

Implementing Trauma-Informed Education: Translating Intentions into Practice

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ABSTRACT

In recent years, continuing professional education in trauma-informed practices for educators has increased, yet the determinants for successful implementation are understudied. Through a two-phase survey, this study incorporated implementation science and the theory of planned behavior to investigate how school and early childhood educators applied their learnings after a university-based course on trauma-informed education. While participants ($N = 72$) initially had high intention scores, indicating positive beliefs and strong perceived support, the 41 who completed the 6-month follow-up survey reported varied success in implementing these practices. Implementation success was not predicted by initial intention scores, indicating the limitations of the theory of planned behavior in predicting actual behavior in complex, real-world settings. Instead, individual factors and perceived “buy in” were the most important facilitators, with system and organizational factors acting as influential barriers. This underscores the importance of understanding these ecological factors when addressing implementation challenges. The findings suggest that successful implementation of trauma-informed practices requires professional learning to extend beyond individual knowledge and motivation, emphasizing the need for system and organizational-level support to facilitate meaningful change.

Keywords: trauma-informed education, continuing professional education, theory of planned behavior, implementation science, educators, survey research



In recent years, there has been significant development of professional learning in trauma-informed practices for educators (Chafouleas et al., 2016; Koslouski et al., 2023; McIntyre et al., 2019). This trend mirrors the imperative to incorporate trauma-informed approaches into education (Berger & Martin, 2021; Downey & Greco, 2023). Despite the growth and interest in this field, implementation determinants of trauma-informed practice in education are understudied. Little is known about the intentions of educators to use the knowledge and skills they gain from their studies, or the facilitators and barriers of their implementation of trauma aware practices when they return to their education settings. Utilizing the theory of planned behavior, and applying the lens of implementation science, this study investigated how educators applied their learnings in their professional practice after participating in a university-delivered course of trauma-informed professional learning. For the purpose of this paper, we will refer to trauma-informed education practice as an informed way of thinking, doing, believing, and acting to enhance education and life outcomes for trauma-impacted learners whilst doing no further harm (Howard et al., 2022). We use the term professional learning, also known as continuing professional education, or professional development, to refer to the learning educators undertake while employed in education settings.

Exposure to adversity and trauma in childhood has profound implications for learning and development (Matte-Landry et al., 2023; Perfect et al., 2016; Shonkoff et al., 2012) and educators and education settings are increasingly recognized as first responders to these concerns (Berger, 2019; Berger & Martin, 2021; Stratford et al., 2020). Calls to implement trauma-informed approaches have amplified since 2020 when the global COVID-19 pandemic and ensuing social, economic, and political conditions led to higher rates of adversity, family and domestic violence, and associated student mental health concerns (Carrington et al., 2020; Berger & Martin, 2020). In response, courses of professional learning in trauma-informed education have been developed and implemented to fill the need for further support for students and educators (Koslouski et al., 2023; Martin et al., 2023). Professional learning in trauma-informed education equips educators with the skills to recognize and respond to trauma-related behaviors and needs (McIntyre et al., 2019), addressing the underlying emotional and psychological barriers to learning. Creating supportive and safe learning environments (Koslouski et al., 2023), fostering stronger teacher-student relationships (Anderson et al., 2022), and promoting a sense of stability and trust among students are some of the key mechanisms identified in previous research that have improved student mental health and academic outcomes (Berger, 2019; Stratford et al., 2020).

Despite the clear need for trauma-informed responses, the implementation of trauma-informed approaches in education settings is complex, contextual, and success is dependent on many factors (Chafouleas et al., 2021). For example, in a scoping review of the facilitators and barriers of implementing trauma-informed practice in education, Wassink-de Stigter et al., (2021) drew on Fixsen's (2005) implementation framework to identify key drivers for successful implementation. These drivers were categorized into: (a) individual competency (i.e., professional learning and capability), (b) organizational factors (e.g., implementation planning), leadership support, engagement of stakeholders, and (c) "buy in" from school staff.

Fixsen's (2005) model also emphasizes the importance of active implementation frameworks, including implementation stages and improvement cycles to ensure continuous evaluation and refinement. This systematic approach is designed to address the complexities of translating research into practice and is particularly relevant in understanding the overlapping and nuanced implementation factors inherent in education settings.

Emerging research investigating implementation determinants for trauma-informed education has provided a useful starting point to inform the design and delivery of programs and initiatives. For example, Newton et al., (2023) found a shared theoretical underpinning of four Australian studies reporting on trauma-informed education programs. However, it is also becoming clear that successful implementation of trauma-informed approaches in educational contexts must account for the social and environmental characteristics of the specific communities, families, educators, and students (Chafouleas et al., 2021; Gherardi et al., 2020). Although system-wide and organizational support is clearly required (Berger, 2019; Wassink-de Stigter et al., 2021) and practice guidelines are useful (Newton et al., 2023), it is equally important to understand the intentions and commitment of professionals who undertake further learning in trauma-informed practice with a view to supporting their implementation behavior.

