A qualitative exploration of the impact of the COVID-19 pandemic on personal and professional identity formation in early-stage medical students

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Abstract

Introduction: Professionalism and professional identity formation (PIF) require a range of experiences and opportunities to develop: active in-person learning, role-modelling and authentic clinical experience. The COVID-19 pandemic disrupted these. This study explores the pandemic's effect on identity formation for early-stage medical students after a disrupted initial year. Existing literature provides some empirical data; our focus was on students who were not yet on clinical placement and on student-derived solutions. Our aim was to identify deficits, experiences that supported development of PIF and how to address disruption.

Methods: Medical student experiences were explored through in-person focus groups, using hermeneutic phenomenology and identity formation as the frameworks. Data were transcribed and analysed using inductive thematic analysis.

Results: Findings intersected well with personal and professional identity formation theories. Students identified that losses of connection, limitations on experiential learning and isolation affected growth. Slippage between stages of personal identity formation was demonstrated in levels of uncertainty, discussions of resilience and expectation and personal wellbeing.

Conclusions: Rapid system change maintained some meaningful academic and social interaction, including authentic virtual role modelling. Students identified communication and support as key factors during disruption. Normalising experience and expectations had potential to reduce anxiety and uncertainty. These findings are likely to be true for future disruptions. Careful and deliberate nurturing of affected cohorts is needed to allow catch-up of lost opportunities, along with proactive monitoring

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and support for graduates. These students are completing programs or have entered practice and may have delays or variations in developing their identity values.

Keywords: medical students; social identification; professionalism; COVID-19; qualitative research

Introduction

Professional identity formation (PIF) is influenced by learning experiences, communities and environments (Monrouxe, 2016; Monrouxe & Rees, 2015). COVID-19 turned this on its head with restrictions on social contact. Medical students suffered similar disruption to others for campus-based learning but often had reduced access to clinical workplace learning (Cullum et al., 2020; Rose et al., 2020). In New Zealand, clinical students returned to attachments relatively quickly, but most early-stage students switched to online learning and lost foundational clinical experiences in simulation and workplaces. This early disruption may have had a more profound impact on PIF than it did on more senior students. The current literature favours commentary (Cullum et al., 2020; Rose et al., 2020; Walters et al., 2022), with fewer empirical studies. Those empirical studies published include surveys (Byram et al., 2022; Wurth et al., 2021), written reflections (Findyartini et al., 2020) and interview-based studies. Williams-Yuen et al. (2022) focus on the effect of lost authentic clinical learning on PIF, whilst Henderson et al. (2023) explore early learners through the lenses of catalyst and context. In the current study, we investigated the effect of COVID-19 disruption on early learners' personal and professional identities, explored student-derived solutions and considered the ongoing impacts on identity in practice.

Professional identity formation and Covid-19 disruption

Professionalism and professional development are embedded in contemporary medical curricula (MDANZ, 2021). The formal, informal and hidden curriculum are all recognised as important in professional development (Goldie, 2012; Lingard et al., 2003; Rees & Monrouxe, 2018). Role modelling, active learning and interactions with other students, tutors, patients and health professionals are critical to learning (Cruess et al., 2019; Lingard et al., 2003; Monrouxe, 2016; Monrouxe & Rees, 2015). As students navigate their journey to graduate health professional, their identities develop (Hilton & Slotnick, 2005), which is essential for collaboration, safe practice and wellbeing (MDANZ, 2021; Monrouxe et al., 2017; Olson et al., 2019; Rees & Monrouxe, 2018).

Most medical programs have early simulated and clinical experiences, intensifying to almost full-time authentic clinical experience in later years. The opportunity for development of PIF starts slowly and gains momentum. Despite limited exposure to authentic clinical experience, the first year or two of medical school are instrumental for PIF, offering exposure to guided development and formal curricular elements that raise students' awareness of professionalism and foster their ability to bring personal values, beliefs and concepts to their nascent identity (MDANZ, 2021; Moss et al., 2014).

At the start of the COVID-19 pandemic, the health and education sectors were severely disrupted. As the health sector faced increased demand and risk, clinical training for students was often suspended or reduced to prioritise service provision over teaching. There was an almost universal strategy to focus on senior student progression, with clinical placements in the early years being the first casualties.

