

## **Abstract**

Prior work has documented considerable diversity among health practitioners regarding their support for voluntary assisted dying (VAD). We examined whether their attitudes are characterised by different combinations of personal support, normative support by other health practitioners, and whether they are predisposed to vicariously experience others' emotions (i.e., empathy). We also examined whether these profiles experienced different mental health outcomes (i.e., burnout and posttraumatic stress) in relation to VAD. To test this, 104 Australian health practitioners were surveyed after VAD was legalised in Victoria, Australia in 2019. Results indicated that practitioners' attitudes were characterised by three profiles: 1) strong personal and normative support (strong VAD supporters), 2) moderate personal and normative support (moderate VAD supporters), and 3) lower personal and normative support (apprehensive practitioners). However, each profile reported similar mental health outcomes. Findings suggest that the normative environments in which health practitioners operate may explain their diverse attitudes on VAD.

## **Using Latent Profile Analysis to Understand Health Practitioners' Attitudes Toward Voluntary Assisted Dying**

Voluntary Assisted Dying (VAD) is perhaps one of the most contentious issues in medicine. Although VAD is currently legal in many countries (including Canada, the Netherlands, parts of the United States, and parts of Australia), health practitioners report a range of attitudes about the ethics and safety of this practice. Some are supportive, arguing that VAD increases patient empowerment and autonomy (Blaschke et al., 2019; Karlsson & Berggren, 2011). Alternatively, other practitioners oppose VAD or are sceptical, not only because it conflicts with their moral commitment to 'do no harm' (Blaschke et al., 2019; Curry et al., 2000), but also because they are concerned about the negative impacts of its administration on health practitioners (Kuuppelomäki, 2000). These concerns are not unfounded, as some health practitioners do indeed experience distress and diminished wellbeing in relation to VAD. For example, some practitioners report emotional distress because VAD conflicts with their personal values (Beuthin et al., 2018, Rice et al., 2008), and experience apprehension and discomfort when receiving VAD requests from patients (Dobscha et al., 2004). In contrast, other practitioners feel positive about facilitating a peaceful and autonomous end-of-life experience (Sellars et al., 2022; Yoong et al., 2018).

How can we understand this heterogeneity among health practitioners? We propose that health practitioners' attitudes about VAD are not only characterised by support or opposition, but also by other professional and individual factors which create distinct subgroups of practitioners who, in turn, experience different mental health outcomes. Specifically, health practitioners' negative mental health outcomes may be associated with different combinations of personal support for VAD, empathy (i.e., the proclivity to adopt others' point of view and vicariously experience their emotions), and perceived normative support (or lack thereof) for VAD among other practitioners. Studying combinations of

personal support, perceived normative support, and empathy may help to differentiate subgroups of health practitioners who experience personal distress and/or professional conflicts in relation to VAD. These qualitatively different sub-groups may, in turn, experience different mental health outcomes in relation to the practice of VAD. Below, we anticipate some of the conceptually relevant groupings that may emerge among health practitioners (see also Figure 1).

\*Insert Figure 1 here\*

### **Nuancing Health Practitioners' Positions on Voluntary Assisted Dying: The Role of Norms and Empathy**

**Professional Norms.** Health practitioners' attitudes on VAD may be differentiated by professional norms about the acceptability of assisted dying. Norms are shared guidelines or standards for behaviour (Cialdini et al., 1990) which help people to decide how to act, what to believe, and, in some cases, determine what is right or wrong. In the context of VAD, there is preliminary evidence that increased normative support for assisted dying by colleagues and family influences practitioners' own support for and intentions to administer assisted dying (Lavoie et al., 2016; Wilson et al., 2021a, 2021b). Thus, practitioners' own attitudes on VAD are influenced by broader professional norms regarding the perceived acceptability of this practice. However, no study to our knowledge has considered the potential for misalignment between these norms and health practitioners' attitudes on VAD.

Social psychological research has identified two types of norms that influence people's behaviour: *injunctive norms* (i.e., how people should act and what behaviours are approved of by others in a particular situation) and *descriptive norms*, (i.e., how people actually behave in a particular situation, Cialdini et al., 1990). Put another way, injunctive norms reflect how things *should* be, while descriptive norms reflect how things *actually are*. However, injunctive and descriptive norms do not always align. When people encounter a

disconnect between the way the world is and the way they believe the world should be, they experience *normative conflict* (Packer, 2008; Smith et al., 2015) which can create psychological discomfort (Dahling & Gutworth, 2017).

In the context of VAD, health practitioners may experience normative conflict if they believe that other health practitioners should not support VAD (injunctive norms) but perceive that they do (descriptive norms), or vice versa. Given that some practitioners report that VAD conflicts with their Hippocratic oath and personal values (Blaschke et al., 2019; Curry et al., 2000; Dobscha et al., 2004), it is possible that they may experience normative conflict if they perceive that VAD is endorsed by other health practitioners. Importantly, health practitioners will not experience normative conflict if they perceive that other practitioners *should* and *do* support VAD. This analysis suggests that the combination of one's own position (i.e., supportive or oppositional), and evaluations of what other health practitioners do (descriptive norms) and should do (injunctive norms), is important in understanding the diversity of views that health practitioners can have on this issue.

**Empathy.** Individual differences in dispositional empathy may further differentiate unique subgroups of health practitioners. Although empathy is an essential element of quality care in medical settings (Decety, 2020; Halpern, 2003), retaining empathic engagement in medicine can be challenging in light of the emotionally distressing situations practitioners encounter day-to-day (Decety & Fotopoulou, 2013; Neumann et al., 2011). Importantly, two specific dimensions of empathy are relevant to understanding how practitioners cope with emotionally distressing situations. *Perspective taking* (or cognitive empathy) involves intentionally adopting another's subjective point of view to intuit their thoughts, feelings, or motivations; and *emotional empathy*, the vicarious experience of another's emotions (Decety & Jackson, 2004; Reniers et al., 2011). Empirical research with physicians has demonstrated that perspective taking has a protective function and predicts lower burnout and secondary

traumatic stress among health practitioners (Gleichgerrcht & Decety, 2013; 2014). However, emotional empathy can increase people's susceptibility to 'catching' anxiety, sadness, or depression from another person (Hatfield et al., 1994). Without proper emotional regulation skills, this can make offering emotional support distressing because people higher on trait emotional empathy are more likely to experience personal distress from seeing others suffering (Decety & Lamm, 2009; Hsee et al., 1990; Murphy et al., 2018).

Relating this to the present work, we predict that VAD can be a source of emotional distress for health practitioners. Although engaging with terminally ill people can be stressful in and of itself, health practitioners can experience diminished wellbeing in the context of VAD inquiries and requests from patients (Dobscha et al., 2004) and VAD administration (McDougall et al., 2019; Sellars et al., 2022). As such, different combinations of cognitive empathy and emotional empathy might be coupled with health practitioners' positions on VAD and their experience of normative conflict to create three distinct groups (per Figure 1).