Implementation of trauma-informed practice in education is best led by education professionals themselves, rather than outsourcing this role to external providers such as health professionals (Downey & Greco, 2023). Research indicates that embedding trauma-informed work within existing multi-tiered systems of support that are common to many schools and school systems, may hold the greatest capacity for success (Berger, 2019; Fondren et al., 2020). Multi-tiered support systems are frameworks to guide the implementation of various support strategies for students. These systems include proactive, universal processes supporting all learners, targeted interventions for groups of learners, and intensive interventions for individual learners who are most harmed or at-risk of harm.

Educators are a vital asset in the systemic response to trauma-informed education for many reasons. Importantly, they spend more time with children and young people than any other professional group and, if they are appropriately trained and supported, they will be better placed to effectively address the impacts of trauma (Howard et al., 2022). It is imperative to understand what happens after educators participate in trauma-informed education and training initiatives, to understand how their intentions to implement their learning play out in practice, and to identify supports they need to implement trauma-informed practices in their everyday work.

Theoretical Underpinning

We used theory of planned behavior (Ajzen, 2002; Fishbein & Ajzen, 2011) to assess educators' intentions to implement trauma-informed practice as it can provide valuable insights into their readiness and willingness to adopt these practices. Theory of planned behavior suggests that behavioral actions are directed by three different belief domains which, in turn, form behavioral intentions, which are considered a

direct antecedent to actual behavior (Ajzen, 2002; Fishbein & Ajzen, 2011). The three belief domains directly influencing intention are theorized to be:

- Behavioral beliefs (attitude toward the behavior), for example, favorable or unfavorable attitude toward implementing trauma-informed practices.
- Normative beliefs (subjective norm), for example, perception of approval or disapproval from others in relation to implementing trauma-informed practices. This could include perceived social pressure.
- Control beliefs (perceived behavioral control), for example, perception of how much control individuals have in implementing trauma-informed practices. This could include factors outside their control, for example, availability and amount of leadership support.

The theory of planned behavior proposes that the behavior of interest must be described in terms of target, action, context, and time (Ajzen, 2002). The target behavior for the current study was the implementation of trauma-informed practices into an education setting within six months of completing a trauma-informed education professional learning course. Implementation may vary according to the characteristics of the educator and/or the setting, so demographic details were also considered.

The theory of planned behavior has been frequently used within the fields of health and psychology but has been used far less in investigations in the field of education. Of the relatively few education studies that have applied this theory, most have focused solely on the behavioral intentions of participants and very few have followed participants over time to determine if initial intention leads to change in behavior. Actual implementation behavior is not often measured (Ajzen, 2020; Heuckmann et al., 2020). A small number of studies that have investigated both educator implementation intentions and educator future behavior have demonstrated that intention does accurately predict behavior (Hellmich et al., 2019; Yan & Sin, 2014). For example, Yan and Sin (2014) used the theory of planned behavior to examine teachers' intentions to implement inclusive education practices. They found that participants' attitudes, subjective norms, and perceived behavioral control significantly predicted both their intentions and their actual behavior. Yet other studies have failed to establish a link between intention and behavior (MacFarlane & Woolfson, 2013; Wang & Wang, 2015; Wilson et al., 2016; Yan & Cheng, 2015). For example, MacFarlane and Woolfson (2013) studied teachers' intentions and behaviors to implement inclusive practices. They found that although attitudes predicted intention, intention did not necessarily predict implementation behavior. Rather, the only significant predictor of implementation behavior was subjective norms. In the context of this study, these norms involved participants' perceptions of their school principal's expectations (MacFarlane & Woolfson, 2013). Due to these limited and mixed findings, there has been a call for further research to investigate the relationship between teachers' intentions to implement practices and their actual behavior (Opoku et al., 2021).

Current Study

The current study incorporates a novel application of the theory of planned behavior by investigating how initial intentions predict subsequent implementation action behavior in the area of trauma-informed education. Theory of planned behavior provides a specific framework for predicting and changing behavior, which, in this study, is applied within the broader approach of implementation science. As identified in previous research, the successful implementation of trauma-informed practice in education is multifactorial and contextual and despite strong motivation and willingness to implement, educators may perceive that their implementation behaviors are not within their immediate control. It is important to understand more about the implementation determinants, particularly the significance of intentions as they are an important part of the individual competency drivers of implementation (Fixsen et al., 2005). Implementation drivers, both at the individual and organizational level, are considered integral to the change processes needed to sustain system or organizational wide change (Fixsen et al., 2005), however little empirical research has directly measured these factors in relation to trauma-informed practice (Wassink-de Stigter et al., 2022). Knowing more about these determinants could enable support for educators to be tailored, both within professional learning opportunities for individuals and groups and for system-wide policy and process.

