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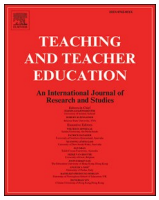

Research paper

Seeing the whole picture: Exploring the predictors of preschool teachers' intentions toward child-centred approach from a socio-psychological perspective

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ABSTRACT

This study was aimed to explore the determinants influencing teachers' intentions towards child-centred approach within an overarching model. An analytical process incorporating a structural equation model and multiple-indicators-multiple-cases procedure indicated that attitudes do not significantly impact teachers' intentions and indicated that external factors, such as social pressures play a more substantial role in shaping their intentions. Moreover, personal and situational factors affect teachers' self-efficacy and intentions. This study enriches the existing literature by illuminating the significance of social pressure and self-efficacy in shaping teachers' intentions towards child-centred approach. These findings bear critical implications for school directors, policymakers, and professional development programs.

1. Introduction

A predominant pedagogical consideration within the realm of contemporary early childhood education is the advocacy for child-centred approach. An ever-increasing body of research affirms the positive influence that such practices exert on child development (Burchinal et al., 2008; Camilli et al., 2010; Opperman et al., 2023; Peisner-Feinberg et al., 2001). As a result, child-centeredness has been endorsed and adopted as a primary approach within numerous national curricula. International organizations, over the course of several decades, have consistently advocated for "child-centred early education" through policy recommendations (OECD, 2012, 2021a, 2021b, 2021c; European Commission, 2011, 2014). In the educational literature, child-centeredness often takes the form of learner- or student-centeredness, but the term "child-centeredness" prevails within early childhood education discourse. Furthermore, child-centeredness aligns with the concepts and technical criteria of "developmentally appropriate practices" (Bredekamp & Copple, 2006; Lerkkanen et al., 2016). It embodies a teaching approach whereby practices are tailored to children's interests and developmental needs, and children actively participate in knowledge construction (Chung & Walsh, 2000; Moyer, 2001; Tandon, 2017). Despite children's active involvement in this approach, it is ultimately the teacher's prerogative to implement this approach. Hence, the teacher's intention toward child-centeredness has a key role in determining the teaching approach in the classroom. In this line, the current study aimed to uncover the predictors influencing teachers' intention toward child-centred approach (*C-CA*).

1.1. Background of the study

C-CA embraces a holistic view of education that encompasses a child's social, emotional, and cognitive development. This approach recognizes the diverse strengths, interests, and learning styles that each child brings to the educational setting. As such, teachers employing *C-CA* adopt a flexible and responsive approach to meet the specific needs of children (Bredekamp & Copple, 2006; Burger, 2015). In these classrooms, teachers establish warm and supportive relationships with children, fostering an environment that encourages children's active participation and interest. They captivate children's attention by providing developmentally appropriate materials and activities, employing a variety of practices including auditory, visual and movement methods. Additionally, positive classroom management techniques are utilized to promote constructive behaviours. For example, classroom rules are well-defined and consistently upheld and the teacher adeptly addresses misbehaviour by highlighting positive behaviours and employing subtle cues. These practices significantly enhance children's learning and developmental experiences (Pianta et al., 2008; Stipek & Byler, 2004). Numerous studies have consistently reported that children

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who experience *C-CA* tend to demonstrate higher levels of motivation (McCombs et al., 2008), engagement (Wasik & Bond, 2001), and academic achievement (Mashburn et al., 2008). Furthermore, several long-term studies have found that children who are exposed to child-centred education are more successful in their educational, social, and working life when they grow up (Campbell et al., 2002; Marcon, 2002). Hence, *C-CA* remarkable educational issue for scholars due to its benefits for children. In this line, they are motivated for further investigation of *C-CA*. The pursuit of this aim gave rise to research trends centred around teachers' classroom practices.

