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Title

***“Learning by osmosis”*: the transformative social identity journey of physiotherapists developing psychologically-informed practice, a Reflexive Thematic Analysis.**

Authors

Camille Leteurtre † , Dr Chris Cocking *, Dr David Novelli †

† *Guy’s and St Thomas’ NHS Foundation Trust, London, UK*

* *University of Brighton, Brighton, UK*

Correspondance

Camille Leteurtre

camille.leteurtre@gstt.nhs.uk

INPUT Pain Management,

Gassiot House, Ground Floor,

St Thomas’ Hospital

Westminster Bridge Road,

London,

SE1 7EH

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Abstract

Background:

Despite efforts to support physiotherapists in integrating psychosocial aspects of care to biological ones, clinical practice remains dominated by biomechanistic priorities. To facilitate change, attention and actions need to consider not only the individual level of the therapists but also the cultural and structural levels of the profession. How these multi-layered social dynamics shape practice have not previously been investigated. The Social Identity Approach (SIA) provides a relevant framework to this exploration.

Aim:

This study aimed to identify the social identity processes involved in the development of psychologically-informed physiotherapy (PIP) to understand how they may influence practice change.

Methods:

Nine semi-structured interviews were conducted with self-identified psychologically-informed physiotherapists. A Reflexive Thematic Analysis informed by SIA principles, enabled to consider meaning as the product of social processes.

Findings:

The analysis of participants' experiences in moving from a primarily biomechanistic practice towards the integration of psychosocial aspects of health demonstrated: (1) a transformative "mind-blowing" identity journey (2) a journey that is not made in isolation; where (3) leadership matters.

Conclusion:

Changes in clinical practice involve dynamics at the collective level of the practice environment and of the physiotherapy profession itself, rather than solely at the individual level of clinicians. An understanding of these complex social processes at a managerial level could be important to better support leaders and clinicians in implementing PIP in clinical practice.

Introduction

Historically, the physiotherapy culture has widely adopted a vision of “*body-as-machine*” (Nicholls and Gibson, 2010, p. 499) and “*movement system*” (Jull and Moore, 2013, p. 447). Attempts to integrate human aspects of care to physiotherapy practice have been reflected in the advocacy for the biopsychosocial (BPS) model (Engel, 1977). Nonetheless, physiotherapy research and initial trainings continue to be dominated by biological concerns (Heaney, Green, Rostron and Walker, 2012; Mescouto et al, 2022; Nicholls, 2017). Similarly, in physiotherapy practice, despite current recommendations to promote and enact a BPS approach to health and care in physiotherapy practice (CSP, 2010; HCPC, 2018) and research (NIHR, 2018), clinicians have demonstrated an unclear or reductionist understanding of the psychosocial determinants of health, particularly exemplified in their approach of medically unexplained symptoms, such as persistent pain (Caneiro, Bunzli and O'Sullivan, 2021; Gardner et al, 2017; Holopainen et al, 2020; Synnott et al, 2015). Nonetheless, a systematic review exploring the knowledge behaviors and beliefs of physiotherapists towards the use of psychological interventions in their practice demonstrated that clinicians adopt positive attitudes towards these skills, however they identified numerous barriers to implement them, including lack of knowledge (Driver, Kean, Oprescu and Lovell, 2017) and lack of confidence (Driver, Lovell and Oprescu, 2021a).

Physiotherapy within a framework that integrates psychological and social factors with biological ones, with the aim to broaden physiotherapists' role from treating to preventing restriction of participation, has been referred to as *psychologically-informed physiotherapy* (PIP) (Main and George, 2011). Mostly described in the context of musculoskeletal pain conditions and persistent pain, PIP is, for some, considered as “*evolutionary*” from the established biomedical skills of therapists by Main and George (2011, p. 820) due to its

additional skills drawn from cognitive-behavioral frameworks – whilst remaining distinct from mental health interventions per se (Ballengee, Zullig and George, 2021; Denny et al, 2020; Main and George, 2011). In the context of the BPS model of health, PIP presents biases and limits especially in regard to wider social factors such as the consideration of political and environmental dynamics influencing someone’s health (Mescouto et al, 2020). Nonetheless, it is a documented example of a shift in the philosophical stance embodied in physiotherapy practice: from positivism towards the acknowledgement of a person’s world view and experiences as unique and multi-dimensionally constructed. It is with this in mind that the term PIP is referred to in the present context of this research.

Supporting clinicians to improve their communication, to develop skills related to cognitive-behavioral therapies as well as self-awareness and reflective practices have been identified as key to the shift towards PIP (Ballengee, Zullig and George, 2021; Main and George, 2011; Simpson et al, 2021). The literature reports on several attempts to train physiotherapists in delivering individualized BPS interventions: Simpson et al. (2021) and Ballengee, Zullig, and George (2021) reviewed some of them in greater details, identifying common components (including didactic content, experiential learning and mentoring) as well as a wide disparity in how these trainings are delivered, highlighting the lack of consensus on how to optimally train clinicians to develop PIP. It is noticeable, however, that most of the trainings have a primary focus on change at the individual level of the clinicians themselves, overlooking the multi-level social dynamics that may prevent the ‘real-world’ implementation of PIP within healthcare systems. These limits have been acknowledged by Simpson et al. (2021) and Ballengee, Zullig, and George (2021). More researchers and professional bodies stressed that guiding such a change in physiotherapy practice does require going beyond individual knowledge acquisition. The view that the professional culture itself needs to be reconsidered

is increasingly discussed (e.g. Main and George, 2011; Mescouto et al, 2020; Nicholls et al, 2016).