***Proposed combinations of personal support, professional norms, and trait empathy.***

On the one hand, health practitioners who report lower VAD support may also be higher on dispositional emotional empathy and lower on cognitive empathy. For these practitioners, their heightened sensitivity to others' (negative) feelings may mean that they are more likely to experience *vicarious distress* about another's suffering and are less able to regulate their own responses (Gleichgerrcht & Decety, 2014). Thus, their higher dispositional emotional empathy, coupled with lower VAD support, may lead them to focus on the subjectively harmful or negative aspects of the procedure in relation to patient welfare (e.g., patient harm and mistreatment; Blaschke et al., 2019) and hence experience greater empathic distress about the use of assisted dying. This pattern of responses might also be coupled with stronger normative conflict in relation to VAD (e.g., higher descriptive and lower injunctive norms) because these practitioners may also perceive a mismatch between 'what is' and 'what should

be' which further contributes to their distress (see 'VAD opponents', Figure 1).

On the other hand, health practitioners who report higher VAD support may report higher cognitive and lower emotional empathy. As these practitioners can infer others' thoughts and feelings without heightened affective involvement, they may be more supportive of VAD because they are less likely to vicariously experience the distressing aspects of the procedure. As such, they are able to remain *empathically engaged* with patients and regulate their emotional responses, thereby preventing vicarious distress (see 'VAD supporters', Figure 1). However, another possibility is that higher VAD support may be coupled with lower cognitive and emotional empathy. Insensitivity may be associated with higher VAD support, for example, or emotionally distressing situations could lead to compassion fatigue among health professionals over time (Figley, 2013). The latter context would create *empathic blunting*, such that practitioners' lower empathy would help them cope with the complexities and distressing aspects of end-of-life decision making with their patients (see 'disengaged VAD supporters' in Figure 1). These profiles would likely be characterised by lower normative conflict (i.e., higher descriptive and injunctive norms), because these practitioners perceive an alignment between their personal position on VAD and broader professional norms.

In order to understand health practitioners' heterogeneous attitudes on VAD, we need to adopt an approach that can: a) identify relevant subgroups of health practitioners with varying degrees of support for VAD, and b) represent the combination of these attributes as features of *people* rather than variables. Thus, to test for these distinct groups of practitioners, we adopted Latent Profile Analysis (LPA) which allowed us to move beyond linear associations and dichotomies (i.e., supporting or objecting to VAD) and test a more nuanced account of health practitioners' attitudes which allows for an array of distinct responses and subgroups to emerge (see Osborne & Sibley, 2017 for further discussion of this technique).

Given that health practitioners' positions on VAD and their experience of conflict are likely to be heterogeneous (and therefore not characteristic of a whole population of practitioners), LPA can be used to identify subgroups of practitioners who respond similarly in terms of their personal position on VAD, normative support, and empathy, but are responding differently to other subgroups of practitioners.

### **Connecting Mental Health Outcomes and Health Practitioners' Positions on VAD**

As normative conflict and empathic engagement reflect two sources of conflict for health practitioners, profiles characterised by different combinations of descriptive and injunctive norms, and of cognitive and emotional empathy may experience different mental health outcomes (per Figure 1). In the present research, we focus on experiences of burnout and post-traumatic stress symptoms (PTSS) as these are both commonly experienced by health practitioners owing to the emotionally distressing situations they encounter day-to-day (Neumann et al., 2011). Both may be relevant to practitioners' reactions to VAD considering the distress and discomfort VAD can elicit (Dobscha et al., 2004).

Overall, we expected to observe higher burnout and PTSS among profiles characterised by empathic blunting (i.e., 'disengaged VAD supporters'). Although empathic blunting may reflect an 'adaptive response' to distressing situations, these practitioners are more likely to experience poorer mental health outcomes because they lack the protective effects of cognitive empathy (Gleichgerrcht & Decety, 2013). We also expected that relatively higher burnout and PTSS would be associated with profiles characterised by normative conflict and empathic distress (i.e., 'VAD opponents'). This is because these practitioners may experience discomfort in relation to the perceived acceptability of VAD by other health professionals (i.e., when 'what is' and 'what should be' do not align) and may be more likely to experience empathic distress owing to their heightened emotional empathy.

In contrast, profiles characterised by lower normative conflict and higher empathic

engagement (i.e., 'VAD supporters') will likely be associated with lower burnout and PTSS. These practitioners perceive an alignment between descriptive and injunctive professional norms about the acceptability of VAD, and thus have the necessary psychological resources to cope with stress and retain empathic engagement without heightened affective involvement.

### **Predicting Health Practitioners' Positions on VAD**

We also examined whether several social and individual factors predicted these divergent positions on VAD.

**Legal status of VAD.** There has been limited consideration as to whether the legal status of VAD influences practitioners' attitudes on assisted dying. However, new laws enacted by state or federal governments might inform perceptions of what is acceptable in a society (Hogg, 2010; Tankard & Paluck, 2016) and, in turn, 'filter down' to influence individuals' own acceptance of relevant beliefs and practices (Eisner et al., 2021). Relating this to VAD, the legalization of assisted dying in certain Australian states (the context of the present study) may affect practitioners' own personal normative (injunctive) support. That is, health practitioners currently working in Australian states where VAD is legal may be more likely to belong to profiles characterised by lower normative conflict (i.e., stronger descriptive and injunctive norms) and more VAD-supportive attitudes. In contrast, health practitioners working in contexts where VAD is still illegal may be more likely to belong to profiles characterised by normative conflict and lower VAD-supportive attitudes.

**Professional identification.** Stronger professional identification (i.e., viewing one's job role as an integral part of their self-concept; Turner et al., 1987) has a protective effect on workers' well-being by buffering against burnout (Meyer et al., 1993) and emotional exhaustion (Geng et al., 2011). As such, higher identification as a health professional may predict membership in profiles characterised by empathic engagement as professional



identification acts as a psychological resource which may protect against empathic blunting or distress.

*Occupational experience in palliative care.* Health practitioners who work more closely with patients who are terminally ill and/or receiving end of life care (i.e., in palliative care) may belong to different sub-groups than health practitioners who do not work as closely with these patients. Although there is disagreement among health practitioners about the acceptability of VAD, some occupational groups are more opposed/supportive than others. Although doctors are generally less supportive of VAD administration and legalisation than nurses (Oliver et al., 2017), both groups are more opposed to VAD if they work in palliative care (Musgrave et al., 2001; Seale, 2009; Verpoort et al., 2004).

Given that palliative care staff report stronger opposition than doctors and nurses who have less contact with terminally ill patients, we expect that palliative care workers (i.e., doctors and nurses who work in palliative care) would be more likely to belong to profiles characterised by lower VAD support. In contrast, doctors and nurses who do not work in palliative care would likely belong to profiles characterised by stronger VAD support.