Simultaneously, campus-based learning largely shifted offsite and online, with synchronous and asynchronous learning and virtual small groups. Practical active learning was replaced with interactive e-learning, postponed or cancelled (Tolsgaard et al., 2020). Virtual learning adds challenge to PIF development. Students must consider their virtual identity, perhaps already being shaped in social media, separate from their real-life identity. Embodying appropriate values and behaviours online may be more difficult, feel strange or be deliberately subverted (Fenwick, 2014). Cruess et al. (2019) note that "social media can assist and supplement other educational activities; however, it can never replace person-to-person contact with peers, role models, and mentors" (p. 647). In their model, Cruess et al. (2015) include social isolation and the interplay with family and friends as factors that can inhibit or support acculturation into the profession.

COVID-19 impact on education experience and PIF

A flurry of work has appeared since the start of 2020, commentating on and exploring the impact of the pandemic on health professional education. Halperin et al. (2021) identified higher anxiety and depression scores in medical students, especially first-year students, compared with pre-pandemic levels. In another study of COVID-19 impact, by Byram et al. (2022), using reflective writing, three subthemes within their "medical education" theme were identified: adaptability of the curriculum, dissatisfaction with the virtual curriculum and the need for interaction.

Learning through a rapidly changing curriculum caused by restrictions could affect future career choice and has impacted on students' mental health (Ardekani, 2021; Wurth et al., 2021). Medical students have expressed concerns about decreased competency posing a threat to their identity development (Williams-Yuen et al., 2022), however students also developed coping strategies to adapt to the new learning environment, and some redefined their roles in the pandemic (Findyartini et al., 2020). Henderson et al. (2023) specifically interviewed early learners in transition and proposed a widening of the concept of PIF to truly capture the sociopolitical context and influence. Early learners are at a key stage in personal identity formation, as well as navigating PIF, and there was a need to explore identity more broadly and to seek students' ideas and solutions to mitigate the long-term impact.

Aims

We explored students' perspectives to identify where the deficits lay, what experiences had supported the development of personal and professional identities and how disruption to

PIF could be addressed. We conducted a qualitative study at the University of Auckland using focus group methodology to explore these issues.

Research questions

1. What was the impact of the COVID-19 pandemic on the personal and professional identity formation of early-stage medical students?
2. What student-derived solutions are identified to address disruption to PIF?

Methods

Design

We used minimally guided focus group methodology, with a hermeneutic phenomenological approach (Neubauer et al., 2019). We aimed for three to six focus groups with five to eight people each, emerging data being assessed after three groups. All groups were in-person, conducted when the national guidelines allowed this (holding virtual groups was felt to run counter to the issues under investigation). Group conversations were audio-recorded and transcribed.

Setting and participants

The study sample was drawn from medical students who were in Year 2 or 3 of the program in 2020. Year 2 is the first year of the MBChB, with Year 1 being a common health sciences year. Students are selected from this first year or enter as graduates. Year 4–6 students are cohorted, spending a whole year in place at one of eight geographical sites for embedded clinical learning.

Recruitment

Participants were recruited via university email and student social media. Ethics approval was obtained from the University of Auckland Human Participants Ethics Committee (UAHPEC3418).

Data collection

Two facilitators (RG, MY) conducted focus groups in person on campus in March 2021. Each group comprised four or five students and ran for approximately 90 minutes, including introductions and rapport-building; field notes were taken. Participants were offered a *koha* (a gift recognising their participation). The core focus group guide questions are given in Table 1. Students were asked to focus on identity development during 2020/2021.

Table 1

Focus Group Questions

1	Describe your expectations of your own professional development in 2020. What have you learned and how are you different from who you were at the beginning of the year?
2	Can you pinpoint a time in your medical education where you felt a real change in yourself or a pivotal moment in your career as a medical student?
3	Do you feel like you have been introduced to new perspectives in your time as a medical student in 2020?
4	Describe the effect that remote learning and social isolation has had on you this year. What effects do you think this may have on your development as a medical student?
5	Given the disruptions in 2020, can you identify any interventions or strategies that would help you in your ongoing professional development?
6	Given your experience in 2020, can you identify any interventions or strategies that would help you or other medical students (in terms of professional development) in future lockdowns?

A third party transcribed the data. Transcripts were checked and de-identified by the facilitators. Identifiable data were only accessible to these two researchers.

