology course.
- volunteered for 2-3 hours at a nursing home for the elderly or a shelter for children as part of the course.
- provided informed consent and were willing to share their experience through focus group discussions.

### Data Collection

Informed consent was obtained from each student after the objectives and potential benefits of the study were explained. Data were gathered through small group discussions on Microsoft Teams, using an interview guide based on an empathy map<sup>18</sup> to elicit students' experiences and reflections. The interview guide contained the following ten open-ended questions:

1. What was your favorite and least favorite part of the kindness-fostering project?
2. Can you describe your feelings about participating in this kindness-fostering project?
3. Can you remember any interaction or observation that stuck with you?
4. Can you describe any discussion with your peers that stuck with you?
5. Has this experience changed your thinking or perspective in any way?
6. What else did you learn from taking part in this project?
7. What kind of act did you do during the project?
8. What were the challenges you faced during the experience?
9. Is there anything that can be done better to make this experience more effective?
10. What do you think about the potential benefit of incorporating similar activities into the curriculum?



The interviews were conducted by authors SB and SS using Microsoft Teams. The interviews were recorded and transcribed for analysis. Each focus group discussion, consisting of 4-5 students, lasted approximately 20-25 minutes. Interviewers used a semi-structured approach to facilitate open discussion while keeping the conversation focused. All participants were encouraged to share their opinions; if any responses were unclear, they were prompted to elaborate. The interviews were conducted in English, and no language barriers were reported.

### Ethical Considerations

Ethical approval was granted by the DPCG Research Ethics Committee (REC/FD/2023/01). To eliminate potential bias related to course grading, the interviews were conducted after the students had received their final grades for the positive psychology course. Participation in the study was voluntary, and students were informed that they could choose not to answer any questions without consequences.

### Study Period

The study was conducted between October 2022 and March 2023, covering the planning, data collection, analysis, and reporting phases.

### Data Analysis

The data from the interviews were analyzed using thematic analysis, following the Braun & Clarke (2006) framework<sup>19</sup>. The steps are shown in figure 1. The audio-recorded interviews were transcribed verbatim, and the transcripts were reviewed by the research team to ensure familiarity with the data. To generate codes, key patterns, and insights were identified through the coding of transcriptions. Themes were generated by grouping related codes. These themes were reviewed to ensure they accurately represented the data and were refined to enhance clarity and coherence. The final themes were defined and named to reflect the core findings of the study.

Both Kolb's Experiential Learning Theory and Mezirow's Transformative Learning Theory were used as theoretical frameworks to guide the analysis. These theories were applied to map the themes to students' learning experiences, emotional

development, and changes in perspective. A consolidated criterion for reporting qualitative research (COREQ) checklist was used to ensure rigorous and transparent reporting of the study's findings<sup>18</sup>.

## RESULTS

Fifteen first-year pharmacy students aged between 18 and 21 years from 8 different countries were included. Six key themes emerged from the thematic analysis: emotional growth and personal reflection, meaningful connections and engagement, challenges and overcoming barriers, kindness in action, learning and reflection, suggestions for improvement and future engagement. The relationship between the identified themes and the Kolb's and Mezirow model is shown in Figure 2.

Note: Kolb's theory learning stages: Concrete Experience (CE), Reflective Observation (RO), Abstract Conceptualization (AC), and Active Experimentation (AE). Mezirow -reflective observation and disorienting dilemmas.

The main themes, subthemes and their frequency of occurrence is shown in figure 3. Below the themes and subthemes are presented with supportive quotes.

### THEME 1: EMOTIONAL GROWTH AND PERSONAL REFLECTION

Participants highlighted their emotional growth, primarily through empathy, gratitude, and fulfillment in their acts of kindness.

#### Subtheme 1.1: Developing Empathy

Several participants experienced personal growth through increased empathy. Participant 3 expressed this by stating, "I learned I should not be impatient. I should be more considerate." Similarly, Participant 4 noted, "It made me more empathetic." Participant 8 expanded on this sentiment, reflecting, "Every situation changes someone's perspective. Personally me, I changed a lot. I had empathy and care for the children before, but I changed in a better way."