This paper suggests that the Social Identity Approach (SIA) is a relevant standpoint to explore the nexus between physiotherapy culture and individuals' practice. The SIA is a well-documented framework for understanding group dynamics and behaviors (Haslam et al, 2017; Haslam, Platow and Reicher, 2011) in terms of social identity processes. It draws upon two core theories: *Social Identity Theory* (Tajfel and Turner, 1979) and *Self-Categorization Theory* (Turner et al, 1987). The SIA literature is vast and includes work in relation to prejudice (e.g. Sunguh, Abbas, Olabode and Xuehe, 2019), resilience (e.g. Cocking, Sherriff, Aranda and Zeeman, 2020), physical and mental health (e.g. Haslam et al, 2017), crowd behavior (e.g. Drury, 2020), organisational psychology and leadership (e.g. Haslam, Platow and Reicher, 2011). The SIA framework has also been relevant in healthcare contexts: in complex and ever-changing multi-professional systems, many studies built on the SIA to foster collaboration and resolve conflicts between silos of practice (e.g. Bochatay et al, 2019; Kreindler, Dowd, Dana Star and Gottschalk, 2012; Thomson, Outram, Gilligan and Levett-Jones, 2015). The SIA has also enabled an understanding of the risks and benefits of stereotyping medical professions (Mavor, Platow and Bizumic, 2017).

In SIA terms, the professional culture – physiotherapy culture in this context - corresponds to *group identity content*. It represents the norms and values that are meaningful to the group in order to affirm and distinct itself from other relevant groups, shaping individuals' social identity (Tajfel and Turner, 1979; Turner et al, 1987). A core principle of the SIA is the situatedness of a social identity strength. The self-categorization theory establishes the processes that influence *when* a person identifies with a certain group (Turner et al, 1987). Self-categorization occurs when the perceived differences between oneself and

others are bigger than the perceived differences between oneself and in-group members and depends on the *accessibility* and perceived *fit*. *Accessibility* refers to the current availability of the group identity in the immediate context. *Fit* refers to the level of *identification strength*, which represents how close to their own values and goals does the individual perceive the group's values. According to the SIA, if group membership is accessible and a fit perceived, then one adopts the in-group identity content and starts to act in a prototypical way, where *prototypicality* corresponds to the embodiment of the group identity content by members of the in-group. As such, approaching identity through the SIA lens enables understanding of it as fluid and dynamic, and subject to contextual factors (re)shaping the salience of one identity or another.

Whilst the SIA has been used to explore interprofessional dynamics, very few studies reported on its applications to intra-professional identity change within healthcare (Hotho, 2008). Burford (2012) outlined that “*what it means to be a doctor is constantly changing in response to policy, changing therapies and multidisciplinary models of care*” (p.149) and Kreindler, Dowd, Dana Star and Gottschalk (2012) viewed the consideration of professional culture as a static identity content as restrictive, missing on intra-professional diversity. They preferred to refer to “*identity content in action*” (p.357), where social identity content is fluid and adaptable, depending on which values are perceived as favorable to the profession in a specific context, time and setting. For example, they highlighted that educational and practice environment (in SIA terms, *context changes*) can either encourage or suppress the expression of patient-centered identity, despite it being a shared value among members of a profession. As such, institutions' values, context and policies shape the content of a profession's identity by having the potential to make salient certain aspects, actioning the process of *identity mobilization*. Kreindler, Dowd, Dana Star and Gottschalk (2012) argued that identity

mobilization and/or context changes are both key elements to drive system transformation and the (re)construction of identities within a given profession.

In the context of physiotherapy, identity construction has, so far, only been explored at undergraduate and early career stages (Davies et al, 2010; Harman et al, 2021; Hayward et al, 2013; Lindquist et al, 2006). It is evident that entering a profession requires a transformation of the self and is a critical point of professional identity development. Nonetheless, the consideration of the physiotherapy identity as a taken-for-granted set of values and knowledge, acquired in the undergraduate training and first years of practice has been criticized: *“professional identity in physiotherapy is more complex than traditionally thought; fluid across time and place, co-constructed within changing communities of practice”* (Hammond, Cross and Moore, 2015, p. 71).

Taken together, these findings show that facilitating changes in physiotherapy practice to integrate psychosocial aspects of health to biological ones, implies considerations not only at the individual level of the clinicians themselves, but also at the collective level - that of the group. These might in turn influence future physiotherapy education interventions.