The scholars' investigation into teachers' practices primarily relies on self-reported and observational data. For example, a study focusing on the self-reported teaching practices of 264 preschool teachers working in private preschool programs in the Oman demonstrated that the child-centred approach is endorsed over the teacher-centred approach among teachers (Mohamed & Al-Qaryouti, 2016). Another study of the same nature, conducted with a larger sample (n = 1666), disclosed that a child-centredness was the predominant approach adopted by teachers across various cultures such as the U.S.A., China, Taiwan, Korea, and Türkiye (McMullen et al., 2005). As distinct from this research nature, some studies aiming to determine whether teachers' practices are child-centred or teacher-centred have been moulded by data obtained through observation of real practices. Using observational data from four teachers to assess Taiwanese preschool teachers' practices, Lin (2004) discovered that teachers predominantly used the teacher-centred practices. Furthermore, in observing of 83 preschool teachers to investigate their practices, Lerkkanen et al. (2012) found that Estonian and Finnish teachers exhibited a more child-centred practices than their counterparts in the U.S.A. Likewise, Salminen et al. (2012) carried out a study seeking to outline the profile of teachers' classroom practices. They included 136 Finnish preschool teachers working in daycare centres and primary schools. Their study illustrated that teachers' practices tend to lean slightly toward being child centred. In another study conducted by Fung (2015), the practices of three Hong Kong preschool teachers were examined to gain a deeper understanding of their teaching approaches. The study highlighted the reciprocal roles of teachers and children within the framework of child-centred approach. Lastly, another research nature seeks to determine teachers' practices by collecting data from both teachers' self-reported practices and actual observations. In this context, Sak et al. (2018) conducted a study to examine the consistency between five Turkish preschool teachers self-reported practices and their actual classroom practices. They identified a disparity between what teachers reported and what was observed. Conversely, some other studies collecting similar data have indicated alignment between teachers' practices and their self-reported practices (Hegde & Cassidy, 2009; McCarty et al., 2001).

The research trend on teachers' practices naturally raises the question of what the underlying determinants of teachers' practices. Extensive research over the years addressing this question has revealed that several determinants of teachers' practices include group size and child-teacher ratio (Biersteker et al., 2016; Burchinal et al., 2008), the availability of learning materials (Montie et al., 2006), and the quality of management and staff support (Britto et al., 2011; Phillips et al., 2000). These studies ensure a more nuanced and responsive approach to foster children's growth and learning by offering valuable insights that can inform the design and implementation of *C-CA*. Despite they have made substantial progress in identifying determinants of *C-CA*, the influence of the teacher-related factors, as the most crucial determinant of *C-CA*, should not be overlooked because it is predominantly the teacher who determines the teaching approach, whether child-centred or teacher-centred (Bohn et al., 2004).

The teacher-related factors stand out as the paramount determinants of classroom practices. This has been evidenced by an exploratory study that sought to achieve a holistic understanding of teachers' practices through the utilization of a person-centred approach. The study included 96 preschool teachers working in full-time early childcare programs in the U.S.A. The investigation discerned that teachers' motivation, beliefs, and professional attributes significantly influenced the quality of their practices (Jeon et al., 2016). Furthermore, Salminen et al. (2013) presented descriptive results from a study involving 49 Finnish preschool teachers in which they investigated kindergarten classroom quality profiles using latent profiling analyses. Their result show that teachers' practices were contingent upon their personal way of teaching consistent with the results of the study conducted by Pakarinen et al. (2010). In another study by Pianta et al. (2005), the possible factors affecting classroom quality were investigated in a sample of 238 classrooms representing six states' kindergarten programs in the U.S.A. They found that teachers' psychological characteristics were significant determinants of their practices.

In addition to the aforementioned research trends, another emerging line of research investigated the congruence between teachers' attitudes or beliefs and their classroom practices. Attitude, in this context, refers to teachers' overall evaluation of the child-centred approach, which can significantly shape their classroom behaviour (Ajzen, 2005; Eagly & Chaiken, 1993). This line of research is essentially grounded in the notion that the teacher is a crucial determinant of classroom practices. Based on this premise, scholars have actively sought to identify the teacher-related determinants *of C-CA* across various culture such as Oman (Mohamed & Al-Qaryouti, 2016), Türkiye (Sak et al., 2016), U.S.A. and China (McCarty et al., 2001; Wang et al., 2008; Wen et al., 2011), India (Hegde & Cassidy, 2009), Korea (Kim et al., 2005), and Jordan (Abu-Jaber et al., 2010).