### **The Present Research**

In this study, we examined: a) whether there is heterogeneity in health practitioners' positions on VAD; and if this can be characterised in terms of meaningful subgroups based on professional norms, empathy, and practitioners' personal positions on VAD; b) if different attributes explain health practitioners' varied positions; and c) if subgroup membership differentially predicts mental health outcomes among health practitioners. We tested these questions among Australian health practitioners following the legalisation of VAD in Victoria in 2019 (the first Australian state to do so). Our hypotheses and analysis plan were pre-registered at: [https://osf.io/vu9xg/?view\\_only=e7123c7b5de348f996267e63bc24b31b](https://osf.io/vu9xg/?view_only=e7123c7b5de348f996267e63bc24b31b).

Verbatim survey materials and the data underpinning the analyses can be obtained upon request from the first author.

## **Method**

### **Legal Context of VAD in Australia**

At the time of data collection, VAD was only legal in Victoria (though it has been subsequently legalized in other Australian states). The VAD Act (2017) permits adults to request assistance from doctors to die, provided they meet specified eligibility criteria. The act was passed in November 2017 and came into effect from June 19<sup>th</sup>, 2019. Under the new law, a person requesting access to VAD will need to be assessed by two qualified doctors who will determine if the patient is eligible and making a fully informed decision. On receiving a final request, the doctor will apply for a permit to prescribe a medication that the person may use to end their life. The person must administer the medication themselves, unless they are physically unable to do so, in which case their doctor may assist. However, the law allows health practitioners to refuse involvement in a VAD procedure or provide any information about VAD to inquiring patients.

### **Participants**

One hundred and fifteen health practitioners were initially recruited via community and snowball sampling. We targeted health practitioners in person at relevant conferences, via their publicly listed email addresses, and via email lists and professional associations who advertised the survey on our behalf. All participants completed the survey online using an anonymous link. Responses were collected over an 8-month period between July 2019 and March 2020. Of the practitioners who were initially recruited, 11 were excluded because they completed less than half of the survey. The final sample consisted of 104 health practitioners. In terms of demographic information, most practitioners were women (76.90%), currently

working in nursing (36.50%), and living/working in Victoria (38.50%; see Table 1 for full demographic information).

\*Insert Table 1 here\*

## Procedure and Measures

Responses were assessed on a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*), unless otherwise specified. The measures reported here were part of a larger project examining the impacts of VAD on health practitioners' well-being and attitudes toward assisted dying. Thus, other constructs were also assessed beyond those reported here.

The full set of measures are summarised here:

[https://osf.io/zhe6v/?view\\_only=c8580ff75552421b9ac47841602b27e2](https://osf.io/zhe6v/?view_only=c8580ff75552421b9ac47841602b27e2).

### Indicators of Profile Membership.

***Descriptive and injunctive norms.*** Two items ( $r = .76$ ) measured the extent to which participants perceived that other health practitioners supported VAD (i.e., descriptive norms): 'Most health professionals will offer services to support voluntary assisted dying when requested by the patient'; and: 'The average health professional will offer voluntary assisted dying services when requested by the patient.' Another two items ( $r = .73$ ) measured the extent to which participants believed that other health practitioners approved of VAD (i.e., injunctive norms): 'Most health professionals approve of the chance to offer services to support Voluntary Assisted Dying'; and: 'The average health professional supports the provision of services for voluntary assisted dying to patients.'

***Emotional and cognitive empathy.*** The emotion contagion (e.g., 'People I am with have a strong influence on my mood.';  $\alpha = .79$ ) and perspective taking subscales (e.g., 'I can easily work out what another person might want to talk about.';  $\alpha = .88$ ) of the Questionnaire of Cognitive and Affective Empathy (QCAE; Reniers et al., 2011) were used to assess these

two facets of empathy.

***Personal VAD support.*** Two items ( $r = .95$ ) assessed health practitioners' personal support for VAD in medical settings ('A doctor should be allowed by law to prescribe medication to a terminally ill patient so that the patient can end their life'; 'If a terminally ill patient requests it, the law should allow a doctor to administer medications to cause death').

### **Predictors of Profile Membership.**

***Professional identification.*** Identification was measured using three items (Cameron, 2004;  $\alpha = .83$ ), which assess the extent to which being a health practitioner was an important part of participants' self-concept (e.g., 'Being a health professional is an important part of my self-image').

***Legal status of VAD in current state of residence.*** We coded whether participants were currently living in an Australian state in which VAD was legal at the time of the survey, based on their answer to the question 'Please select your current state of residence'.

***Occupational experience in palliative care.*** Participants were asked to select their specific occupation as a health practitioner (i.e., Doctor/Physician, Nurse, Palliative Care Team Member, or 'Other'). Participants were able to select multiple occupations. However, we were only interested in comparing whether health practitioners in palliative care belonged to different sub-groups than health practitioners who did not work in palliative care. Therefore, we recoded participants' responses to this question such that they only belonged to one occupational group. Practitioners who indicated that they worked in palliative care and held another occupation (e.g., nurse) were recoded as being a palliative care worker only. The percentage of health practitioners in each of the final four occupational categories are summarised in Table 1.

### **Outcomes of Profile Membership.**

***Burnout.*** The disengagement subscale of the Oldenburg Burnout Inventory (OLBI;

Demerouti et al., 2003;  $\alpha = .76$ ) was used to assess participants' negative feelings toward and disengagement from their work as a health practitioner (e.g., 'It happens more and more often that I talk about my work in a negative way').

**Post-traumatic stress.** The PTSD Checklist (PCL; Blanchard et al., 1996;  $\alpha = .83$ ) was used to assess symptoms of PTSD (e.g., 'Repeated disturbing memories, thoughts, or images of the stressful experience(s)'). Participants were asked to indicate how much they experienced each of the symptoms on a 5-point Likert scale, ranging from 1 (*not at all*) to 5 (*extremely*).

## Results

### Deviations from Analysis Plan

There were two deviations from our pre-registered analysis plan. First, we pre-registered that we would only include identification as a predictor. However, we also examined whether the legal status of VAD and occupation differentiated the profiles considering prior work which suggests that these factors may also impact practitioners' positions on VAD (as outlined in the introduction). Second, we pre-registered that we would also examine whether self-determined motivation was an outcome of profile membership. However, as these items were only administered to practitioners living in Victoria, we could not examine this as a predictor using our full sample. Thus, we omitted this variable to preserve statistical power.