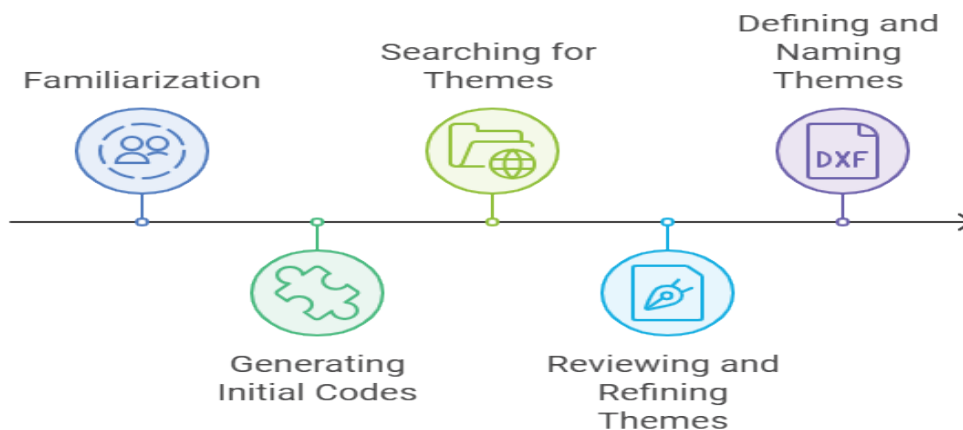
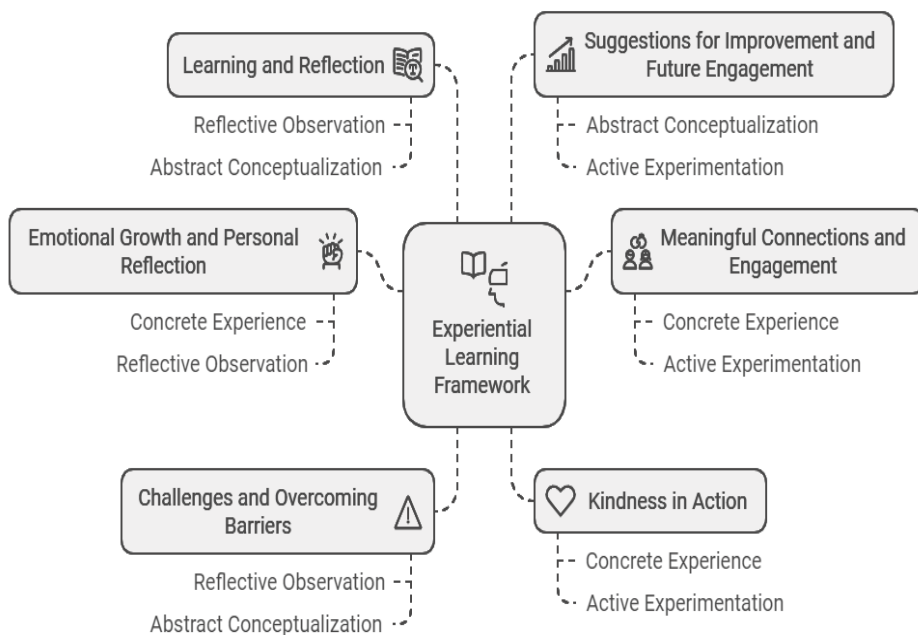