The aim of this research was to investigate the implementation intentions of educators immediately after participating in university-delivered trauma-informed professional learning and six months later. Specifically, we investigated whether the determinants of intention (attitudes, subjective norms, and behavioral control) significantly predicted intention scores. Follow up after a six-month interval investigated actual implementation behaviors, including the facilitators and barriers to the implementation of trauma-informed practice

METHODS

We conducted a two-phase survey study measuring participants' intentions to incorporate learnings immediately after completing a university-delivered course on trauma-informed education and their subsequent implementation action behavior approximately six months later. We wanted to know if they incorporated trauma-informed education practices into their workplace settings. Approval to conduct the study was granted by the University Human Research Ethics Committee.

Participants were working in education settings (early childhood, primary/elementary or secondary schools) and were recruited via university learning management system (LMS) announcements after they had completed either a post-credential award course (a Graduate Certificate or Master of Education) or a non-award course (a four-week professional learning module). All courses were designed and developed by the same academic team and offered at an Australian university. All courses included information on the impact of trauma and adversity on learning (neurobiology of trauma, attachment theory, adverse childhood experiences); addressing these impacts in education settings through a focus on relationships, emotional regulation, and safety; and information related to implementation and leadership of trauma-informed education in various educational contexts.

A total of 72 participants completed an initial intention survey immediately after completing a trauma-informed professional learning course and 41 participants completed a follow-up implementation action survey approximately six months later. Participants in the intention survey were 65% female, and age range was diverse: 20% were aged 26–35 years, 35% aged 36–45 years and 21 % aged between 46–55 years. Three-quarters (76%) of participants responded as working full time (> 35 hours per week), 20% part time or casual (< 35 hours per week), and 4% other or not working. Of those who were working, 26% were in a teaching position, 12% were school counselors, 15% school leaders, and 7% in a student support role (Table 1).

Table 1: Participant Demographics

Characteristics	<i>n</i>	%
Gender		
Female	59	81.9
Male	13	18.1
Total	72	100.0
Age		
Under 25	3	4.2
26 - 35	14	19.4
36-45	25	34.7
46-55	15	20.8
Over 55	14	19.4
Prefer not to say	1	1.4
Total	72	100.0
Highest Qualification		
Certificate	3	4.2
Diploma or Associate Diploma	2	2.8
Bachelor's Degree (including honors)	13	18.1
Graduate Diploma or Certificate	32	44.4
Master's Degree	22	30.6
Total	72	100.0
With Whom Participants Work in Current Role		
Students or children/young people	29	40.3
Staff/adults	9	12.5
Both students/young people and staff/adults	34	47.2
Total	72	100.0
Professional Context		
Not working	1	1.4
Early childhood education and care (prior to school)	3	4.2
Education in primary/elementary schools	20	27.8
Education in secondary/high schools	24	33.3
Special education	11	15.3
Alternative education	5	6.9
Education systems	9	12.5
Total	72	100.0

Course		
Non-award (4-week module)	14	19.4
Award (Grad Cert or Master of Ed)	58	80.6
Total	72	100.0

The majority (80.6%) of participants had recently completed the Graduate Certificate of Trauma Aware Education or the Master of Education specialization in Trauma Aware Education, and the remaining 19.4% were educators who had recently completed the non-award professional learning in trauma-informed education (Table 1). Participants who studied the award courses (Graduate Certificate or Master of Education) completed five 12-credit point subjects over an academic year. The course content included a comprehensive study of trauma-informed education practices and classroom strategies (for example, the importance of safety, relationships, and emotional regulation; it focused mostly on tier one, or universal support, that could be implemented across all classrooms for all students), an in-depth study of the science of complex trauma, and leadership aspects of this work. The participants who completed the non-award course also covered these topics but in much less depth.

Instruments

Data collection occurred via two online surveys, hosted on the survey platform Qualtrics (2022).

Initial Intention Survey

Participants intentions towards implementing knowledge from a trauma-informed education course into their work settings were assessed via an initial intention survey. In the absence of an existing valid and reliable measurement instrument for use in theory of planned behavior studies, it is recommended that a unique scale should be custom made for the specific intention context under investigation (Ajzen, 2002, 2020). Following guidelines for creating questionnaires based on theory of planned behavior (Ajzen, 2002, 2020), we conducted formative research with a small sample of educators ($n = 6$) recruited from the Master of Education course, to elicit salient beliefs and thereby determine the most useful constructs for inclusion in a custom-made measure. Participants responded to open-ended questions asking about advantages and disadvantages of implementing trauma-informed practice, their perceived approval from others, and factors that would make it easy or difficult regarding the implementation of trauma-informed practices in their education setting. A measure of Behavioral Intentions was created, as well as measures for Attitudes, Subjective Norm, and Behavioral Control.

Five items assessed Behavioral Intentions ($\alpha = .86$), such as “I expect to implement trauma informed education practice,” on a 7-point scale from *Strongly disagree* (1) to *Strongly agree* (7). Four items assessed the direct measure of Attitudes ($\alpha = .72$), including participant’s beliefs about the value of trauma-informed practice in educational settings such as “I believe implementing trauma aware education practice will be,” on a 7-point scale from *Not at all helpful* (1) to *Very helpful* (7).