Embedded in the SIA framework, this study aimed to identify the social identity processes involved in the development of PIP to explore how they may facilitate or hinder practice change.

Materials and methods

Design

This qualitative study was conducted following the Reflexive Thematic Analysis (RTA) process, as described by Braun and Clarke (2006, 2013, 2019).

Participants

A purposive sample of physiotherapists self-identifying as PIP was recruited through two streams: a verbal call at an online professional event facilitated by the Physiotherapy Pain Association and on social media. A Participant Information Sheet defined PIP as a framework that integrates psychological and social factors to biological ones, and it exposed the intention to discuss experiences lived in the development of such practice. Nine physiotherapists (three men and six women) provided informed consent and took part in the research. Attention was given to ensure that participants were practicing in diverse clinical settings: four were working in respective NHS Pain Management services, five in various other settings (e.g. musculoskeletal outpatients service, hospice, private sector, etc.). Apart from one, all had at least ten years of clinical experience as physiotherapists.

Data collection

Individual semi-structured interviews were conducted via Microsoft Teams with the lead author, who had relevant professional experience to facilitate qualitative interviews. In this context, the lead author also self-identifies with PIP and the decision was made to disclose this information in the participant information sheet that physiotherapists had access to prior to giving their consent. This was to reinforce the participants' identification with PIP, in turn facilitating their reflection on this process. Table 1 provides sample questions from a guide used during interviews [*Please, insert Table 1 here*]. Participants were encouraged to talk about their perceptions of identifying as PIP within the physiotherapy landscape and to reflect on their own experiences in developing and implementing PIP skills. Prompts and secondary questions were used to explore specific examples of learning experiences and social dynamics that have shaped their views and practice.

The interviews took place over a three-month period, each lasting from 35 to 50 minutes. They were audio-recorded, transcribed verbatim and data anonymized. Participants

had the opportunity to review and amend their transcript. No requests for modification were made.

Data analysis

The analysis process was embedded in RTA principles (Braun and Clarke, 2013, 2019). Theoretically-driven questions framed within the SIA informed the analysis to specifically consider, for example, how different professional group memberships were defined in contrast to other groups or how group norms and social contexts were described and their influence on practice (Haslam et al, 2017; Haslam, Platow and Reicher, 2011). The first step was to develop familiarity with the material through several readings of the interview scripts. The second one was to generate some initial codes according to what felt relevant to the research question, before regrouping them into subordinate and superordinate themes. Finally, the themes were reviewed as a whole and revised when necessary. [First authors' initials] conducted the analysis, with support from [second and third authors' initials], whom both have extended experience of research in relation to the SIA and social psychology.

Embracing a *fully qualitative* (or *Big Q*) framework (Braun and Clarke, 2019), the subjectivity and fluidity of [first authors' initials] social identity was acknowledged throughout the research journey by the adoption of consistent critical reflexivity (Braun and Clarke, 2013), where the “*idea of reflexivity implies a certain capacity for ‘bending back’ or ‘turning back’ one’s awareness on oneself*” (McLeod, 2011, p. 195). As such, [first authors' initials] engaged consistently in an inner reflective dialogue, considering how her own views and experiences shaped drives and resistances in both data collection and analysis processes. Both the second and third author provided space and time to support this reflexive process.

As argued by Braun and Clarke (2021), in situated, process-based and evolving orientation to coding and knowledge generation, saturation was not considered. Instead, when finalising the coding of the ninth interview, the sample was pragmatically considered in terms

of its diversity, depth of initial coding, scope of the research and expectation of its local context, etc. This was considered sufficient, and so a decision was made to not perform any further data collection.

Ethical considerations

Ethics approval was obtained from the local institution's ethics committee.

Findings

Reflecting the multi-layered complexities of social identity dynamics, three main themes were constructed (1) A transformative 'mind-blowing' journey – subdivided into: 1.1 Social identities, lost and found; and 1.2 A double-edged transformation; (2) A journey not made in isolation – subdivided into: 2.1 Learning by osmosis; and 2.2 Permission to embrace vulnerability; and (3) Leadership matters.

A transformative 'mind-blowing' journey

Social identities, lost and found

The data analysis supported the view that adopting PIP constituted a transformative identity journey, rather than a simple adjunct to an existing array of skills and knowledge. Most participants expressed a significant change in their perception of what *physiotherapy* means, in comparison to when they first qualified, referring to a sense of “*enhancement*” (P8), “*growth*” (P5) and “*enlightenment*” (P7) in their role, evidencing a positive distinction. More striking, developing PIP was intrinsically linked to a redefinition of physiotherapy aims and tools:

P8 - The goal shifted from restoring this person to their previous capacity to restoring them to living as well as they can in the moment.

P4 - Instead of being didactic authoritarian figure 'this will do, this exercise prescribing is what you need to do', you are letting the patient come up with their own ideas as to what might be helpful for them. And you may guide them a little bit, but if it doesn't come from them, there's not going to be any change.