### What are Health Practitioners' Positions on VAD?

We conducted a LPA on the descriptive norm, injunctive norm, emotional empathy, cognitive empathy, and VAD support measures using MPlus 8. We used a number of indicators to assess model fit. Unlike cluster analysis, LPA incorporates a goodness-of-fit test for the number of subgroups in the data (Osborne & Sibley, 2017; see also McCutcheon, 2002). Thus, first, following Asparouhov and Muthén (2012), we compared a  $k - 1$  model

(where  $k$  = number of latent profiles) with a  $k$  model using the Vuong-Lo-Mendell-Rubin test (VLMR) and bootstrapped likelihood ratio test (BLRT). Second, we examined the Akaike (AIC), Bayesian information criterion (BIC), and adjusted BIC (aBIC) for each model, with smaller values representing a better fitting solution. Third, we considered model interpretability and fit with theory and model parsimony (e.g., by inspecting the profile plots; Muthén, 2006). Finally, we examined the entropy of each model, which captures the strength of separation between profiles. Values of  $>.80$  indicate clear delineation between classes. Lower values do not indicate mis-fit per se, but that the classes are less clearly distinguishable (Celeux & Soromenho, 1996). Table 2 summarizes the fit statistics for profile solutions with one to five profiles, entropy, and the proportion of health practitioners assigned to the different profiles.

Overall, the data supported a three-profile solution. Reductions in the AIC, aBIC, and BIC and the significant VLMR and BLRT suggest that, empirically, a three-profile solution provides a better fit to the data than a two-profile solution. Although the BLRT suggested even more complex solutions were a better fit with the data, the non-significant VLMR and the relatively incremental changes in the AIC, BIC, and aBIC for a four-profile solution indicates that a three-profile solution was most theoretically parsimonious without over-extracting the data. Though the VLMR and BLRT were also significant for a five-profile solution, this solution was not identified, indicating that the solution was inadmissible and should not be interpreted (see Table 2).

\*Insert Table 2 here\*

The mean values of the three profiles on each indicator are displayed in Figure 2. Looking at the characteristics of the three profiles, a majority of health practitioners (59%) fell into a profile that we termed *moderate VAD supporters*. This group reported moderate descriptive and injunctive norms and emotional empathy, and moderate-to-high cognitive

empathy and VAD support. That is, this profile indicated that other health practitioners did not have a definitive position on VAD (i.e., they neither agreed nor disagreed that other practitioners did support or should support VAD). However, they reported stronger personal support for VAD (i.e., they 'slightly agreed' with this practice). Further, moderate VAD supporters reported higher cognitive empathy and lower emotional empathy. That is, they neither agreed nor disagreed that they experienced emotional empathy in response to others' emotional states, but 'slightly agreed' that they engaged in cognitive empathy.

A second, smaller profile (32%) was characterised by low descriptive and injunctive norms, low-to-moderate emotional empathy and VAD support, and moderate-to-high cognitive empathy. That is, this profile did not have a definitive position on VAD (i.e., they neither agreed nor disagreed), but they 'somewhat disagreed' that other health practitioners were in support and thought that it should be practiced. Thus, although there was concordance between their degree of personal VAD support and descriptive and injunctive professional norms, this group perceived professional norms to be less in favour of VAD relative to their own position. Given this, we labelled this group *apprehensive practitioners*. Similar to moderate VAD supporters, apprehensive practitioners also indicated that they neither agreed nor disagreed that they experienced emotional empathy in response to others' emotional states, but also 'slightly agreed' that they engaged in cognitive empathy.

Finally, a small proportion of health practitioners (9%) reported high descriptive and injunctive norms, cognitive empathy, and VAD support, and moderate-to-high emotional empathy. Given that this group, on average, strongly agreed with VAD, we termed them *strong VAD supporters*. Health practitioners comprising this profile viewed their personal position on VAD as in alignment with the views of other health practitioners, in that they 'strongly agreed' with the practices themselves, and that other health practitioners did offer VAD (i.e., descriptive norms) and were supportive of this practice (i.e., injunctive norms) as

well. Further, strong VAD supporters 'slightly agreed' (i.e., a score of 5 on a 7-point scale) that they experienced emotional empathy in response to others' emotional states, and 'somewhat agreed' (i.e., a score of 6 on a 7-point scale) that they engaged in cognitive empathy.

\*Insert Figure 2 here\*

Considering the pattern of responses overall between the three profiles, none of the profiles were characterized by normative conflict between 'what is' (descriptive norms) and 'what should be' (injunctive norms) regarding the acceptability of VAD among health practitioners. Rather, each profile reported similar levels of descriptive and injunctive norms (though the levels of these varied between the profiles). Further, the perceived normative support for VAD among health practitioners was somewhat analogous with each profile's degree of personal VAD support. As depicted in Figure 2, differences in descriptive and injunctive norms strongly differentiated the profiles from one another, such that the perceived acceptability of VAD by other practitioners co-occurs (to some degree) with their own personal endorsement.

Further, although we predicted some profiles would be characterised by empathic blunting (i.e., lower perspective and emotional empathy), empathic distress (i.e., higher cognitive empathy and emotional empathy), or full empathic engagement (i.e., higher cognitive empathy and lower emotional empathy), respectively, these different combinations were not evident across the three profiles. Instead, each profile reported higher cognitive empathy and lower emotional empathy. Although the relative levels of these varied somewhat between the profiles (such that strong VAD supporters reported higher emotional empathy and cognitive empathy than the other subgroups), this pattern of responses is indicative of empathic engagement rather than empathic blunting or distress. However, empathy less strongly differentiated the profiles from one another relative to the other



indicators (i.e., norms and personal VAD support), as there were only small differences in emotional empathy and cognitive empathy between moderate VAD supporters and apprehensive practitioners. While there were modest differences between strong VAD supporters and the other profiles on the empathy indicators (see Figure 2), the degree of these differences was smaller relative to those observed on the norm indicators.

### **What Predicts Health Practitioners' Positions on Voluntary Assisted Dying?**

Having identified profiles of people who hold different views about VAD, we then tested whether identification, the legality of VAD in practitioners' state of residence, and occupational involvement in palliative care predicted these diverging views. Though not our primary focus or formally pre-registered, we also examined whether other demographic variables (i.e., gender, political ideology, and religious affiliation) predicted profile membership. In so doing, we show that health practitioners' views on VAD can be explained beyond gender and differences in religious and political beliefs as demonstrated in previous work (e.g., Fuscaldo et al., 2021; Sellars et al., 2021). We used the MPlus AUXILLARY option with R3STEP to explore the predictors of profile membership. These mixture models allowed us to estimate the unique utility of each factor in predicting the profiles analogous to multinomial logistic regression without treating the profiles as observed variables (Asparouhov & Muthén, 2012).