Data analysis

Data were analysed using hermeneutic phenomenology (HP) as the frame and followed an inductive thematic analysis methodology (Braun & Clarke, 2006). HP preferences the "lifeworld" of the individual and the role of past experience, context and situated experience (Neubauer et al., 2019). De-identified focus group transcripts were shared with the whole research team for an initial review and data familiarisation. Transcripts were then coded independently by RG and MY, who had undergone training in the method. Codes were applied line by line. An example of inductive coding is given (Table 2).

Table 2

Inductive Coding Example

Quote From Transcript (P9, FG3)	Initial Codes
The reoccurring theme I found last year was just constantly asking myself how am I going to be a good doctor? Because they teach us all the academic things so that's quite boring. But also … like personal communication skills and like wellbeing and like taking care of your mental health and mindfulness. And so … in my mind, it was like a good doctor should have like perfect mental health and know how to cope with stress. And so, there was also the added aspect of how am I going to be a good doctor if I'm like stressed about this exam, like 3 months in advance, or how am I going to be a good doctor if I'm like, I just can't do anything today.	Becoming a good doctor Doctor must have perfect mental health Pressure and fear of anxiety and stress

After initial coding, codes were compared. Two researchers (AW, FM) then settled discrepancies and formed a final codebook. Re-coding was performed on all the data

using the finalised codebook (RG, MY). Codes were grouped into overarching themes agreed upon by the whole team. A summary of themes, with codes as subheadings, were then disseminated to the wider research group for discussion and confirmation.

Reflexivity statement

The team was deliberately diverse to ensure a range of perspectives and views. Having a current medical student and a student from another program helped authenticate the student view. Staff on the team represent senior roles, student support, discipline leads and an educator. All of the clinicians support students on their professional development journeys. As such, there were broad views from which consensus and understanding of context and lived experience were drawn. Although personal bias is acknowledged, this diversity helped moderate individual interest.

Results

Demographics

Thirteen students participated across three focus groups. Students were all in Year 3 of medical school (Year 2 in 2020). Although recruitment of Year 3 students from 2020 was sought, none responded. Of the 13 participants, six were undergraduate entry; the remaining seven were graduate entry. Five participants were New Zealand European, seven Asian and one Māori. Two participants identified as male, while the remaining 11 identified as female.

Thematic analysis

The analysis was designed to capture the lived experience and meaning making in the data. Four main themes were developed from the final code set (Table 3).

Table 3

Codebook

Theme	Code
Connectivity	Feelings of disconnection Feelings of connectedness Online connectivity
Wellbeing	Resilience builders Resilience drainers Uncertainty Faculty-led opportunities to build resilience
Expectations	High expectations Unmet expectations Need for meaningful individualised support
Personal development	Self-reflection Future directions

Theme 1: Connectivity

Disconnection

Participants reported disconnection and discomfort in academic and social circles, with similar issues found in both groups. Online learning experiences exacerbated feelings of disconnection from learning. Disconnectedness in social spheres extended beyond lockdown into transitions back to campus, where many participants had trouble connecting in person "because it was in lockdown as well, so I didn't know as many people in the year group, so I couldn't like, I couldn't discuss like my feelings about that with other people" (P3, FG1).

Participants' wishes for a stronger sense of belonging and community on campus were highlighted, with many stating that they often felt unable to move beyond the small group of peers they had managed to get to know. Participants observed that social disconnection was a barrier to advocating for themselves through student representatives; advocating for their needs via email and social media was difficult.

For some students, the official university communications (program, faculty or central) further exacerbated the disconnect, because of their timing, volume or impersonal nature:

> I also didn't like how they kept just saying in all the emails I'd open, they'd be like, "We appreciate it's a tough time". Like that was it. Tough—like can you give us something; we're struggling. But like just we know it's a tough time. (P13, FG3)

Connection

A social connection was considered a buffer for managing content. Without this, students became academically overwhelmed. "That [content] was something that got lost for me as I got more and more overwhelmed" (P1, FG1). Many stated that during lockdown, there was nothing to mitigate feeling overloaded.

Formal small-group activities, even though online, were identified as key in keeping them connected to one another and provided both a social and a learning space. "[Small groups], it's like the only social interaction I got like … the only enjoyable social interaction I got during lockdowns" (P2, FG1).