Here, the sense of having a different practice *now* compared to *then* is clearly formulated. Their *now* PIP identity relates to a distinct content in comparison to their *then*-self who practiced within a biomechanical model; where such content encompasses physiotherapy goals, techniques, values, and therapist-patient relationships.

In categorizing themselves as PIP, participants attempted to wave a new definition, often blurred within other professions and shared a loss of their *then* physiotherapy identity:

P1 - I am no longer feeling like a physiotherapist, I am sort of a mix of a part-time psychologist, sometimes a bit of a medic, quite often a health coach, but you know in terms of that sort of background of physiotherapy, which I long since forgotten you know.

P2 - I'm not at all recognizable now, as when [I was] trained as a physiotherapist [...] You feel like, some days, you're not a physiotherapist at all anymore [...] You're sort of an explorer... a someone who is on a journey with someone else.

This quest for distinctiveness was expressed in these contrasting scripts. The PIP identity content involved being an 'empowering guide', in comparison to other physiotherapists that

are seen to be ‘authoritarian figure’. Such stigmatising language towards a vision of physiotherapy that would be based on biomechanical principles was stated as: “*narrow view*” (P9); “*didactic authoritarian figure*” (P4); or “*just giving exercise*” (P6). Although, the degree to which this stigmatisation was expressed varied across the data set.

Noticeably, the sense of distinctiveness seemed to be situated, depending on the local context of practice. For example, P3 who works in clinical settings that she considered as dominated by biomechanical principles, believed this perception was strong, to the point that she felt regarded as different, and even stigmatised, by her physiotherapist colleagues:

P3 - I do think that I'm seeing as different [by my peers at work] [...] I am looked at almost like a patient-whisperer.

For others who said working in a multidisciplinary and psychologically-informed team, the sense of distinctiveness was less obvious:

P9 - I have less of a sense of that because all of the people that I've been working closely with more recently do also have these skills and would be in a similar mindset.

A double-edged transformation

While participants described these changes positively overall, it was clear that such transformation had triggered challenges, conflict and, for some, even distress. A first challenge arises from the concerns about using new psychological skills, such as asking certain open and psychologically-focused questions:

P1 – [Physios] are worried that questions of a psychosocial nature might open a can of worms. And then you're left vulnerable... because I think people worry, perhaps, that they might cause harm if people cry or feel distressed.

Or from the fear of doing something different than what they were initially taught:

P9 - Being able to sit there and not be scared and not trying to fix it, not trying and pretend.

A second challenge arises from the fear of moving towards a new and less well-defined identity, leaving behind a sense of belonging to an established professional group. Some described this process as a deeply emotional transition, synonymous with having to completely reinvent their sense of self:

P4 – [It is like] trying to unscramble some of my unconscious habits or identify them to find out if they were helpful or they weren't. That takes guts and courage [...] It just rips up the rulebook of what I thought I was doing.

P3 - I realized that for myself, I didn't know who I was anymore and being all things to all people [...] I kind of lost myself and thought 'I don't even know who I am anymore'.

Overall, within the physiotherapy profession, the process of developing a psychologically-informed practice was resumed as a transformative shift of identity content: from an 'authoritarian figure' to an empowering guide, inevitably associated with challenges and potential distress.

A journey not made in isolation

From the data, it stood out that such a transformative identity journey was either fostered or inhibited by the local social context, as shown in this paragraph.

Learning by osmosis

Working alongside colleagues perceived as having themselves adopted psychologically-informed approaches to care was considered as hugely influential in the learning of PIP skills, including communication, self-awareness and reflective practice. Noticeably, many participants shared that such peer influence was not restricted to formal managerial supervision. Instead, the more subtle daily interactions (through observations, sittings together in a shared office space, receiving informal feedback, listening and attending the same meetings, etc.) were experienced as the most powerful:

P5 - I have learned a lot from more formal teaching, but I do think that... yeah, the kind of culture and informal learning and team working and collaboration have really kind of brought me to where I am.

P1 - What I've learned is by osmosis. From picking things up and learning from other people.

For some participants, those influences came from being in contact with a wider multidisciplinary group of “*like-minded people*” (P5), outlining that the sense of shared values seemed more important than professional silos in the process of self-categorisation.

P7 - It's not just physios who I feel inspired by. So I like working with the multidisciplinary team and like... you know, occupational therapists and psychologists and other psychologically-informed practitioners. I've learned a lot from them, and they've had a massive impact on me.

Being given permission to embrace vulnerability

As earlier data extracts demonstrated, transforming one's identity from the *then* biomechanically-trained physiotherapist towards PIP was often experienced as challenging. Several participants named the value of accessing safe spaces to acknowledge their sense of fear and vulnerability in moving away from the 'authoritarian' figure:

P5 – [Improving PIP skills depends on] our own barriers and our own willingness to reflect on difficulty and to notice our own kind of 'weaknesses'... I think there's something about a personal willingness to do that, and the safety within the culture of the team and the environment to do that, and to feel that it will be kind of respected... and worked with in order to grow.