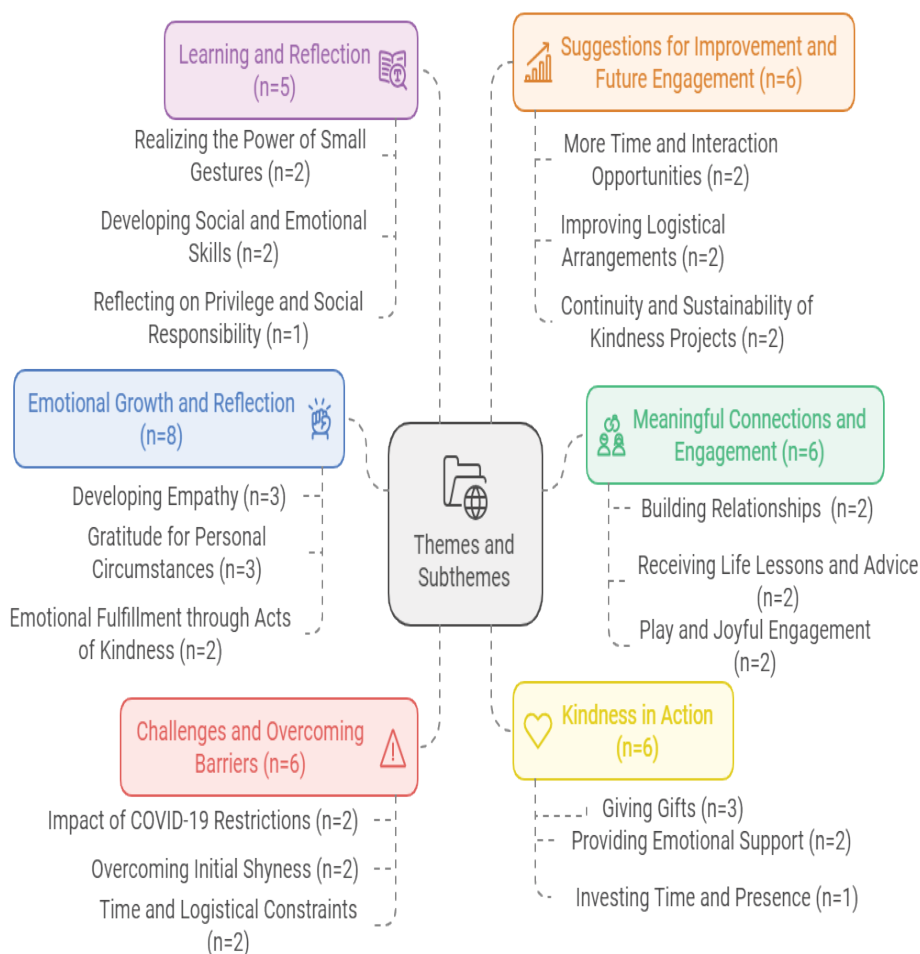
Figure 1. Qualitative analysis process





**Figure 2.** The correlation of the main themes with Kolb's and Mezirow model.

**Note:** Kolb's theory of learning stages: Concrete Experience (CE), Reflective Observation (RO), Abstract Conceptualization (AC), and Active Experimentation (AE). Mezirow -reflective observation and disorienting dilemmas.



**Figure 3.** The frequency of the identified themes and subthemes

### **Subtheme 1.2: Gratitude for Personal Circumstances**

The project also led to a heightened sense of gratitude for participants' personal lives. Participant 1 remarked, "I felt happy and lucky at the same time," while Participant 9 expressed, "I am thanking God that I am living with my family." Participant 10 shared a newfound understanding after working with children in need, stating, "I started loving kids more, though I thought children would be annoying and hyperactive. I also feel bad for the children in the foundation, for what they go through."

### **Subtheme 1.3: Emotional Fulfillment through Acts of Kindness**

The emotional rewards of engaging in acts of kindness were profound. Participant 7 stated, "I felt glad that I am the reason for their smiles," and Participant 12 echoed this sentiment, noting, "I was so happy that I had a chance to make someone happy. I will join more of these kinds of events with the college."

## **THEME 2: MEANINGFUL CONNECTIONS AND ENGAGEMENT**

Participants built meaningful connections, particularly with the elderly and children, while gaining valuable life lessons.

### **Subtheme 2.1: Building Relationships with the Elderly and Children**

Participants cherished their interactions with vulnerable populations. Participant 1 described her favorite part as, "talking to one specific person, a lady. It is like the most unforgettable thing that happened in my life." Similarly, Participant 13 reflected on her engagement with children: "We played with kids and gave them gifts. It was the best thing I did that made them happy."