There was relief expressed for the connections made prior to lockdown, at least having had some in-person interactions that could be drawn upon. Some students did not feel as connected when they returned, so they started their own communities and groups to foster social connections and group learning.

Online connectivity

Discussion about online connectivity ranged across all available modalities, official and external: social media, external educational resources and university intranet resources.

Students found varying degrees of benefit that each provided and saw value in accessing a variety.

Participants highlighted the "narrow therapeutic range" of social media, such as TikTok or Instagram, which fostered both connectedness and disconnectedness depending on volume of use: "Also, it's really interesting to see how TikTok—like there's a whole new way of connectivity … it's like really like really fast way of connections between all the people" (P2, FG1). Some acknowledged that too much exposure to social media was detrimental to their wellbeing.

Negotiating transitions into and out of online learning were difficult for students. The often-rapid shifts, and then prolonged uncertainty, compounded this:

> Um … one thing that I've experienced was that the transition from campus to online was really hard for me. … I found it really hard to adapt to changes, so once we came into online, the first few weeks were like really stressful, but then once we kept going and did it online mode, I was getting better and better. (P10, FG3)

Theme 2: Wellbeing

Resilience builders

Participants described looking within themselves to find strategies to cope with the academic pressures in lockdown. Descriptions of resilience by participants mainly came from introspection, such as identifying academic and personal interests, active reflection and gratitude, recognising and working on positive mental health and being autonomous in organising and structuring their day.

Some resilience strategies were external, such as keeping up extracurricular activities, where possible, leaning into family support and seeking reassurance from senior medical students: "Talking to my friends, especially the ones in the years above, um … and like knew where they were at and they're in the same boat as me" (P11, FG3). Maintaining a balanced lifestyle was highlighted as important for all focus groups.

The cultural safety demonstrated by the faculty was identified as being a resilience builder for some students:

> One good thing they did last year was … they were going to put us back into the HAL [human anatomy lab] for the PST [practical skills test] with no *whakanoa* [a Māori spiritual cleansing process] or no like welcome back to this extremely confronting place. So, they did actually have a mini *whakanoa*. (P12, FG3)

For those who had already established some resilience or behaviours that built and supported resilience, they acknowledged that these needed to be continually nourished. Successfully managing or surviving the multiple stresses of the early pandemic gave participants strength and inspiration: "I think I have greater faith in my ability to just cope with stresses" (P9, FG3).

Resilience drainers

Several factors negatively impacted participants' resilience or stress levels. The content and volume of learning were difficult to keep up with, particularly with the transition to online: "It's just we're pelted with, like, the way I thought about it was, like, as … getting pies thrown at your face … every day, and you eat as much as you can, but they're still everywhere" (P1, FG1).

Participants noted the development of unhealthy perfectionism and became anxious about not being competent in the future: "The recurring theme I found last year was just constantly asking myself, 'How am I going to be a good doctor?'" (P9, FG3). They attributed these changes to missed in-person learning, a fear of being overwhelmed and feeling left behind compared to previous cohorts: "Like I don't actually know how to use a stethoscope at all" (P5, FG2).

There were marked feelings of pressure to do well, which were usually self-imposed. "Impostor syndrome" (P3, FG1) was mentioned often, with the experience of the pandemic exaggerating this:

> It was so hard that I was like, I don't think, like even though I passed to get into med school, I don't think I should be here—this is so hard for me, and it shouldn't be this hard. (P7, FG2)

Frustration and stress were experienced around the uncertainty and changeableness of online learning and assessments, with students perceiving an unclear online learning structure and communications about exams and transitions into/out of lockdown.

There were logistical uncertainties around accessing academic and mental health support and help, with there being only so much they could do themselves: "And like no amount of mindfulness will pull me out of this" (P10, FG3).

This reduced resilience due to overwhelming stress was perceived by some participants as negatively influencing their performance: "And it kind of affected my grades, too, because I felt like my grades … dropped a bit because I didn't have that … diversity of my life—just something I really need in my life sometimes" (P2, FG1).

Uncertainty

There was uncertainty about the impact of the pandemic day to day and on current and future learning. The return to in-person learning and reassurance from staff went some way to alleviating some of this: "It's like, oh, I can walk into a situation without knowing everything and still be okay" (P4, FG1).