We employed effect coding for our multi-categorical predictors (i.e., occupational experience in palliative care, legality of VAD, gender, and religious affiliation). Although we only made predictions about which profiles doctors and nurses were more likely to belong to relative to palliative care workers, we recruited a number of 'other' health practitioners (e.g., psychologists) who may also play an indirect role in the administration of VAD (e.g., assessing a patient's decision-making capacity and ability to consent to assisted dying; Breen & Radermacher, 2019). Thus, participants' occupations were dummy-coded into three

variables comparing health practitioners working in palliative care (0) with doctors (+1), nurses (+1), and 'other' health practitioners (+1) who did not work in palliative care, respectively (see Table 3). Practitioners working in palliative care were chosen as the reference group because we were interested in understanding whether health practitioners who work most closely with patients who are terminally ill and/or receiving end of life care differ from health practitioners who have less extended contact with patients in these circumstances.

The legality of VAD was effect coded: +1 = legal, -1 = illegal; gender was effect coded: +1 = men, -1 = women/gender minorities; and religious affiliation was effect coded: +1 = affiliated, -1 = unaffiliated. In comparing the predictors of each profile, we used apprehensive practitioners as the reference group (-1) for moderate and strong VAD supporters (+1), respectively; and moderate VAD supporters as the reference group (-1) when comparing them with strong VAD supporters (+1; see Table 3 for log odds and standard errors).

**Occupational experience in palliative care.** Doctors were less likely to belong to profiles characterised by higher VAD support. That is, doctors (compared to health practitioners working in palliative care) were less likely to belong to the strong VAD supporter profile compared to the apprehensive practitioner and moderate VAD supporter profiles. However, doctors and palliative care workers were equally likely to belong to the apprehensive practitioner and moderate VAD supporter profiles. Further, nurses and other health practitioners (compared to palliative care workers) were equally likely to belong to the three profiles. While these comparisons should be interpreted cautiously given the small number of doctors in the sample (see Table 1), these findings suggest that doctors hold more tentative or sceptical attitudes toward VAD than palliative care workers. In contrast, nurses and other health practitioners hold similar positions on VAD to palliative care workers.

**Professional identification and legal status of VAD.** Unexpectedly, professional identification and whether VAD was currently legal in health practitioners' state of residence did not differentiate the three profiles.

**Demographic variables.** Profile membership was not predicted by gender, political ideology, or religious affiliation, suggesting that heterogeneity in health practitioners' attitudes toward VAD was not explained by demographic variables when other factors such as occupation are controlled.

\*Insert Table 3 here\*

### **How Do Diverging Views on Voluntary Assisted Dying Predict Mental Health Outcomes Among Health Practitioners?**

To assess the effect of the three profiles on burnout and PTSS, we used the MPlus distal three-step approach which allows the predictive model to be estimated without affecting latent class formation (Asparouhov & Muthén, 2012). Means and standard errors for each outcome variable for each profile are summarized in Table 4. No significant differences emerged between the profiles on either of the outcome variables, all  $Bs \leq 3.75$ , all  $ps \geq .053$ .

\*Insert Table 4 here\*

### **Discussion**

The study was conducted to examine whether diversity in health practitioners' attitudes on VAD reflect differences in empathic engagement (i.e., emotional empathy and cognitive empathy), as well as their experiences of normative conflict between what other health practitioners do and should believe in relation to VAD (i.e., injunctive and descriptive norms). We also tested whether these diverging views can be explained by different attributes (i.e., professional identification, legal status of VAD, whether practitioners worked in palliative care), and, in turn, predicted differences in practitioners' mental health (i.e.,

burnout and posttraumatic stress). Overall, the results partly support these propositions, but suggest greater complexity than anticipated in Figure 1.

### **What Are Health Practitioners' Positions on VAD?**

As expected, there was heterogeneity among health practitioners regarding their degree of personal support for assisted dying. Three subgroups emerged: a) apprehensive practitioners, who neither agreed or disagreed with VAD; b) moderate VAD supporters, who somewhat agreed with VAD; and c) strong VAD supporters, who strongly agreed with VAD. Moderate VAD supporters were the largest subgroup (59%), indicating that most practitioners in our sample were somewhat in favour of VAD. But health practitioners' attitudes on VAD were not only characterised by different degrees of personal support as evidenced in prior work (Blaschke et al., 2019; Curry et al., 2000; Karlsson et al., 2011). Rather, their positions were also characterised by different degrees of normative support and, to a lesser extent, empathic engagement, indicating that professional and individual-level factors also differentiate practitioners' views on assisted dying. However, norms and empathy did not differentiate the profiles in the way we had anticipated.

Contrary to expectations, the profiles were not characterised by differences in their experience of normative conflict. Instead, health practitioners' personal positions were primarily *aligned* with professional descriptive and injunctive norms about the acceptability of VAD. Thus, rather than experiencing normative conflict between 'what is' and 'what should be' (Packer, 2008; Smith et al., 2015), health practitioners perceived concordance between their and other health practitioners' engagement in and support of VAD: profiles characterised by lower VAD support (i.e., apprehensive practitioners) also perceived that other health practitioners were similarly unsupportive, while profiles characterised by higher VAD support (i.e., moderate and strong VAD supporters, respectively) also perceived that other health practitioners were similarly supportive. It may be that practitioners adjust their

own position to reflect the perceived normative environment of their workplace or profession, infer the norm from their own attitudes, or that these health practitioners are acting as opinion leaders with their professional circles to align professional norms with their own position (see Paluck et al., 2016 for an example in other professional contexts). Although it is unclear which of these explanations is correct, these findings suggest that the normative environments in which health practitioners operate are strongly associated with diversity in their positions on VAD.

Interestingly, empathy did not strongly differentiate the profiles from one another, in that each subgroup was characterised by empathic engagement (i.e., higher cognitive empathy and relatively lower emotional empathy). Although strong VAD supporters reported higher cognitive empathy and emotional empathy than the other profiles, the magnitude of these differences was smaller relative to the differences observed on descriptive and injunctive norms (see Figure 2).

### **What Predicts Health Practitioners' Positions on VAD?**

Health practitioners' experience working in palliative care was the best predictor of profile membership, though not entirely in the way we expected. Contrary to expectations, palliative care workers were more likely to belong to the moderate and strong VAD supporter profiles relative to doctors. However, they were equally likely to belong to each of the profiles compared to nurses and other health practitioners. These differences should not be over-interpreted given our reliance on convenience samples of health practitioners and the unequal sample size in each of the occupational subgroups. However, these findings suggest that doctors are less likely to belong to profiles characterised by stronger VAD support (compared to health practitioners working in palliative care). This is surprising given that health practitioners working in palliative medicine are generally less supportive of VAD than other practitioners (Musgrave et al., 2001; Seale, 2009; Verpoort et al., 2004). One possibility

is that attitudes toward VAD are culturally specific, such that Australian practitioners are more supportive of assisted dying than practitioners in other countries (see Berghs et al., 2005 for a review). Given that the present study was conducted in Australia, it may be that Australian palliative care professionals are more permissive of VAD than in other cultural contexts, which helps to explain these unexpected findings.