Four items measured Subjective Norm ($\alpha = .76$), measuring participant's perceptions of others' approval of incorporating trauma-informed practice in their educational context, such as "The people in my work context whose opinions I value would think that I...", on a 7-point scale from *Should not implement trauma-informed practice (1)* to *Should implement trauma-informed practice (7)*. Four items were directed at participant's Behavioral Control ($\alpha = .49$), which explored their perception of how well equipped they felt to successfully incorporate trauma-informed practices, such as "I feel confident that I am equipped with all the skills necessary to use trauma-informed education practice," on a 7-point scale from *Strongly disagree (1)* to *Strongly agree (7)*. A mean score was generated from the total of 21 items, with higher scores indicating stronger intentions toward implementation. A full description of the initial intention survey measure can be found in the supplementary materials.

Implementation Action Survey

Participants' actual implementation of trauma-informed practice in their settings was assessed via a follow up implementation action survey completed approximately six months after they had completed the trauma-informed professional learning course. Here they self-reported on their actual behavior (as opposed to their intended behavior). Again, in the absence of an existing measurement instrument, a custom-made measure was developed following recommendations made by Ajzen (2002) that guide researchers to ask a single question of participants about whether they implemented the target behavior. Recognizing the complex nature of trauma-informed practice implementation, we developed an implementation continuum from which participants could choose the following options:

- "Yes, I have implemented aspects of trauma-informed practice with students and/or staff at my workplace."
- "Yes and no, I have been planning for this and am ready to implement aspects of trauma-informed practice but have taken only the very first small step."
- "No, I am still gathering information about this (for example—planning, having conversations with colleagues) but I haven't taken any further action as yet."
- "No, I have not had the opportunity to think about implementing any plans, despite my wanting to do this."

We also wanted to collect data regarding the facilitators and barriers for successful implementation. We derived a simple question based on research by Wittich et al., (2020). Participants were asked to rank order the most important and relevant factors acting as facilitators and barriers to implementation of trauma-informed education in their workplaces. These factors were derived from research in the broader implementation field (Champine et al., 2019; Fixsen et al., 2005) and trauma informed education research (Wassink- de Stigter et al., 2021). These factors included:

- Individual factors such as motivation, skill level, confidence, time available, able to prioritize.
- Organizational factors such as, integrating trauma-aware practice into a compatible, existing framework for student support at my workplace, having adequate resources, engaging in strategic implementation planning.
- System level factors such as leadership support, trauma-informed practice being supported by policy and procedure at my workplace, community and carers are engaged.
- “Buy in” from colleagues, leadership, community, support agencies.

We deliberately chose not to administer a more comprehensive follow-up survey, such as the measures outlined in the review by Champine et al., (2019) as we wanted to focus on gathering data related to implementation action at follow up, and the implementation determinants.

Data Analysis

Three data analyses explored: (a) intentions to implement trauma-informed education, (b) actual implementation actions and the relationship between these two concepts, and (c), factors affecting implementation. First, hierarchical multiple regression (Jeong & Jung, 2016) was conducted to explore whether attitudes, subjective norms and perceived behavioral control significantly predicted intention scores. This analysis enabled an understanding of whether the theory of planned behavior is a helpful way to conceptualize educators’ intentions in a trauma-informed education context, and whether demographic variables have any influence. Second, hierarchical multiple regression was conducted to explore whether intention and the determinants of intention according to the theory of planned behavior (attitudes, subjective norms, and behavioral control) predicted implementation action six to eight months later. This analysis extends the application of the theory of planned behavior to understand whether intention does directly link to action in a trauma-informed education context. Third, we used descriptive statistics to understand factors that influenced implementation action, specifically factors that supported (facilitators) and hindered (barriers) implementation action.

RESULTS

Mean scores for the theory of planned behavior variables are presented in Table 2. Frequencies and percentages for implementation action behaviors are presented in Table 3. For all predictor and outcome variables, higher scores indicate more positive intentions, attitudes, and beliefs.

Initial intention scores were high, particularly for individual intention and individual attitudes (Table 2), indicating strong willingness of participants to implement trauma-informed practice into their workplaces over the subsequent six

months. While intention scores were largely clustered at the upper end of the scale, the residual scores demonstrated a relatively normal distribution.

Table 2: Intention, Attitude, Subjective Norm, and Perceived Behavioral Control

	<i>M</i>	<i>SD</i>	Range
Intention	6.43	0.76	4.00–7.00
Attitude	6.56	0.51	4.75–7.00
Subjective Norm	5.33	1.16	2.00–7.00
Perceived Behavioral Control	5.20	0.99	2.50–6.75

Note: As measured in initial intention survey; *N* = 72.