Where there was uncertainty, there tended to be discomfort. Some students were very uncomfortable with the uncertainty associated with clinical medicine, mainly because they were already concerned about lost experience and falling behind: "So, I realise this

year, I'm really uncomfortable with any kind of examination on a person" (P9, FG3). Some students picked up the message that they needed to embrace uncertainty:

> I was a part of a MAPAS [Māori and Pacific admission scheme] presentation to … the parents, family members of MAPAS students, and there was somebody [who] came along and was just like, … like, all the stuff's happening with uncertainty and all these things, and … it sucks, but you're going to be in a profession that deals with uncertainty so get okay with as much of the stuff that's happening now. (P4, FG1)

Faculty-led opportunities to build resilience

Participants hoped that they would have the opportunity to share what they had discovered over an interrupted year. They acknowledged what was already being learnt in the personal and professional domain but saw opportunities to develop values and grow in those areas. They also hoped for easier access to counselling, support and advice on how to handle appropriate or healthy amounts of stress and some clinical environment preparation.

Students had some practical suggestions that would have reduced stress. At the start or end of a lockdown, a "cool-off" period may have been helpful to make appropriate arrangements before the shift to online or in-person learning, for example, time to travel if out of town.

Theme 3: Expectations

High expectations

Participants had high expectations of themselves, doctors and the program/faculty. Expectations exceeded their perceived current level of competence. Students held unrealistic, idealised views of doctors, who they assumed remembered details, studied rigorously, stayed productive (even through lockdowns), were well-rounded, had perfect mental health and did not struggle with their personal life or academic study.

For some, expectations were moderated throughout the year, becoming appropriately lowered. The need for reassurance and catch-up learning was discussed in all focus groups. Reassurance, from one-on-one interactions with faculty and senior students, reconciled expectations and reduced anxiety.

Many had high expectations, sometimes acknowledged as unrealistic, that the university would deliver a "premium" experience for them, both academically and socially. They also saw the program as having high expectations of students to adapt to "the new normal". However, there was little indication that students saw their various high expectations of others as unrealistic or nuanced, including a lack of acknowledgement that everyone else was living through the same transitions.

Unmet expectations

Students had been looking forward to starting the medical program, the culmination of many years of work. The COVID-19 pandemic tarnished their expectation and led to disappointment: "Obviously, it was not how I pictured it" (P1, FG1).

There was a feeling that their hoped-for experience had been stolen from them, that they were not getting "value for money", that they needed someone to blame and that they were concerned about having appropriate opportunities to catch up: "I would like … [there to be] … extra sessions where we could go in and just [say] I don't know how to do this and they just have … people that can … show us" (P8, FG2).

Need for meaningful individualised support

Participants expressed a wish to be listened to and explained that the uncertainty and distress would have been reduced with better advocacy, building wider connections with peers and staff, and communication and support from the university that was personally tailored. In some senses, they just needed to express their pain and frustration and know they were heard: "I don't know what the solution is, but there does need to be … an easier way to get the help that you need" (P3, FG1); "Last year, there were many times when we were like, I wish someone could hear all we were going through" (P11, FG3).

Students also wished the university could have been more understanding and accommodating of individual personal circumstances, particularly when students were scattered geographically due to where they chose to spend lockdown:

> I actually needed to afford to fly back to Auckland for those assessments. Or even just like last week, there was one lab we had to come in for. … It's not cheap to drive in, like not everyone lives close. (P6, FG2)

Theme 4: Personal development

Self-reflection

Significant self-reflection marked the focus groups. They identified negative and positive personal and professional traits and how to optimise or overcome them. They recognised their resilience builders and resilience drainers (as above) and started looking to the future.

They identified their personal development through the pandemic and how previous experiences have influenced their handling of the lockdowns. It has given some students a better perspective on what is important:

> I think I've started to … not take things for granted anymore. I actually value the things that I have at the moment, like going to campus. It may sound really simple, but at that time when we were online, I really missed it. (P10, FG3)

Some students felt they were better equipped post-lockdown to prioritise before the pressures of medicine took over their energy. Others felt the complete opposite. Their resilience had been drained. They felt socially awkward. After experiencing failures during lockdown (not achieving goals, poor grades), they accepted a lower bar for themselves:

> I don't think I came out of it like stronger or like better and like that kind of sense of like dealing with people in anxiety and stuff. … I don't think I really got better at dealing with afterwards. I don't think I'm more, probably less confident in my ability to like deal with those situations now. (P13, FG3)

Although students could recognise the trajectory of their emotional state over the year, it was often still a work in progress. Where students felt disheartened, there was less active reflection and more lingering on the reasons for feeling discouraged and a tendency to lay the blame externally.

