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Response to: Mindset over matter: is parental health mindset an appropriate target for intervention?

We appreciate that Humphry and colleagues engaged in such a thoughtful review of our recent paper published in *Pediatric Anesthesia* that was focused on the concept of growth versus fixed mindset in the context of children's recovery from ambulatory surgery¹ and the question posed regarding mindset as an appropriate target for intervention. Pain is a complex phenomenon which can have with significant negative impacts on functioning if it is not managed optimally. The management of pain in children in the home setting is further complicated by parent- and family-related variables, including beliefs and perceptions regarding the expression and treatment of pediatric pain. There is a wealth of data in this area suggest that postoperative pain is under managed in the home setting by parents and caregivers.^{2,3} Thus, identification of effective and feasible interventions is critical.

Although we appreciate the thoughtful letter by Humphry and colleagues and are grateful for the opportunity to respond, we somewhat disagree with the interpretation of our findings by the authors. More specifically, Humphry and colleagues suggested the fact that our original hypothesis was not fully supported was counter intuitive. We hypothesized that parents who endorsed a growth mindset, or the view that one's health can be altered or changed, would engage in more proactive pain management responses, and thus have children with better recovery compared to children of parents who endorsed a fixed mindset. We would argue that the findings were actually intuitive, but that part of our original hypothesis was incorrect. In fact, when we examine the recovery data, children of parents with a growth mindset had better recovery scores and lower pain severity compared to children with fixed mindset parents.

The results that were contradictory to our original hypothesis were the finding that fixed mindset parents administered more analgesics compared to growth mindset parents. Thus, based on the overall picture painted by the totality of the outcomes in our original paper, we would amend our hypothesis to indicate that we believe that parents who endorsed a growth mindset, in which health is considered to be changeable, would be more likely to engage in a wide array of strategies to lower pain (and thus improve health), including nonpharmacological modalities such as distraction, reappraisal, mindfulness, etc. This hypothesis is consistent with the concept that a growth mindset which represents the belief that health, including the pain experience, can be changed might promote in use of multiple strategies to lower pain. Further, it is possible that growth mindset parents' behavior decreased pain (at least to a minor degree) and thus less medication was needed.

Humphry and colleagues further suggested that analgesics are a particular outcome of interest in this context; however, we would propose that pain severity and behavioral/physical recovery are more important outcomes. And in fact, our data support that when examining these two constructs, children of growth mindset parents had better postoperative outcomes. The fact that pain severity was lower in children of growth mindset parents is key. One benefit of intervening on psychosocial variables is that this approach is typically low cost, highly feasible, and with little to no side effects (as compared to pharmacological interventions). Thus, evidence highlighting that a growth mindset might help decrease pain, warrants further exploration of parental mindset as a target of intervention. Because the field of mindset in the context of health, and more specifically the arena of pain is a burgeoning area, we believe that there are many more answers to be identified to further validate mindset as an intervention target in the surgical space. As such we suggest that future interventions should focus on the assessment of a broader range of pain management interventions above and beyond analgesics and, ultimately, should incorporate skills training in nonpharmacological strategies for fixed mindset parents. Our next steps will be to further examine this hypothesis and ultimately incorporate parental health mindset into interventions targeting management of children's pain in the home setting.

KEYWORDS



child, internal-external control, pain, parents, recovery, surgery

CONFLICTS OF INTEREST

The authors have no conflicts of interests relevant to this article to disclose.

DATA AVAILABILITY STATEMENT

Data sharing is not applicable to this article as no new data were created or analyzed in this study.

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When children refuse their anesthetic—restrain, deceive, or postpone?

We would like to thank Massie et al.¹ for highlighting the challenging ethical issue of refusal of anesthesia.

In particular, we commend their strong desire to avoid both physical restraint and significant deception, both of which can destroy the trusting relationship that is vital for children and young people's ongoing engagement with medical staff and their own health care. Working in a similar tertiary referral center, we often see children who are terrified, and have clearly suffered significant psychological trauma, having previously been held down at induction of anesthesia by teams who did not mean to cause harm, but were just trying to get a procedure done. Rebuilding lost trust is a long and difficult process.

Like Massie et al., we also see well-meaning parents who want us to restrain or deceive children who are refusing. We recognize the multiple pressures on parents and clinicians in this situation.² For a variety of reasons, both parties may be heavily invested in the procedure taking place. This is likely to be particularly true for the parents who, in addition to logistical and financial hurdles they may have had to overcome, are likely to be anxious about the procedure and want to get it done. Under such circumstances, the prospect of postponing activity can be difficult to accept. Despite this, our role must be to put the focus on the best interests of the child, and to make *both* the physical *and* psychological well-being of the child our primary concern.

The best approach in this often emotionally charged situation is usually to stop, allow time for reflection, and reformulate the plan—whether that be to try sedative premedication; postpone the procedure to allow time for better preparation and to address the child's psychological needs; or just to reschedule it, avoiding any aggravating factors that may have contributed to the day's difficulties (such as a last-minute discussion of serious risks as happened here, or an excessive fasting time or wait). This is not easy to do and there is always pressure to proceed, compounded by our own plan continuation bias (the tendency not to update or revise a pre-existing plan in the presence of a changing situation).³

There are three features of cases like Shane's that merit further discussion. The first is whether a procedure that seems to be urgent, truly is. When an operation has been difficult to organize because of multiple teams being involved and the constraints of a busy hospital, it does increase the pressure to stick to the plan but it does not necessarily make it an emergency. In our experience, it is fortunately very rare for children to refuse anesthesia in a genuinely emergent situation. This experience is supported by those reported by a large cohort of anesthesiologists one author has canvassed over a period of 22 years. Any assertion that a procedure cannot be postponed in the face of persistent refusal should therefore be examined very carefully.