### **Subtheme 2.2: Receiving Life Lessons and Advice**

Several participants received valuable advice from the elderly. Participant 1 shared, "The woman talked about knowledge and education. She was supportive," while Participant 2 noted, "She was talking more about seeking knowledge. No age limit to knowledge."

### **Subtheme 2.3: Play and Joyful Engagement with Children**

For many participants, engaging with children through play was a highlight. Participant 8 recalled, "We played with Doh, first, we made different shapes. It was really cute." Participant 11 added, "We gave them color and number-matching books. Helping with matching numbers. They were very intelligent as they were matching very fast."

## **THEME 3: CHALLENGES AND OVERCOMING BARRIERS**

Participants encountered and overcame a variety of challenges, including those posed by COVID-19 restrictions.

### **Subtheme 3.1: Impact of COVID-19 Restrictions**

The limitations imposed by COVID-19 were a common

challenge. Participant 2 remarked, "It would have been better if the barrier was removed," while Participant 12 noted, "We had to talk through the glass."

### **Subtheme 3.2: Overcoming Initial Shyness and Discomfort**

Several participants described overcoming initial discomfort in interacting with new people. Participant 5 shared, "I thought it would be awkward to talk with strangers. As we communicated along, they became more friendly." Participant 6 added, "They were shy because they had been neglected. To connect with them instantly was difficult."

### **Subtheme 3.3: Time and Logistical Constraints**

Time constraints were another challenge. Participant 15 stated, "I wish we had more time to spend with them." Participant 7 also reflected on the need for sustained engagement: "I think we should make the initiative to make it sustainable. Coming once for a project is not fair; repeat visits are needed."

## **THEME 4: KINDNESS IN ACTION**

Acts of kindness, both tangible and emotional, were central to participants' experiences.

### **Subtheme 4.1: Giving Gifts**

Gift-giving was a significant part of the project. Participant 1 noted, "Charity and giving gifts, and the most important thing was spending time with them, even though we had an exam and a busy schedule." Participant 3 also reflected, "Giving gifts and visiting," and Participant 12 emphasized the emotional impact: "When we gave them gifts, we played with them. When we hugged them, it was the best part."

### **Subtheme 4.2: Providing Emotional Support**

Emotional support was another crucial aspect. Participant 8 shared, "We hugged them in the end, and they felt safe and super happy," and Participant 10 described helping a nervous child, "There was a 2-year-old cute child who was nervous and restless. I played with her with clay. She took clay from me, screamed, and then gave it back to me."

### **Subtheme 4.3: Investing Time and Presence**

The simple act of being present was powerful. Participant 7 reflected, "Moral of the project is a small act of kindness can make others happy, especially those who need it."

## **THEME 5: LEARNING AND REFLECTION**

Participants engaged in significant learning and self-reflection during the project.

### **Subtheme 5.1: Realizing the Power of Small Gestures**

Participants realized the profound impact of small gestures. Participant 1 noted, "We realized that even though we didn't have a lot of time, we were able to make them smile." Participant 13 shared, "Drawing and playing with the kids was the best thing I did that made them happy."



### Subtheme 5.2: Developing Social and Emotional Skills

The project helped participants develop important social skills. Participant 6 stated, "This interaction mainly taught me how to connect with people. It developed my social skills." Participant 9 added, "Personally, for me, I changed a lot. I have become a more sympathetic person now."

### Subtheme 5.3: Reflecting on Privilege and Social Responsibility

The experience also encouraged reflection on participants' own privilege. Participant 10 reflected, "Thank God that we have a family we live together with. Even in the organization, they have a place to live, food, and education, but still living with a loving family is a blessing."

## THEME 6: SUGGESTIONS FOR IMPROVEMENT AND FUTURE ENGAGEMENT

Participants offered several suggestions for improving future projects, particularly in terms of time, logistics, and sustainability.