A total of 41 participants responded to the follow up implementation action survey. Most participants (73.2 %) who completed the follow-up survey reported they were successful in implementing trauma-informed practice at their workplace. However, due to loss to follow-up, this represented only 41.7% of all participants. Very few of those who completed the follow-up survey (7.4%) reported they had not had the chance to think about this at all (Table 3).

Table 3: Implementation Action Behavior

	<i>n</i>	% Follow Up Sample	% Overall Sample
Yes, I have implemented aspects of trauma-informed practice with students and/or staff at my workplace.	30	73.2	41.7
Yes and no, I have been planning for this and am ready to implement aspects of trauma-informed practice but have taken only the very first small step.	7	17.0	9.7
No, I am still gathering information about this (for example – planning, having conversations with colleagues) but I haven't taken any further action as yet.	1	2.4	1.4
No, I have not had the opportunity to think about implementing any plans, despite my wanting to do this.	3	7.4	4.2
Sub-total	41	100	56.9
Missing*	31		43.1
Total	72		100.0

Note: As measured as measured in the implementation action survey.

*Loss to follow up (reasons discussed in limitations section).

Conceptualizing Intention Using the Theory of Planned Behavior

The validity of applying the theory of planned behavior within this context was explored further, specifically to understand whether the determinants of intention (attitudes, subjective norms, and behavioral control) significantly predicted intention scores. A Pearson correlation matrix (shown in Table 4) identified that the determinants of intention according to the theory of planned behavior (attitude, subjective norms, and behavioral control) as well as course completed, were positively and significantly correlated with intention.

Table 4: Pearson Correlation Matrix for Variables Included in Regression Models

	1	2	3	4	5	6
1 Intention	—					
2 Attitude	0.641**	—				
3 Subjective Norm	0.269*	0.082	—			
4 Behavioral Control	0.506**	0.397**	0.254*	—		
5 Course Completed	0.384**	0.146	-0.042	0.001	—	
6 Age	-0.026	0.088	0.066	-0.017	-0.141	—
7 Qualification	0.066	0.000	-0.062	0.015	-0.063	0.221

*Significance $p < .05$, **Significance $p < .01$

Multiple hierarchical linear regression was conducted. In Model 1, attitude, subjective norm, and perceived behavioral control were included as the predictors. In Model 2, demographic variables, including age, qualification, and type of trauma-informed professional learning course (award vs non-award), were included in addition to the previous Model 1 predictors (see Table 5). Model 1 was significant $F(3, 67) = 26.67, p < .001$, accounting for 51% of the variance in intention scores (see Table 5). Results demonstrated that all three variables; attitudes ($\beta = .44, p < .001$), subjective norms ($\beta = .29, p = .004$) and behavioral control ($\beta = .21, p = .030$) were all significant predictors of intention scores, with attitudes being the strongest predictor of the three. Model 2 was also significant $F(6, 64) = 20.23, p < .001$, accounting for 62% of the variance in intention scores. Results demonstrated that even when accounting for demographic variables, the key determinants of intention including attitudes ($\beta = .39, p < .001$), subjective norms ($\beta = .29, p = .001$) and behavioral control ($\beta = .21, p = .011$) were all still significant predictors. The only demographic variable that significantly predicted intention was the type of trauma-informed course participants had engaged in ($\beta = .32, p < .001$) where those

completing an award course (e.g., Master Education and Graduate Certificate) were more likely to have higher intention scores compared to those in non-award courses. This was to be expected due to the investment in and comprehensiveness of the award courses.

Table 5: Regression Analyses for Intentions

	<i>B</i>	95% CI	β	<i>p</i>
Model 1				
Attitude	.65	.37 - .92	.44	<.001**
Behavioral Control	.18	.06 - .31	.29	.004**
Subjective Norms	.16	.02 - .31	.21	.030*
Model 2				
Change Statistics	R2 Change	<i>F</i> Change	<i>df</i>	<i>p</i>
	.110	6.83	3, 64	<.001**
Attitude	.57	.32 - .82	.39	<.001**
Behavioral Control	.19	.08 - .30	.29	.001**
Subjective Norms	.17	.04 - .30	.22	.011*
Age	-.40	-.14 - .06	-.06	.441
Highest Qualification	.07	-.06 - .19	.08	.29
Trauma-Informed Course	.60	.32 - .89	.32	<.001**

*Significance $p < .005$, **Significance $p < .05$

An assumption of the theory of planned behavior is that intention is a direct driver of implementation action behavior. This study aimed to explore the empirical relationship between intention and subsequent implementation action six months later. In Model 1, a multiple hierarchical analysis was conducted on implementation action behavior with intention score as the predictor. For Model 2, the determinants of intention (attitudes, subjective norms, and behavioral control) were added, and for Model 3, demographic variables (age, highest qualification, trauma informed course) were added. Results demonstrated no significance in Model 1, $F(1, 39) = 1.07$, $p = .308$, Model 2 $F(4, 36) = .970$, $p = .436$ or Model 3 $F(7, 33) = 1.92$, $p = .098$ (Table 6). This indicates that intention and the determinants of intention according to the theory of planned behavior were not significant predictors of implementation action behavior.