Such nurturing spaces, where vulnerability is not stigmatised but normalised, enabled clinicians to feel supported and to support each other in their day-to-day experiences and challenges associated to PIP. Such environments enabled them to go beyond theoretical knowledge about the BPS model of health and enact the PIP principles in trying out new skills:

P6 - It's just kind of giving me permission to actually ask people how they were feeling. I didn't feel allowed to talk about it.

P7 considered how it would feel to be in a space where the local culture would invalidate his practice of PIP skills, highlighting the risk to move away from his personal values in order to better fit in the in-group:

P7 - [In some services] I feel like I probably wouldn't fit in and then that would probably make me more withdrawn and then less likely to even try and be more confident in the skills that I have.

By this, he illustrated that the professional culture and stereotypes within local context strongly shape clinicians' practice, in spite of their individual knowledge and values.

Leadership matters

This final theme exposes the identified responsibility of local leaders in shaping the social spaces facilitating such transformation at a collective level.

Many participants reflected that the lack of safe spaces to embrace vulnerability in practice and to reflect on experiences inhibit physiotherapists' attempts to enact PIP principles:

P1 – Depending on where the physios work, they may not feel that they can make themselves vulnerable.

P9 – If you try and implement [PIP] and you feel it's not being successful... and that happened on more than one occasion, without having a space to explore that and someone to support you I think you're not gonna carry on doing it. So that's probably individual, but also organisational, because if people aren't given the non-clinical time to discuss, [PIP] won't happen.

This culture appeared to be shaped by several factors. Firstly, senior staff and managers, occupying positions of visibility and power in the hierarchical system of a clinical department were perceived as having a strong influence on other staff members:

P7 - Sometimes there can be a bit of opposition [to PIP] from others around. So people who are early career might be impacted by that kind of group mentality.

Secondly, all the participants acknowledged that healthcare institutions are under increasing systemic stress, shaping the organisations' priorities. In turn, it affects the time allocated for individual and collective professional development, the design and teaching style of in-service trainings and the value given to learning spaces.

P6 - Organisations having a range of pressures and kind of... demands that they need to meet, and I think sometimes the biopsychosocial model can become this thing that they aspire to doing. But actually because of the length of appointments or the regularity which [physiotherapists] have peer support, they're actually not really levelling up to it.

Finally, the culture of supervision seemed to echo the leadership style. Although not purposely, some participants draw a parallel in the transformation of their style of supervision and reflection and their identity change, from 'authoritarian' to 'empowering'. The former style of supervision adopted a top-down and positivist approach to knowledge transmission, the latter provided opportunity for reflection and co-learning:

P5 - Supervision for me prior to working in more of a pain management setting, was much more about problem solving [...] rather than a more kind of reflective model.

P3 - The supervision was a senior telling me what they wanted to do. [...] Reflective practice in my days wasn't something that we talked about. We didn't 'waste our time' reflecting because we were doing, you know, that was what we told ourselves.

In this last quote a sense of positive distinctiveness through supervision style is clearly formulated, positioning reflective practice as a core and distinctive feature of PIP. This was also apparent in the difference between participants who said working in non-PIP settings (e.g. P3) versus the ones where PIP was perceived as embedded by most staff in their environment (e.g. P1):

P3 - I am trying to implement [reflective practice] in my workplace. But there's a lot of resistance to the idea.

P1- The culture of the service was one where supervision and reflecting on things was absolutely core. It wasn't a sort of nice add on that might or might not happen at the end of the clinic. It was seen as an essential part of what we did.

Importantly, it was acknowledged that facilitating such a transformative learning style of supervision, through reflective practice, requires specific educational skills:

P5 - I think that there is a skill in supporting people to notice the detail of an experience and to notice the interactions and notice kind of the relational challenges maybe in a

conversation, and I think if someone find themselves in an environment where those skills aren't present from someone, it can be quite hard on your own to develop that kind of skill in reflection and in noticing.

From the participants' account, leadership matters in modelling time, space, educational and learning styles, all identified as decisive of the social dynamics that will either support or inhibit attempts to develop PIP.

Discussion

Through the analysis, multi-layered social dynamics shaping physiotherapy practice were evidenced. The SIA provided a framework to identify the social identity processes that either hinder or enable individual and collective change of practice. The following paragraph is a theoretical account of the findings.

Transforming practice, a self-categorization process

The process of self-categorization was made apparent in the participants' attempts at making a distinction between two sub-groups of physiotherapists: 'PIP' and 'non-PIP'. This comparison may have enabled them to express a PIP identity that may have otherwise been loosely defined (e.g. Ballengee, Zulig and George, 2021; Denny et al, 2020; Keefe, Main and George, 2018; Main and George, 2011; Mescouto et al, 2020). Indeed, the lack of role clarity was perceived as a barrier to implement psychological interventions in physiotherapy (Driver, Kean, Oprescu and Lovell, 2017).