### Subtheme 6.1: More Time and Interaction Opportunities

Many participants felt that more time was needed. Participant 15 stated, "If we had more time to spend with them, it would be better," and Participant 14 echoed, "I think we should go back to them continuously and give them some toys and play with them."

### Subtheme 6.2: Improving Logistical Arrangements

Logistic improvements were also recommended. Participant 12 said, "It would have been great if Wi-Fi were available, and they didn't allow us to take photos with the kids." Participant 13 added, "It would have been good if the halls were bigger, with separate rooms for children and elders."

### Subtheme 6.3: Continuity and Sustainability of Kindness Projects

Participants highlighted the need for ongoing engagement. Participant 6 suggested, "I think we should take the initiative to make it sustainable. Coming once for a project is not fair; repeat visits are needed." Participant 14 added, "We want to go again, as we learned a lot. It would be great if we could visit them more often."

## DISCUSSION

There is a growing trend in universities to address student mental health challenges by incorporating positive psychology interventions into degree programs<sup>20</sup>. A systematic review of global studies suggests that university-based positive psychology courses show promise in promoting student well-being, though further rigorous research is required to validate their efficacy as evidence-based interventions<sup>20</sup>. This qualitative study contributes to the understanding of student well-being by exploring the experiences of fifteen first-year BPharm students at a pharmacy college in Dubai, who participated in volunteer work at shelter homes for older people and children.

The findings of this study show that the service-learning

project facilitated significant emotional growth, personal reflection, and social responsibility among students. Drawing on Experiential Learning Theory and Transformative Learning Theory, the results highlight how service-based projects can shape students' perspectives and help develop their social and emotional skills<sup>5,6</sup>.

According to Kolb's Experiential Learning Theory, learning occurs through a cycle of direct experience, reflection, and conceptualization. Students in this project engaged in concrete experiences by interacting with elderly individuals and children, leading to feelings of empathy, gratitude, and emotional fulfillment<sup>5</sup>. As they reflected on their interactions, students realized the significance of small gestures, such as offering gifts or spending time with participants, which aligns with the reflective observation phase of Kolb's model. These reflections contributed to abstract conceptualization, where students developed insights into their social responsibility. Their suggestions for extending engagement time and making the project an ongoing initiative reflect active experimentation, the final phase of Kolb's learning cycle, where students plan to apply their learning to future actions<sup>5</sup>.

Transformative Learning Theory further explains the shift in students' worldviews during the project. The project acted as a disorienting dilemma<sup>6</sup> for students, particularly those with limited prior engagement with vulnerable populations. Through interactions with elderly individuals who shared life lessons and children who faced adversity, students engaged in critical reflection, a key element of transformative learning. One student's realization of how fortunate they were, in terms of family and education, exemplifies this process. As students reflected on these interactions, they experienced a transformation in their understanding of empathy, kindness, and social responsibility. This shift from passive to active roles in helping others demonstrates how service-based projects can foster perspective transformation<sup>6</sup>.

The project also underscores the value of service-learning pedagogy, which integrates community service with structured reflection to promote civic responsibility and empathy<sup>14</sup>. Students reflected on how the project provided opportunities to practice kindness, engage in meaningful conversations, and actively listen to participants. These experiences helped deepen students' emotional intelligence, fostering empathy and increasing their understanding of the challenges faced by elderly individuals and children. Service-learning encourages students to build both academic knowledge and social competencies, aligning with broader research on the benefits of experiential education<sup>5,14</sup>.

Although the project produced positive outcomes, students faced several challenges, such as the physical barriers imposed by COVID-19 restrictions. The need to communicate through glass walls limited their ability to engage with participants. However, these constraints highlighted students' adaptability and persistence in forming meaningful connections despite the limitations. Some students overcame initial discomfort or shyness and learned how to engage with unfamiliar people, reflecting the importance of experiential and transformative



learning in overcoming real-world challenges<sup>5,6</sup>. Overcoming these barriers contributed to students' resilience and capacity to engage more confidently in future social contexts.