Doctors may have also held more apprehensive VAD attitudes because they have to determine if a person is eligible, making a fully informed and autonomous decision, and then prescribe medication that the person may use to end their life (Dobscha et al., 2004; the VAD Act, 2017). In contrast, nurses, palliative care workers, and other health practitioners may have belonged to profiles with more supportive VAD attitudes because they do not face these same decision-making pressures in relation to assisted dying. Although some health practitioners working in palliative care were doctors, it may be that their extended experience with terminally ill patients circumvents their hesitation because they want to facilitate the best end-of-life care possible and ensuring patient autonomy.

Importantly, health practitioners' positions on VAD were not related to whether assisted dying was currently legal in their state of residence. Although legislative changes can increase acceptance of relevant beliefs and practices (Eisner et al., 2021; Hogg, 2010; Tankard & Paluck, 2016), this does not appear to be the case in the context of assisted dying. This may be because VAD is still ethically and politically contentious among practitioners and the general public (Broom, 2012; Fontalis et al., 2018). This null finding suggests that top-down processes (i.e., laws and legal changes) may have relatively small effects on the perceived acceptability of VAD and practitioners' personal support for this practice. However, given that Victoria was the only Australian state to legalise VAD at the time of data collection, legal changes may have had a stronger effect on health practitioners' attitudes if they were made at the federal level. Such country-wide changes might signal a stronger

national acceptance of VAD, while legalisation at the state level could be dismissed as idiosyncratic and not representative of Australian practitioners' attitudes.

### **Are Health Practitioners' Positions on VAD Related to Mental Health Outcomes?**

Despite evidence that some health practitioners experience psychological distress in relation to VAD (Beuthin et al., 2018; Dobscha et al., 2004; McDougall et al., 2019; Rice et al., 2008; Sellars et al., 2022), each of the profiles reported similar levels of burnout and posttraumatic stress. Given that none of the subgroups were characterised by normative conflict or empathic blunting or distress, it does make sense that practitioners did not experience different mental health outcomes as a function of their VAD position. Each profile's relatively high levels of cognitive empathy coupled with an alignment between professional norms and their personal position likely protected them against burnout and traumatic stress (Dahling & Gutworth, 2017; Gleichgerrcht & Decety, 2013).

### **Limitations and Future Directions**

Future research should explore why empathy did not strongly differentiate the profiles. One explanation may be that each profile empathically considered patients' needs and welfare in ways that were consistent with their own position on VAD. For example, when engaging in cognitive empathy, strong VAD supporters may view assisted dying as a means to alleviate patient suffering and facilitate autonomous end-of-life decisions (Sellars et al., 2022; Yoong et al., 2018). In contrast, apprehensive practitioners may worry that patients will be coerced to end their lives (Wand et al., 2018). It may be that moderate VAD supporters' more tempered support for VAD is also informed by their concerns about patient welfare, but perhaps stronger perceived professional norms supporting VAD (relative to apprehensive practitioners) encourages stronger personal support. In contrast, apprehensive practitioners are faced with ambivalence from other practitioners (as evidenced by lower professional norms) and possibly by personal concerns regarding the (mis)use of VAD (as

evidenced by higher cognitive empathy), leading to lower personal support. To investigate this, future research should directly assess health practitioners' reasons for supporting or opposing VAD (e.g., patient autonomy and welfare, potential misuse, moral discomfort). Doing so may further nuance the profiles by elucidating health practitioners' underlying motivations for their views.

Future work should also seek to explain why health practitioners' experience working in palliative care was the best predictor of profile membership. This may be because there are different professional norms regarding the acceptability of VAD among these groups of health practitioners. That is, differences in professional norms among each occupational group may have corresponded with the levels of perceived normative support for assisted dying in each of the profiles. This may also help explain why professional identification did not predict profile membership. As each profile was equally identified as a health practitioner, it may be that the content of this identity is qualitatively different for each occupational group and predicts different attitudes toward VAD rather than the *degree* of identification. Perhaps doctors' identities are more concerned with treatment and prolonging life within reason (hence their membership in profiles characterised by greater resistance to VAD). In contrast, the other occupational groups (nurses, other health practitioners, practitioners in palliative care) may have been equally likely to belong to the three profiles because their professional identities are centred around facilitating the best end-of-life care possible. Thus, their positions may be more varied because they are considering what is right for each patient in different circumstances, rather than holding an absolute stance on VAD. To explore this further, future work should assess the perceived acceptability of VAD among different occupational subgroups (rather than health professionals as a superordinate group as we did) and examine whether different facets of subgroup identity (e.g., ensuring patient autonomy, prolonging patient life) are more pronounced among different groups of health



practitioners, and if these are better predictors of profile membership.

Given that the legal status of VAD was unrelated to profile membership, it may be more fruitful to explore bottom-up processes to better understand health practitioners' opposition or support for VAD. In particular, exploring normative influence in occupational environments (see also Rutherford, 2021). Given the strong concordance between descriptive and injunctive professional norms and health practitioners' own level of support in each profile, examining how norms among specific subgroups of practitioners and health professionals more generally inform practitioners' attitudes, and how practitioners agree upon these norms may help to better understand where their attitudes come from and when and why they might be amenable to change. Indeed, the extent to which beliefs are validated and shared by others strengthens individual endorsement and their willingness to engage in actions that are congruent with those norms and beliefs (Smith & Postmes, 2011; Thomas & McGarty, 2009). Examining how such norms are formed and enacted among health practitioners is an important avenue for future work.

As assisted dying had only been recently legalised in one Australian state at the time of data collection, health practitioners may have encountered fewer stressors in their job related to assisted dying (e.g., less normative conflict, distressing client interactions, or moral discomfort), thereby preserving their mental health outcomes. However, surveying practitioners several years after the legalisation of VAD in their state of residence may start to reveal these differences, and possibly change the nature of the profiles themselves such that they are characterised by differing degrees of normative conflict and empathic engagement, blunting, and distress. Future research should examine changes in profile composition longitudinally as health practitioners have more experiences navigating the complexities of VAD day-to-day, and as perceived professional norms begin to shift in relation to these legislative changes.

Future work should also examine whether certain profiles experience distress when they are *unable* to administer VAD. Indeed, some nurses report moral distress in situations where patients undergo palliative sedation when they had previously stated a preference for assisted dying (Lokker et al., 2018), and report lower moral distress in relation to VAD requests compared to other aspects of patient care (e.g., unnecessary tests and treatments, working with incompetent colleagues; Piers et al., 2012). Thus, it may be that profiles characterised by stronger VAD support experience greater distress in situations where they are unable to provide assisted dying (and where they believe it is in the patient's best interest).

Finally, given our reliance on a convenience sample of health practitioners, it may be that people who held more favourable attitudes toward VAD were more inclined to participate. Although this does not undermine our finding that health practitioners' positions on VAD are characterised by different degrees of personal support, normative support, and to a lesser extent, empathic engagement, future work should also explore the nature and prevalence of these profiles in a larger sample of health practitioners with more varied attitudes on VAD.