Defining oneself in terms of group memberships, rather than a unique individual identity is core to the social identity theory (Tajfel and Turner, 1979). In wider groups of high status, such as healthcare professions, a trend towards the construction of smaller salient sub-groups

is common to help achieve optimum group distinctiveness (Slater, Evans and Turner, 2016). While stereotyping and stigmatisation of the out-groups were undeniably present in some of the data and could be further explored, it was not consistently the case, and it was not felt relevant to the purpose and scope of this research. Instead, attention deserved to be directed to the strength of the distinction which seemed to be contextual, depending on the social environment the physiotherapists found themselves within (e.g. whether the PIP identity was made salient in comparison to another group membership - which was less the case in environments where PIP was perceived as shared amongst colleagues, rather than in other contexts where it might have been perceived as an exception).

Self-categorizing as PIP was not deprived of emotional responses. It was striking that the participants expressed a degree of fear in this process. For some, the fear was related to the use of new tools, such as psychologically-oriented questioning or silences and the urges to act according to known norms. Physiotherapists have reported not feeling confident when applying psychologically-informed skills (Gardner et al, 2017; Synnott et al, 2015). Linton, Vlaeyen and Ostelo (2002) suspected that the physiotherapy profession is fear-avoidant when confronted to psychosocial-related issues and conversations. They hypothesised that such avoidance echoed a defence mechanism of their professional identity content, echoing Hotho's (2008) observations: "*professions appear as unitary blocs concerned with self-defence of a status quo rather than rejuvenation*" (p.723). They added that "*efforts to preserve the profession take place at its boundaries*" (p.723), acknowledging the malleability of such boundaries.

The idea of the profession's boundaries appeared in both our data as well as in Synnott et al. (2015), Gardner et al. (2017) and Dillon et al. (2023). PIP seems to commonly be perceived as out of the physiotherapy scope of practice or described as being at its edge (also illustrated by Main and George (2011, p. 822), where PIP is pictured between - but distinct from - "*standard practice*" and "*mental health practice*"). It is therefore unsurprising that the

fear disclosed by some participants was verbalised in relation to the move towards a new identity, which meant moving away from the established social group they had belonged to since their graduation. Socialisation into communities provides a sense of belonging, stability, and worth (Haslam et al, 2017) and professional groups are particularly influential of individual's integrity (Hotho, 2008). Dillon et al. (2023) detailed further: "*there is a status attributed to a physiotherapist's socio-cultural identity, moving beyond its routines can elicit shame, fear of punitive repercussions and prompt a visceral, emotional response as it is different from professional and institutional normative expectations*" (p.12).

Thus, moving towards PIP appeared as a double-edged journey: on one side, an opportunity for a sense of "growth" (e.g. P5), on the other, a risk to "lose oneself" (e.g. P3). Reflecting Hotho's (2008) statement: "*change per se, potentially, contains both opportunity for and threats to an individual's sense of social identity*" (p.729). Which may explain why, in Mescouto et al. (2022) clinicians are shown to "*both reproduce and resist biomedical dominance*" (p.902).

Social identity dynamics fostering psychologically-informed practice

Self-identifying as PIP was not a transformation made in isolation. The creation of a *superordinate identity*, incorporating clinicians from various professions perceived as sharing similar values of psychologically-informed care, facilitated the enactment of norms otherwise perceived as at the edge or out of their scope of practice (e.g. Synnott et al, 2015). Blurring some of the profession's boundaries may have allowed the reappraisal of their social identity and the exploration for change. Slater, Evans and Turner (2016) identified that making salient a *superordinate identity* encourages resilience in the face of an organisational change that otherwise may feel threatening, and Kreindler, Dowd, Dana Star and Gottschalk (2012) argued it improved the functioning of multi-disciplinary healthcare systems. In accessing social spaces

within which psychologically-informed approaches are normalised was felt as being ‘*given the permission*’ (e.g. P6) to enact PIP principles. In turn, further social identity processes took place. Firstly, participants reported a sense of *social support*, which can create or reinforce shared identity (Gleibs, Haslam, Haslam and Jones, 2011; Postmes, Haslam and Swaab, 2005). Secondly, in *accessing* this group identity, learning opportunities arose in the observation of in-group members (e.g. verbal and non-verbal communication style, reflective style, behaviors) as well as in informal conversations, shared reflections and supervision. In SIA terms, these experiences are occasions for *social reality testing* - the process of turning thoughts and beliefs into social facts and actions (e.g. what PIP principles actually look like in practice), *giving direction* to the newly *mobilized* identity (Haslam, Platow and Reicher et al, 2011). These findings support the recommendations to engage in reflective practices to develop and sustain PIP skills: in Simpson et al.’s (2021) scoping review of physiotherapy trainings to deliver BPS-based approaches in the context of musculoskeletal pain, the most sophisticated designs offered regular supervision and feedback after the training to ensure that the learning was maintained, and the therapist drift avoided. Another study, by Godfrey et al. (2020) reported on a training protocol for physiotherapists to deliver treatment informed by Acceptance and Commitment Therapy (ACT) - a model of cognitive-behavioural therapy, to people with chronic low back pain. On a follow-up longitudinal qualitative study, Galea Holmes et al. (2021) emphasized that these same physiotherapists identified the ongoing supervision as the main bridge between theory and practice.