Table 6: Regression Analyses for Implementation Action Behavior

	<i>B</i>	95% CI	β	<i>p</i>
Model 1				
Intention	-.21	-.63 - .21	-.16	.308
Model 2				
Intention	-.33	-.94 - .29	-.25	.289
Attitude	-.26	-.98 - .45	-.15	.459
Behavioral Control	.15	-.16 - .46	.17	.334
Subjective Norms	.14	-.15 - .43	.19	.342
Model 3				
Intention	-.01	-.76 - .57	-.07	.565
Attitude	-.61	-1.34 - .12	-.35	.097
Behavioral Control	.15	-.16 - .46	.17	.334
Subjective Norms	.14	-.15 - .43	.19	.342
Age	.04	-.22 - .30	.05	.76
Highest Qualification	-.39	-.67 - .12	-2.90	.007*
Trauma-Informed Course	-.30	-1.11 - .52	-.13	.463

*Significance $p < .05$

Factors Influencing Implementation Action Behavior

As discussed above, the majority ($n = 30$; 73.2%) of participants who completed the follow-up survey reported success in their efforts to implement trauma-informed education practice in their workplace. However, as indicated in the regression analyses, intention did not significantly predict implementation action behavior. To determine other potential facilitating factors for implementation, the results of a ranked order question on facilitators and barriers from the implementation action survey were examined more closely. Participants were asked to rank in order of importance personal, organizational, and system factors as well as “buy in”. Personal factors (such as motivation, skill level, confidence, time available, ability to prioritize) were reported as the most influential facilitator in participants’ implementation success, with 59.5% of participants ranking this factor as the most important. “Buy in” (e.g., from colleagues, leadership, community, and support agencies) was ranked as the second most important factor (29.7% of participants). System factors (e.g., lack of leadership support, lack of policy and procedural support, and lack of community engagement) were reported as the most significant barrier to success, with 43.9% of participants ranking this as the most influential barrier. This was followed closely by 41.5% of participants ranking organizational factors (e.g., no compatible existing framework for student support available, lack of resources, and lack of strategic implementation planning) as the second most influential barrier (Table 7).

Table 7: Regression Most Important Facilitators and Barriers to Implementation

	Rank Order n (%)			
	1st	2nd	3rd	4th
Facilitator (N = 37)*				
Personal Factors	22 (59.5%)	10 (27.0%)	2 (5.4%)	3 (8.1%)
Organizational Factors	4 (10.8%)	9 (24.3%)	15 (40.5%)	9 (24.3%)
System Factors	5 (13.5%)	7 (18.9%)	16 (43.2%)	9 (24.3%)
“Buy In”	6 (16.2%)	11 (29.7%)	4 (10.8%)	16 (43.2%)
Barrier (N = 41)				
Personal Factors	5 (12.2%)	5 (12.2%)	5 (12.2%)	26 (63.4%)
Organizational Factors	8 (19.5%)	17 (41.5%)	11 (26.8%)	5 (12.2%)
System Factors	18 (43.9%)	11 (26.8%)	9 (22.0%)	3 (7.3%)
“Buy In”	10 (24.4%)	8 (19.5%)	16 (39.0%)	7 (17.1%)

*Participants who responded “No” to the successful implementation action behavior question were not asked about facilitators.

DISCUSSION

This study drew on the theory of planned behavior and implementation science to assess participants’ intentions and actions toward implementing trauma-informed practice in their education settings. Participants had high initial intention scores immediately after completing trauma-informed professional learning, indicating positive beliefs and attitudes, and strong perceived support and ability in relation to implementing trauma-informed practice. After approximately six months, most participants who completed the follow-up survey reported they were successful in implementing trauma-informed practice at their workplace.

Initial Intention to Implement Trauma-Informed Practice

Intention is an important concept to measure, as the implementation of trauma-informed practice in education requires a perception shift at an individual and/or organizational level. It demands more of educators than simply following a checklist or step-by-step intervention. For example, being trauma-informed relies on educators having a mindset of growth, positivity, and flexibility (Downey & Greco, 2023) and trauma-informed practice in education is best described as a relational way of believing, thinking, planning, and acting (Howard et al., 2022), enacted both at an

individual educator level as well as within broader, system-level approaches (Champine et al., 2019). Participants in the current study were not implementing a specific intervention per se, rather we were interested in understanding how trauma-informed education learned through professional development is translated into real-world implementation settings. Using the theory of planned behavior to measure educators' intentions to implement trauma-informed education practice (a specific behavioral action) in their settings is one way to learn more about the ways individual educators contribute to whole-of-school or system-wide approaches to making education trauma-informed.