## **Conclusion**

The present study sought to provide a more nuanced account of health practitioners' positions on VAD and connect these views to mental health outcomes. Overall, health practitioners' positions are more complex than whether they personally support assisted dying. Rather, their positions are characterised by varying degrees of personal and normative support from other health practitioners, indicating that the normative environments in which health practitioners operate may help to explain their diverse positions on VAD. In contrast, differences in empathy did not strongly differentiate the profiles, possibly because practitioners empathically consider patients' needs and welfare in ways that are consistent

with their own position. As these subgroups did not differ in terms of burnout or PTSS, this suggests that poorer mental health outcomes in relation to VAD is not an issue currently facing Australian health practitioners.

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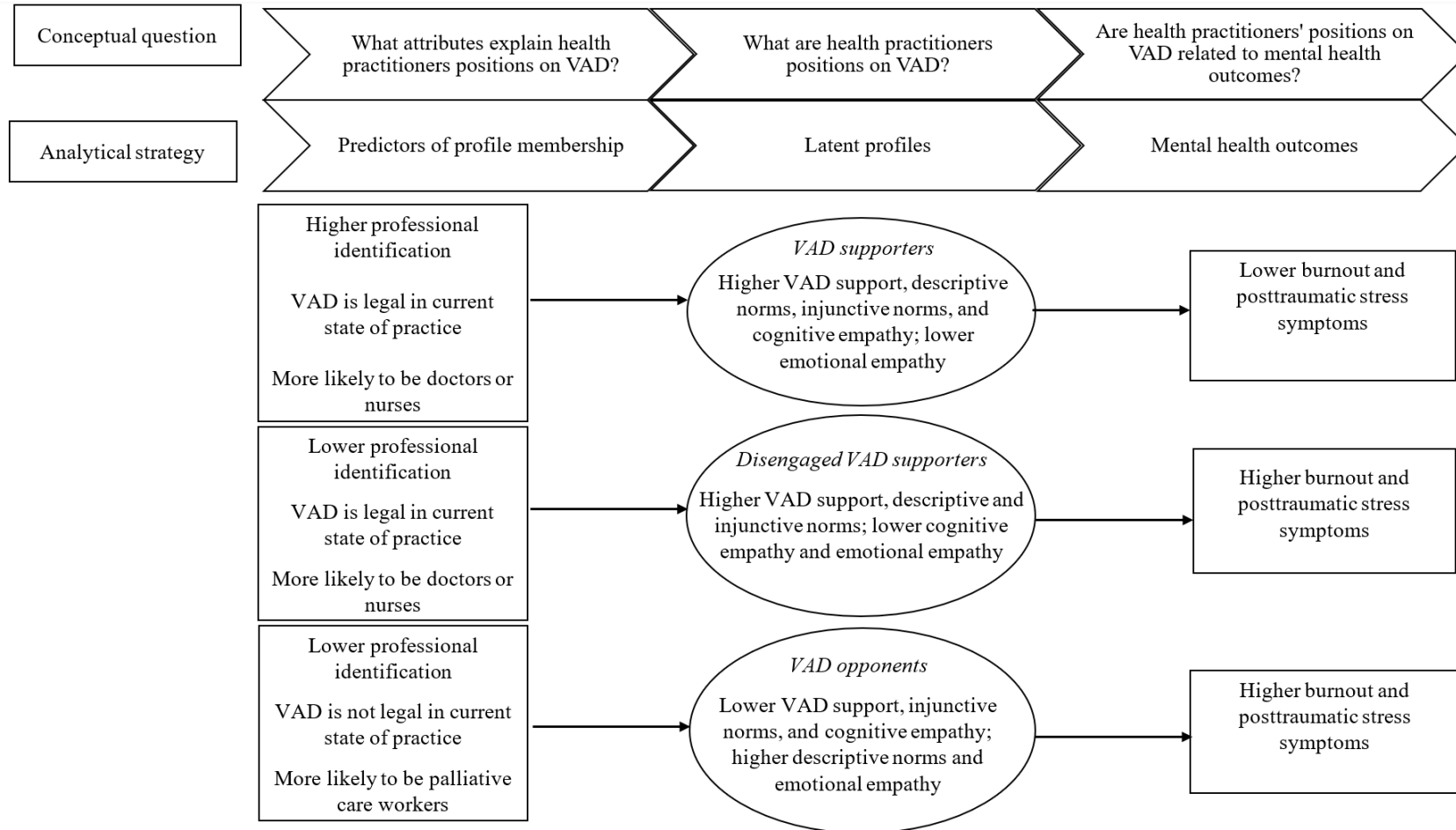
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Figure 1.

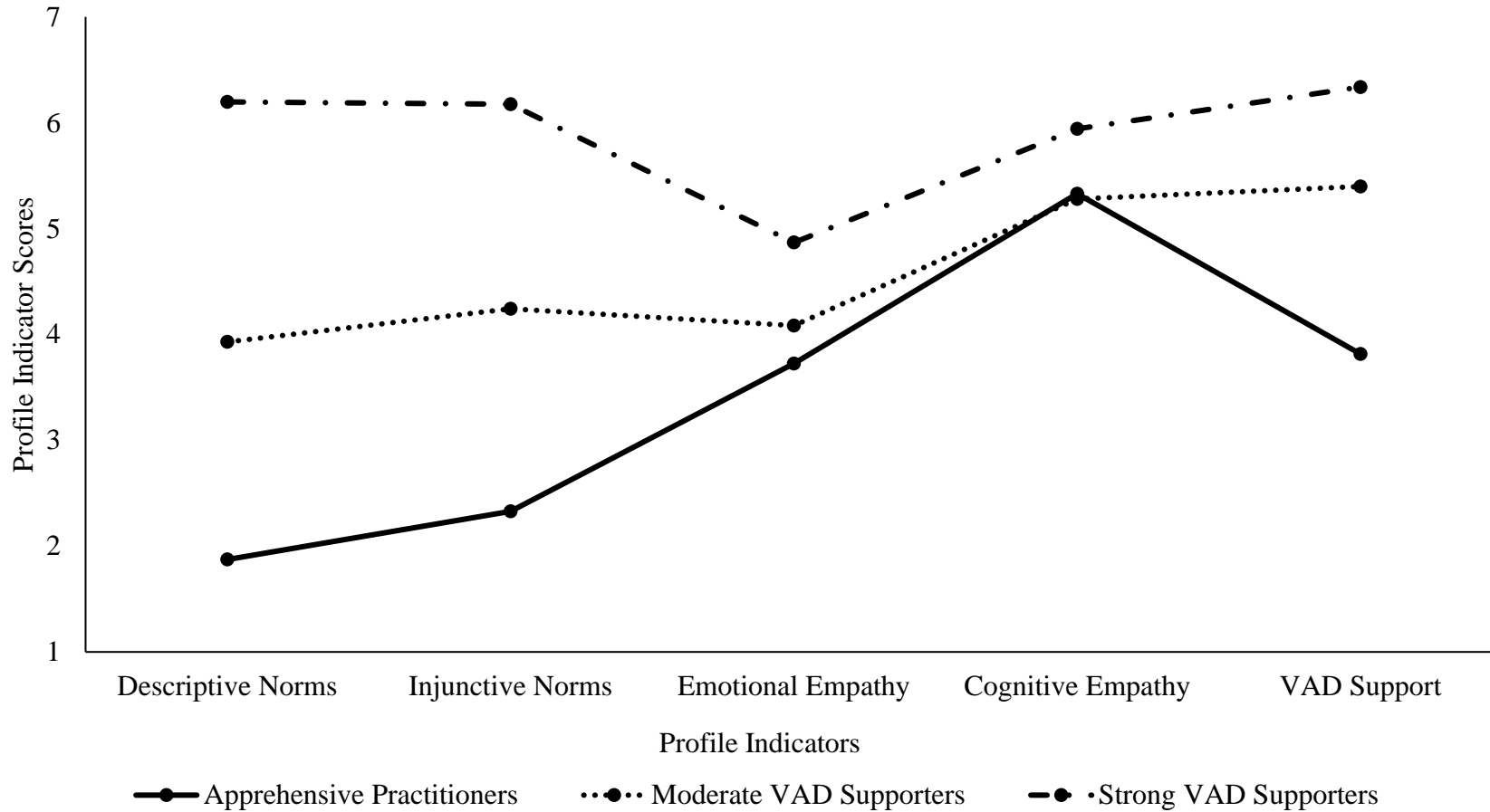
*Conceptual Overview of The Profiles That May Emerge Among Health Practitioners, The Predictors of Membership In These Groups, And Their Relationships To Mental Health Outcomes.*