The project's focus on kindness in action—particularly through gift-giving and providing emotional support—was central to students' experiences. Many noted that simple, thoughtful gestures created lasting moments of joy and connection. These findings support Kolb's emphasis on learning by doing and Mezirow's notion that transformation occurs when individuals recognize the broader impact of their actions<sup>5,6</sup>. As students became more aware of the significance of their contributions, they grew more confident in their ability to make a difference, reinforcing the practical value of service-learning.

Students also suggested improvements to the project, such as increasing engagement time and making the initiative continuous, indicating their desire to broaden the impact of kindness-focused projects. This recommendation is valuable for educators and curriculum designers, as it emphasizes the importance of sustained and repeated engagement in service-learning initiatives. By creating opportunities for long-term relationships between students and communities, the benefits of these projects can be extended for both learners and those they serve. Continuous interaction would allow students to develop a deeper understanding of social issues and foster ongoing personal and professional development.

The findings from this study align with research showing that volunteering activities improve mental health and well-being. A previous study showed that kindness impacts both contemporaneous happiness and satisfaction<sup>21</sup>, and service-learning can help students develop a sense of gratitude and resilience<sup>23</sup>. In addition, students' interactions with vulnerable populations helped build empathy, which is critical for providing effective patient care (Meyer et al., 2019). Similar studies on pharmacy students have demonstrated positive encounters with older individuals and children<sup>8,9,12,13</sup>.

The strength of a qualitative evaluation of pharmacy students' volunteering experiences with kindness-fostering activities provided a comprehensive, in-depth, and relevant understanding of the topic. This research can inform educational practices, policy decisions, and future studies, contributing to enhancing empathy, kindness, and compassion in pharmacy education curricula. The study had several limitations: it included only first-year pharmacy students from one institute, limiting generalization to other students or colleges in the UAE. Participation was voluntary, leading to potential bias. Socially acceptable responses may have influenced the interviews with faculty members. Interpretation bias was unavoidable. However, despite these limitations, the study provided a deeper understanding of BPharm students' views on volunteering through open-ended questions. Volunteering, which didn't involve direct patient care, allowed students to

build connections, interact empathetically, and positively impact others' lives.

## CONCLUSION

This study supports the integration of Experiential Learning Theory and Transformative Learning Theory into service-based learning projects to foster emotional growth, empathy, and social responsibility. The kindness fostering project demonstrated that real-world experiences, combined with structured reflection, can lead to transformative learning outcomes. By participating in such projects, students not only gain academic knowledge but also develop critical social skills that will contribute to their long-term personal and professional development. The findings suggest that educators should consider incorporating sustained, reflective service-learning into curricula to maximize student learning and foster deeper community connections. Future research should explore the long-term impact of these initiatives on students' social and emotional growth, as well as their overall well-being.

## AUTHORS' REFLECTIONS

In an era increasingly shaped by artificial intelligence (AI) and automation, the humanistic aspects of healthcare, such as empathy and social responsibility, are more critical than ever, especially for pharmacy students who will play a vital role in patient care. While AI-driven tools enhance pharmaceutical services through data analytics, drug discovery, and personalized medicine, they cannot replace the compassionate, ethical, and interpersonal dimensions of healthcare. The ability to understand patients' emotions, provide comfort, and engage in meaningful conversations remains a uniquely human responsibility. Service-learning initiatives, as explored in this study, cultivate these essential qualities, ensuring that future pharmacists are not only skilled in clinical decision-making but also equipped with the emotional intelligence needed to navigate complex patient interactions. As AI continues to transform healthcare, pharmacy education must maintain a strong emphasis on experiential learning that fosters empathy, ethical reasoning, and social commitment, safeguarding the irreplaceable human touch in patient-centred care.

## AUTHOR CONTRIBUTIONS

Project Conceptualization: SS; SB, FH Methodology: SB, SSN, AS; Formal analysis: SB, SSN; Data curation: SB, SS, FH; Writing—original draft preparation: SB, SS, AS; Writing—review and editing: AA, SSN; Visualization: SB; FH Supervision: AS, SS

## CONFLICTS OF INTEREST

The author reports no conflicts of interest.



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