As for all Health and Care Professions Council (HCPC) registered professions, reflective practice is part of physiotherapy standards (CSP, 2010; HCPC, 2018). Reflection, a tool for transformative learning, engages the learner in the interrogation of their reality and in the integration of knowledge into practice (Gidman, Whitehead and McIntosh, 2011; Mezirow, 1991). In the NHS, management and supervision are based on the banding hierarchical system,

mostly adopting a top-down of knowledge transmission. Learning and teaching styles can be important features of identity content (Mavor, Platow and Bizumic, 2017) and reflective practice based on a psychological model has frequently been described as core to the PIP identity (Denney et al, 2020; Galea Holmes et al, 2021; Keefe, Main and George et al, 2018; Main and George, 2011). While diverse supervision styles in physiotherapy practice had not been evidenced previously, here, it was perceived as an element of significant distinction between the PIP identity and its out-groups. Burford and Rosenthal-Scott (2017) had previously suggested that “*further research could explore whether transformative learning has an effect on professional social identities*” (p.290). This study’s findings do not enable to clearly establish the effects of transformative learning on social identities, although it is worth considering which supervision style in clinical educational settings may facilitate social identity changes. For example, Postmes, Haslam and Swaab (2005) argued that when individuals are in a position to safely share their observations with each other and negotiate over different understandings of their realities and receive social validation, a process of constructing and redefining identity emerges. In other words, a bottom-up process of identity formation may occur even in the absence of intergroup comparison. While these findings came from the study of small group, they may be relevant to the context of a clinical department. It supports that both formal and informal social learning spaces inviting to reflect on one’s experiences may enable the creation of shared identity and facilitate self-categorization as PIP.

Importantly however, the SIA defines that self-categorization processes are determined by people’s *social histories*: their expectations, goals and theories deriving from previous group memberships and encounters (Haslam, Platow and Reicher, 2011). Making the PIP identity *accessible* and providing spaces for *social reality testing* and *social support* would not be enough for physiotherapists to self-categorize as PIP. In theory, it would also depend on the perceiver’s *readiness* to use such social categories to define themselves (Haslam, Platow and

Reicher, 2011). As mentioned previously, PIP has been considered as irrelevant by some physiotherapists (e.g. Synnott et al, 2015) and here, some participants perceived a resistance from ‘non-PIP’ to adopt skills based on a BPS model of care. For this reason, authors have called for further physiotherapy education about psychosocial determinants of health, especially in the context of persistent pain management (Foster et al, 2018). It is noticeable that in Denny et al. (2020) for example, all the participants reported attendance to at least one training in relation to psychologically-informed approaches and, here, the participants also outlined the value of undertaking a Master’s degree or attending Continuing Professional Development in relation to PIP in their own transformative journey. In Driver, Lovell and Oprescu’s study (2021b), physiotherapists have expressed their desire for further trainings in assessment and management of psychosocial issues, and on their appropriate application. Whilst one-off trainings have inconsistently evaluated their impacts on clinicians’ competencies and may not foster sustainable practice changes in the absence of on-going supervision and appropriate contextual dynamics (Simpson et al, 2021), they are nonetheless essential to shape physiotherapists’ *social histories* and facilitate the process of *readiness* to adopt a PIP identity.

Leaders as entrepreneurs of identity

Taken together, these findings outlined that the people in position to shape and influence the accessibility to such spaces have a crucial role in facilitating identity processes. Participants identified that senior staff and service managers held *prototypical* positions: their choices and behaviors determine how space, time and training are used and valued, shaping the norms, hence the identity content of the physiotherapists in their local context. Social identity processes can lead a collection of people into a coherent force that aims at fulfilling the roles, expectations and goals of the group. It also has the potential to guide social transformation (Haslam, Platow and Reicher, 2011). As such, leaders have the potential to mobilise a group

identity to either resist or achieve changes (Kreindler, Dowd, Dana Star and Gottschalk, 2012; Slater, Evans and Turner, 2016). Nonetheless, a prerequisite to such identity mobilisation is for leaders to *craft a sense of us* (Haslam, Platow and Reicher, 2011). The SIA framework and these present findings invite physiotherapists in *prototypical* positions to be aware of these social identity processes and how they influence clinical practice within their local context. They may require additional support to develop the appropriate skills and indeed become *entrepreneurs of identity* (Haslam, Platow and Reicher, 2011).

Limitations

Firstly, it is noticeable that both PIP and the BPS model of care has been criticized for their lack of clarity in how it is applied and for their reductionism in regard to the socio-political and environmental factors that shape one's health (Daluiso-King and Hebron, 2022, Mescouto et al, 2020) leading academics and clinicians to think beyond this model (e.g. Coninx and Stilwell, 2021; Nicholls et al, 2016; Setchell, Nicholls and Gibson, 2018). Nonetheless, PIP is a term that has been used in the literature and could be referred to in this study (Denneny et al, 2020; Godfrey et al, 2020; Main and George, 2011). In the recruitment process, the physiotherapists' PIP social identity was made salient by its explicit mention within the inclusion criteria. Participants were all individuals who self-identified as PIP, implicitly differentiating themselves from other physiotherapists. Similarly, the strength of identification may have been increased in the micro context of the interview due to the lead author's transparency in self-identifying with PIP. As such, this exploration may have excluded experiences that hindered the development of a PIP identity. Future research could aim at exploring these further.