Initial intention to implement trauma-informed practice in their workplaces was high among participants in the current study. Intention in the theory of planned behavior represents an individual's readiness or willingness to adopt specific behaviors. In this study, half of the variation in initial intention scores were significantly predicted by attitudes (e.g., beliefs and opinions about trauma-informed education practice, potential benefits to students and staff), subjective norms (e.g., perceptions of social pressures and influences of colleagues and leadership) and perceived behavioral control (e.g., belief in ability to implement trauma-informed practice successfully). These findings align with the theoretical model (Ajzen, 2002) as well as empirical findings reported in a meta-analysis of 185 theory of planned behavior studies concluding that attitudes were the strongest predictor of intention, followed by perceived behavioral control and then subjective norm (Armitage & Conner, 2001). Our findings confirm that a more favorable attitude towards implementation, greater perceived support, and high perceived level of control over implementation create favorable conditions for strong intentions toward implementing the desired behavior.

Relationship Between Intention and Implementation Action

Although the results of this study have demonstrated that the theory of planned behavior was a helpful way to conceptualize intentions to implement trauma-informed education, it also revealed that in this context, initial intention scores or the determinants of intention (attitudes, subjective norm, and behavioral control) were not predictive of actual implementation action in the short term (six months). Interestingly, this was despite most participants who completed the follow-up survey self-reporting success. It is possible that the items comprising the theory of planned behavior variables did not completely capture the various aspects of actual implementation behavior within education settings. In the follow-up survey, participants were asked to rank the most important determinants related to their implementation experience. Individual factors (such as motivation, skill level, confidence, time available, ability to prioritize) were ranked as the most influential facilitator in participants' implementation success. "Buy in" refers to support for implementation (Wassink-de Stigter et al., 2022) (for example, support from colleagues, leadership, community, and support agencies) and was ranked as the second most important facilitator. While these implementation concepts translate somewhat to the "attitudes", "perceived control" and "subjective norm" variables from the theory of planned behavior, perhaps the rank order question items were

conceptualized in a way that captured the more nuanced applications that participants could relate to in their setting. This conceptualization was based on implementation science principles and will be discussed in further detail in the following section.

Most studies investigating intention through the theory of planned behavior do not follow up participants and rely on the assumption that strong intentions to implement will lead to actual implementation behavior (Ajzen, 2011; Heuckmann et al., 2020), and the findings of the limited educational studies that have followed up participants to measure subsequent behavior are mixed (MacFarlane & Woolfson, 2013; Wilson et al., 2016; Yan & Sin, 2014). In the current study, intention was not predictive of subsequent implementation action. While this may be due to the conceptualization discussed above, or indeed through the limited response rate or sensitivity of measures (discussed in the limitations section below), further insights can be gained by turning to other studies reporting similar results (MacFarlane & Woolfson, 2013; Wilson et al., 2016; Yan & Cheng, 2015). For example, MacFarlane and Woolfson surveyed 111 Scottish teachers to investigate their intentions and actions towards students facing social, emotional, and behavioral difficulties. They found that intention to embrace inclusive education practices in the classroom was not predictive of implementation action, rather subjective norm, in this case principal expectations, was the only significant predictor of action in this context (MacFarlane & Woolfson, 2013). Another study reported that the theory of planned behavior was a good fit for conceptualizing educator's intentions to implement formative assessment; however, it found that intention was not highly predictive of implementation action (Yan & Cheng, 2015). Similar to the current study, these findings suggest that while the theory of planned behavior can accurately predict educator's intentions toward implementing a specific behavior, more consideration is needed to understand what other factors affect implementation action.

Facilitators and Barriers to Implementation

Asking participants to rank the most important and relevant facilitators and barriers to implementing trauma-informed practice was useful to further examine the link between high initial intentions and how this translated into actual implementation action behavior. The theory of planned behavior model did not predict implementation action, however turning to implementation science, further nuances were identified by asking participants about implementation determinants, namely personal, organizational, and system level factors, as well as "buy in" (Champine et al., 2019; Wassink-de Stigter et al., 2021). The most important facilitators identified by participants in the current study were personal factors and "buy in". When examining barriers to implementation, system factors (e.g., lack of leadership support, lack of policy and procedural support, and lack of community engagement) and organizational factors (e.g., no compatible existing framework for student support available, lack of resources, and lack of strategic implementation planning) were reported as the most significant.

The facilitators and barriers identified by participants in our study were similar to those reported in the literature. For example, in their review, Wassink-de Stigter et al., (2021) identified and synthesized several commonly perceived determinants

across the 57 included studies. These determinants were framed as implementation drivers (Fixsen et al., 2005) namely individual competency drivers (e.g., professional development and knowledge of trauma), organizational drivers (implementation planning and fit), leadership drivers, and systemic factors. “Buy in”, though not classified as a driver, was also considered a significant factor in implementation success (Wassink-de Stigter et al., 2021). The authors concluded that these factors interacted to determine the success or failure of implementing trauma-informed approaches in education settings. This interaction between determinants was reflected in the current study. Participants had strong intentions to implement trauma-informed practices after completing professional learning (a facilitating individual competency driver), however the follow-up survey highlighted the importance of considering the organizational and system-level factors that make up the implementation environment. System-level factors such as education policies and practices affect individual, relational, organizational and community responses to trauma (Champine et al., 2019) and have been identified as integral to building a successful implementation climate, for example, a shared commitment, or “buy in” within a school leadership team and available resources for implementation (Wittich et al., 2020). It is likely that participants in the current study who were successful in implementing trauma-informed practices had the support of their leadership, organizational planning, and available resources, coupled with their strong intention to implement. Conversely, those that found implementation difficult indicated a lack of support and resources.