Future directions

Students were able to articulate some of their positive personal learning, which prioritised their needs and allowed them to approach situations with optimism, be self-reliant, support themselves and stay connected and grounded:

> Take it easy on yourself and probably don't make med school your first priority. Like that's what I've heard. … Like don't spend all your time doing this—do other things with your time, like focus on other parts of your life and like doing that more seriously now. (P2, FG1)

Importantly, there was hope for the future: "I'm really hopeful, and I think fourth, fifth and sixth year will be different" (P7, FG2).

Discussion

Early-stage medical students reflected on their identity development following a disrupted first year of the pandemic. They focused on what this meant during that year, currently and for the future. Four themes were identified: connectivity, wellbeing, expectations and personal development. Within connectivity, experiences of isolation and minimal active/interactive learning are aspects that might negatively impact PIF. Aspects of wellbeing and resilience emerged as being particularly important. High and unmet expectations were part of students' lived experience but not directly related to PIF. However, grappling with loss of control and desire for "meaningful individualised support" does relate to a lack of perceived autonomy, belonging and role modelling. The students were aware of the pandemic affecting their identity formation. Students describe individual actions taken and future experiences that might help them get back, and stay, on track.

This second study aim, solutions, arose subtly through the data. Faculty actively managing expectations and deliberately highlighting the bigger picture likely assisted

students to move from anxious and frustrated to accepting the realities of uncertainty. In a setting that was largely impersonal, online small groups and rarer in-person sessions were highly valued. The importance of these precious meetings, as rare opportunities for students to connect, calibrate and reflect, is a lesson for educators. Helpful coping strategies, such as validation with peers, were highlighted, with catastrophising in isolation being the converse.

Connection, interaction and community

It is challenging to develop a profession's characteristics, values and norms (Cruess et al. 2014) when you are in your pyjamas, on Zoom, unable to meaningfully connect with peers or tutors. Participants' feelings of disconnection, frustration and little active in-person learning were emphasised in our data. Remote learning significantly impacted the ability to develop communities of practice and removed some of the social nature of learning (Cruess et al. 2018).

Students expressed their perception that the value and meaning of learning was reduced, adding to their feeling of being overwhelmed. Students saw social connections as a core component of flourishing, with those who had managed to create networks before lockdown feeling more connected. Connectedness is vital because connection and a "sense of belonging" are factors that prevent drop-out from medical school (Dyrbye et al., 2010) and assist transitioning from lay to professional identities (Moir et al., 2024). Findyartini et al. (2020) also noted the discomfort students felt around connection and highlighted the value of strategies to address this.

Communication was discussed, and it appears complex to get right—too little makes students feel abandoned, and too much is overwhelming, so the right quality, quantity and mode of communication is a priority. Wise communication around rapid transitions was considered particularly important, albeit with a known tension between the need to act and message validity—"the truth" changed quickly.

Wellbeing, uncertainty and identity

Barriers, enablers and opportunities to develop resilience amid uncertainty were expressed. Parallel with other studies, our students recognised the challenge of uncertainty and the value of resilience as an element of identity formation (Maile et al., 2019; Stetson et al., 2020; Wald, 2015). Under normal circumstances, this would have been modelled by near peers and staff, but positive modelling opportunities were reduced during the pandemic. Our program has an established wellbeing curriculum (Moir et al., 2023), which students appreciated, although they had to attempt to apply strategies in the maelstrom of change.

Students' emotional health impacts their academic performance and vice versa (Dyrbye et al., 2005). The pandemic contributed to a deterioration in students' psychological health (Henderson et al., 2023; Mittal et al., 2021), which is echoed in our findings. In

our setting, there was already a downward trend in mental health (Moir et al., 2023). Contemporary data suggest that the pandemic has likely made this worse. Emotional health, along with a sense of belonging, connection and self, affect an individual's ability to make progress in PIF. Students feared the loss of skills development and clinical experience that might impact their competence, which was commonly identified in the literature (Cullum, 2020; Findyartini et al., 2020; Williams-Yuen, 2022).