Moreover, the analysis is based on data from small sample of physiotherapists, mostly working in NHS pain management settings. The NHS is unique in its approach to Continuing

Professional Development and supervision and might differ significantly from other places. For example, in France, reflective practice has only recently entered the standards of the initial professional training (Boisnard, 2015) and is not referred to in the professional code of ethics (ONMK). As such neither self-directed reflection nor supervision might be common practices in this country.

Finally, the outcomes of the study highlight the value of both formal and informal social spaces where support and validation of experiences are core elements of interactions. Such spaces enable reflection, in turn triggering transformative learning. Some participants outlined that the skills to create such spaces and facilitate peers' reflection should not be assumed as naturally part of the clinician's identity. Attention and training may need to be provided accordingly. Indeed, some participants shared their own willingness to be involved in physiotherapy training, to be part of the professional changes. However, it was not considered in this study whether they had developed the skills suggested here, to become entrepreneurs of identity (Haslam, Platow and Reicher, 2011). The value of reflective practice to enhance care quality, in line with patient-centred care principles, could be transferred to the process of enhancing physiotherapy training quality, in line with learner-centred education principles (Cross, 2006).

Implications for practice

This study speaks to the interplay between the individuals and the group by highlighting that (re)shaping physiotherapy to integrate the BPS model of care in practice, is not a transformation made in isolation. While further training needs to continue in preparing physiotherapists' *readiness* for change, facilitating the implementation of PIP in clinical settings requires *identity mobilisation* and *context changes*, as mentioned by Kreindler, Dowd,

Dana Star and Gottschalk (2012). As such, attention needs to be focused on the social dynamics within educational settings, local contexts and the profession as a whole.

This study might provide leaders and educators with meaningful cues to facilitate the integration of PIP skills in practice. First, valuing social spaces where the uncertainties and fears attached to change are validated may facilitate the formation of a shared identity, creating grounds for mutual support. Secondly, ensuring that these spaces provide opportunity for partnership in learning, through observation and psychologically-informed supervision, may enable the clinicians to build confidence in experimenting with new PIP skills and tools. Supporting clinicians in moving from knowing about BPS model and PIP skills to implementing these in practice is crucial: *“if collective mobilisation fails to translate a definition of identity into experienced reality, then that definition will fall by the wayside. By contrast, where mobilisation does succeed in creating realities that reflect a given definition of identity, then that definition will gain in support”* (Haslam, Platow and Reicher, 2011, p. 66).

Conclusion

This study suggests that integrating psychologically-informed skills to physiotherapy clinical practice can mobilise social identity processes, including *self-categorization* to a sub-group of physiotherapists. This raises both an opportunity for growth and a risk of distress. Social spaces making the PIP identity *accessible* and providing opportunities for *social reality testing* through reflective practice, and *social support* through validation, were identified as essential to this transformative journey. Leadership matters in valuing and shaping access to these spaces supporting clinicians in the integration of the biopsychosocial model of care.

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Table

Table 1: Examples of interview questions

Broad topics driven from research question	Examples of questions	Examples of prompts
Perception of PIP in the wider context of physiotherapy practice in the UK	<p><i>How identifying as a psychologically-informed physiotherapist make you feel within the whole physiotherapy profession?</i></p> <p><i>How do you think physiotherapists who do not identify as PIP may perceive you?</i></p>	<p><i>If mention of a distinction – In what way? What make you feel a different physio? How would you describe the other physiotherapists?</i></p> <p><i>Why do you think they may perceive you as such?</i></p>
Perception of facilitating factors to develop a PIP practice.	<p><i>What facilitated your changes of practice towards the integration of psychologically-informed skills?</i></p> <p><i>If discussion around specific trainings – how was it like to go back to your clinics after the trainings? What happened then?</i></p>	<p><i>Could you tell me more about how this influenced your actions in clinic?</i></p> <p><i>Could you tell me about the context you have worked in?</i></p>
Perception of barriers in implementing PIP skills	<i>What is or was felt as barriers in the integration of PIP principles and skills?</i>	<i>Could you tell me about the context you have worked in?</i>
Guided focus on perception of social spaces and interactions in developing PIP skills and practice	<i>In your own experiences, what were the influences of others (peers, supervisors, managers) in your attempts to develop integrated approaches such as PIP?</i>	<p><i>(if not cover earlier)</i></p> <p><i>Was there any significant peer or colleague who may have had a positive influence? How? What qualities did they display?</i></p> <p><i>On the contrary, what negative qualities might you have perceived?</i></p>