*Note.* Circles represent the latent profiles, and squares represent combinations of observed (measured) variables that are expected predictors and outcomes of profile membership.

Figure 2.

*Line Graph Depicting the Pattern of Responses Along the Five Profile Indicators for the Three Latent Profiles*



**Table 1***Demographic Information for the Final Sample*

Demographic Variable	Percentage of Final Sample
<b>Mean Age (SD)<sup>1</sup></b>	46.51 (11.97)
<b>Political Orientation (SD)<sup>2</sup></b>	3.01 (1.53)
<b>Gender</b>	
Male	18.30%
Female	76.90%
Other	1.90%
Prefer not to say	2.90%
<b>Occupation</b>	
Doctor	11.50%
Nurse	36.50%
Palliative Care	23.10%
Other (e.g., psychologist)	27.90%
Prefer not to say	1.00%
<b>Current state of residence</b>	
Australian Capital Territory	1.00%
New South Wales	12.50%
Northern Territory	1.90%
South Australia	1.90%
Tasmania	4.80%
Victoria	38.50%
Queensland	36.50%
Western Australia	1.90%
Prefer not to say	1.00%
<b>Religious Affiliation</b>	
Anglican	3.80%
Buddhist	1.90%
Catholic	15.40%
Christian	16.30%
Muslim	2.90%
Other	1.90%
No religious affiliation	57.70%

<sup>1</sup>One participant did not provide their age.

<sup>2</sup>Political orientation was measured on a 7-point scale ranging from 1 (Left wing) to 7 (Right wing).

**Table 2***Model Fit Statistics for Latent Profile Analysis Among Health Practitioners Comparing 1-5 Profile Solutions*

	<i>k</i>	AIC	aBIC	BIC	VLMR <i>p</i> value	BLRT <i>p</i> value	Entropy	Size of profiles
Health Practitioners	Class 1	1780.50	1775.36	1806.95	-	-	-	100%
	Class 2	1710.22	1701.99	1752.53	.027	<.001	0.82	34% / 66%
	Class 3	1657.74	1646.42	1715.92	.012	<.001	0.93	32% / 59% / 9%
	Class 4	1636.49	1622.08	1710.53	.112	<.001	0.92	52% / 15% / 23% / 10%
	Class 5*	1621.64	1604.14	1711.55	.003	<.001	0.93	1% / 14% / 52% / 23% / 10%

*Note.* AIC = Akaike, (a)BIC = (Adjusted) Bayesian Information Criteria, VLMR = Vuong-Lo-Mendell-Rubin likelihood ratio test, BLRT = Bootstrapped Likelihood Ratio Test. The *p* values compare the estimated model (*k* profiles) with a model that has one less class (*k* - 1). A small *p* value supports retention of the more complex model. \*Denotes that there was a problem with model non-identification, and estimates may not be reliable.

**Table 3***Log odds, Standard Errors, and p-Values for Predictors of Profile Membership.*

Profiles parameterized	Moderate VAD Supporters versus Apprehensive Practitioners			Strong VAD Supporters versus Apprehensive Practitioners			Strong VAD Supporters versus Moderate VAD Supporters		
	<i>Log Odds</i>	<i>SE</i>	<i>p</i>	<i>Log Odds</i>	<i>SE</i>	<i>p</i>	<i>Log Odds</i>	<i>SE</i>	<i>p</i>
Identification	-0.38	0.34	.258	-0.31	0.56	.580	0.07	0.50	.885
VAD legal in state of residence	-0.07	0.28	.788	0.35	0.45	.440	0.42	0.42	.309
Occupation (Doctors versus Palliative Care)	-1.51	1.04	.146	<b>-16.58</b>	<b>1.04</b>	<b>&lt;.001</b>	<b>-15.07</b>	<b>0.00</b>	<b>&lt;.001</b>
Occupation (Nurses versus Palliative Care)	1.04	0.63	.098	1.95	1.28	.127	0.91	1.23	.457
Occupation ('Other' versus Palliative Care)	1.05	0.74	.153	2.30	1.40	.099	1.25	1.33	.347
Gender	0.50	0.38	.183	-0.05	0.71	.946	-0.55	0.66	.409
Political ideology	-0.21	0.27	.447	-0.31	0.47	.505	-0.10	0.43	.809
Religious Affiliation	-0.07	0.16	.666	0.20	0.31	.520	0.27	0.29	.362

*Note.* Significant effects are in bold. VAD legal in state of residence was effect coded 1 = legal, -1 = illegal. Occupation was dummy coded into three variables comparing health practitioners who work in palliative care (0) with doctors, nurses, and 'other' health practitioners who do not work in palliative care (1), respectively.



**Table 4***Means (Standard Errors) for Outcome Variables by Profile Membership.*

	Apprehensive Practitioners	Moderate VAD Supporters	Strong VAD Supporters
Burnout	2.98 (0.15)	3.38 (0.13)	2.97 (0.25)
PTSS	2.09 (0.14)	2.12 (0.11)	1.77 (0.20)