Managing expectations and conditions for personal development

Some students demonstrated responsibility, ownership and agency, but more commonly, they lacked control over actions and consequences. A recurring theme was a need to direct anger at a person or institution, an identifiable culprit who must be "to blame". Emphasis was placed on what was taken away and fairness rather than on seeing the pandemic as an external event affecting everyone. This viewpoint may reflect their life stage. Arnett (2007) proposes five features in emerging adulthood: identity explorations, instability, the self-focused age, feeling in-between and the age of possibilities. The student data reflected this, with their discussion swinging between the early instability phase and a sense of being in-between. Erikson's (1968) and Marcia's (2002) theories of personal identity formation still have credence and are also age–stage related. New medical students are at a junctional stage, and the impact of COVID-19 appears to have added to the turmoil. Where they should have been moving into the moratorium phase (a time to pause and explore), they were thrust back into identity diffusion/confusion. The lack of socialisation, exposure to a normal environment and loss of role models were likely contributors. In contrast, Findyartini et al. (2020) identified students as being at different, but appropriate, stages of Kegan's model of identity formation. One explanation for this difference may be the different modes of data collection, written versus interviews.

Perfectionism was frequently raised, which is relevant to PIF as students navigate self-awareness, responsibility and a realistic perspective. No immediate comparator in the form of near peers or staff may have made this pragmatic shift harder. Perfectionism is known to impact mental health negatively, including suicidal ideation (Eley et al., 2020; Smith et al., 2017). Students' idealised view of doctors may have been amplified in the pandemic; a finding consistent with Williams-Yuen et al.'s (2022) study, where students saw doctors as "heroes". Henderson et al. (2023) found a tension between "valorisation" of doctors and media's negative rhetoric and influence. This could reflect differences between experiences in the United States and our setting.

Limitations and strengths

Our single-site study findings may be transferable to other settings. The experience of these students is likely akin to those elsewhere, feeling isolated and frustrated amidst pandemic uncertainty whilst growing both personally and professionally. We have provided student demographics and a description of our program to help others make a comparison. Our student sample was still in the foundation phase of training post

pandemic. This helped them to compare their experiences over these two periods and can be considered a strength.

All students in Years 2 and 3 were invited to participate. It is possible that respondents had a particular interest in identity development or had experiences that they wished to talk about. There was a higher proportion of female students than the norm for the year groups, but qualitative research does not necessarily have to be representative.

Some of the findings may also be true for times of business as usual. We know that the workload in health professional programs is high, that anxiety and other mental health issues have become more prevalent and that no system is perfect. However, we specifically asked students to reflect on the impact of the pandemic disruption and reported findings that arose from this context. Although our participants were medical students, it is likely that similar experiences and effects were seen in other student groups, especially other health professional students.

A limitation of qualitative analysis is that it is open to subjective biases and interpretation, even when rigour is applied. As noted, the diversity of the team helps temper this effect.

Conclusions

Our findings align with theories of personal and professional identity formation, namely a lack of connection, loss of experiential learning and isolation, which stifled professional growth. They also displayed slippage between personal identity formation stages, reflected in uncertainty, resilience, expectations and wellbeing. Our findings align with other literature (Rose, 2020; Walters, 2022), including the need to construct authentic alternative ways to nurture academic and social interaction and provide positive virtual role modelling. Wise, timely communication is required, and normalising of experience and expectations may reduce anxiety and uncertainty. Students wanted their experiences to be acknowledged and supported, including structures that allow them to develop resilience. These lessons also apply to post-pandemic, business-as-usual and future disruptions.

Careful and deliberate nurturing of affected cohorts is needed to allow catch up of lost opportunities. Students may harbour residual uncertainty about competence allied with inflated views of the ideal doctor. This should be addressed as students but may need ongoing support as they move into the workforce. Some may have been able to "catch up" their identity trajectory, but some may still be struggling. Supervisors, peers and colleagues must be aware of this and nurture ongoing identity development. Future research could explore mechanisms and activities to redress the interruption of identity in practice.

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