Limitations of the Current Study

There are a number of limitations within the current study that need to be acknowledged. The initial survey identified that participants had strong intentions to implement trauma-informed practice after completing their studies, and the majority of those who completed the follow-up survey reported that they had implemented trauma-informed practice in their setting. However, as the loss of participants to follow up was high, these findings need to be interpreted with caution. It is possible that those who were more successful in their implementation experiences were those who completed the survey. This was despite careful wording in the follow-up survey invitations to remind participants that their experiences were valuable, even if they did not perceive them to be successful. It also must be noted that the timing of the six-month period for the follow up coincided with ongoing COVID-19 related issues and a major flooding event that closed several schools where participants were located during the time of the study, factors that no doubt put added pressure on education staff. Further, those who participated were likely already highly motivated and invested in implementing trauma-informed education practice as most had already dedicated a year to their studies in this field. This may have also contributed to social desirability bias in the follow up sample (although responses were anonymous).

Limited sensitivity in the follow up measurement instrument also needs to be considered. Levels and quality of implementation is likely to vary widely within the implementation categories participants could choose from, which may be why

intentions weren't associated with behavior in this study. In addition, individual intentions may be less predictive in the context of high organizational barriers, which may also be contributing to the lack of associations between intentions and behavior. The pre-identification of facilitators and barriers may have resulted in missing prevalent facilitators/barriers in the sample, particularly considering the contextual nature of these constructs. Despite these limitations, learning more about the implementation determinants of trauma-informed practices was valuable, even with a small sample using self-report measures, as this has not been widely studied.

Recommendations for Future Research

Further research is warranted with a larger sample and validated measures to understand the implementation determinants of trauma-informed education more comprehensively. For example, an exploration of any differences in implementation determinants related to the different roles in education (e.g., classroom educators versus school leaders or counselors) or within the different types of schools or education systems (e.g., public versus private). This research could offer important insights for developing targeted strategies to ensure trauma-informed practices address the needs of all students and educators, taking into account the contextual factors affecting successful implementation. This is particularly important in addressing inequalities in education provision, for example within historically underserved or marginalized communities.

Further investigations exploring the systemic and organizational influences affecting the successful implementation of trauma-informed education may also assist in providing education sites and systems with context specific implementation guidelines. For example, examining how different levels of systemic and organizational support (e.g., leadership “buy-in”, availability of resources, implementation planning, and policy) affect educators' ability to implement trauma-informed practices. Longitudinal studies could track the sustainability of trauma-informed practices over time and identify which types of systemic supports lead to long-term success.

CONCLUSION

The profound implications of childhood trauma on children's learning and development are increasingly being understood (Matte-Landry et al., 2023; Perfect et al., 2016), and this awareness has resulted in the proliferation of professional learning in trauma-informed practice for qualified educators. Despite this growth, there are few published evaluations of professional learning in this area (Dublin et al., 2021; Whitaker et al., 2019) and even fewer investigating graduate-level offerings (Woodside-Jiron et al., 2019). To the author's knowledge, this is the first study investigating the beliefs and circumstances that predict the extent to which educators who have completed trauma-informed professional learning actually apply their new knowledge and skills in their professional practice.

The successful implementation of a trauma-informed approach is influenced by several factors, of which can be understood by drawing on insights from the theory

of planned behavior and implementation science. These complementary theoretical constructs framed the current investigation of the individual as well broader systemic factors associated with behavioral change, namely implementing trauma-informed practice in education.

Facilitators and barriers are contextual determinants of implementation, and we need to know more about these to optimize our response to addressing the impacts of trauma through education (Powell et al., 2019; Wassink-de Stigter et al., 2022). In relation to informing the relevance of professional learning for educators, findings from this study suggest that personal factors are important determinants of successful implementation of trauma-informed practice, and this is magnified when individuals have strong perceived support and “buy in” to the approach. However, personal factors alone, including strong intentions to implement trauma-informed practice are not sufficient. It was clear in the current study that system and organizational-level barriers often thwart individual progress in implementing trauma-informed education. By addressing systemic challenges, educators and administrators could make further progress in implementing trauma-informed education, ensuring that both students and staff are supported. To facilitate the necessary organizational change required for education settings to become trauma-informed, professional learning must move beyond individual knowledge, motivation, and strategies for how to respond to trauma-affected students. There is a need to pay attention to system level factors to support leadership in organizational change, and align the work, people, and structure (Chafouleas et al., 2021) to ensure the success and sustainability of trauma-informed education approaches.

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