It is distinctly apparent from the literature that research focused on teachers' classroom practices has yielded a myriad of results. Certain studies have found teachers' practices to be congruent with their attitudes or beliefs (Hegde & Cassidy, 2009; McCarty et al., 2001), whilst others have identified a discrepancy between teachers' practices and their attitudes (Jones & Gullo; 1999; Sak et al., 2016; Wen et al., 2011). This array of findings contains an implicit yet critical indication for researchers to delve into the factors shaping teachers' practices. This forms the underpinning rationale for the present study. As far as I know, the primary limitation of these research trends is their narrow focus on only a few teacher-related factors such as attitude and belief when investigating the determinants of *C-CA*. Given that the extensive evidence asserting that child-centeredness is a multifaceted and intricate approach shaped by a variety of personal and social factors (Charlesworth et al., 1991; Cobanoglu et al., 2019; Fantuzzo et al., 2012; McMullen et al., 2006; Parker & Neuharth-Prichett, 2006; Perren et al., 2017), explicating teachers' practices by attributing them solely to a single psychological factor (e.g., attitude) may result in an incomplete understanding and weaken the assertions put forth. Therefore, I posit that embracing a social-psychological perspective to elucidate teachers' intentions towards *C-CA* will facilitate a holistic comprehension of the overarching context as well as its intricate details. Since intention, which signifies a person's preparedness to engage in a particular behaviour and is viewed as a direct precursor to actual behaviour (Ajzen, 1991; Rad et al., 2023), has been regarded as a key concept in numerous studies (Heuckmann et al., 2020; Kilinc et al., 2016; Urton et al., 2023), the present study also considers intention as the key concept under investigation.

1.2. Theoretical framework

The Theory of Planned Behaviour (TPB), a socio-psychological model, serves as a fundamental framework for understanding factors that influence individual behaviours (Ajzen, 1991, 2002). Originating from the Theory of Reasoned Action (TRA), which posits that attitudes and subjective norms shape behaviours (Fishbein & Ajzen, 1975), TPB was developed in the mid-1980s to expand upon TRA's foundations. TPB introduces the concept of self-efficacy, which influences both behaviour and intention, leading to its widespread application across diverse research fields. Within the array of research fields, TPB provides

distinctive insights into the dynamics of behavioural intentions, establishing it as a valuable tool in educational research. It has been effectively utilized to examine complex behaviours and intentions of teachers in areas such as science education (Pongsophon & Herman, 2017; Zint, 2002), curriculum implementation (Underwood, 2012), health education (Heuckmann et al., 2020), inclusive education (Hellmich et al., 2019; Urton et al., 2023; Yan & Sin, 2014), and educational technology (Kilinc et al., 2016), as well as in studying teachers' instructional methods (Crawley, 1990).

For a behaviour, to transpire, it is first essential that a "behavioural intention" (*which I shall henceforth refer to simply as "intention"*) be established. Intention signifies a commitment and resolve to execute the behaviour (Ajzen, 1985). This psychological construct is rooted in the planned aspects of behaviour, reflecting a premeditated decision to act in a certain way (Burns et al., 2012). Intention is not only about the desire to undertake a specific action but also includes a strategic plan for how to do so. It embodies the cognitive representation of a person's readiness to perform a given behaviour and is considered the most immediate and salient predictor of actual behaviour according to TBP (Ajzen, 1991). In this context, planning and trying to implement child-centred approach hold significant importance. The former indicates a strong, definitive commitment to implement child-centred approach, whereas the latter reflects a more tentative willingness that acknowledges potential barriers. This differentiation is critical for understanding the varying degrees of teacher engagement with child-centred practices. Succinctly, the predictors impacting "*intention*" are "*attitude*", "*subjective norms*" and "*perceived behavioural control*" (Ajzen, 1991, 2002, 2012). These predictors constitute the primary layer of the model (Fig. 1). Based on evaluative judgements, this layer does not proffer detailed insights into behaviour. Conversely, the belief layer (second segment of the model) imparts more comprehensive information (Ajzen, 2012). According to TPB, the belief layer is comprised of "*behavioural beliefs*, *normative beliefs*, and *control beliefs*", all of which are firmly rooted in intention (Ajzen, 1991). These beliefs also function as predictors in the primary layer. The dimension of beliefs substantiates that TPB also qualifies as an "expectation-value theory" because each predictor in the belief layer incorporates two sub-dimensions characterized as expectation and value (Ajzen, 2002; Ajzen & Fishbein, 2008; Heuckmann et al., 2020).

"*Attitude*" embodies an individual's (*instead of using "individual", I'll use "teacher")* favourable or unfavourable evaluations of the behaviour. If a positive outcome is anticipated at the termination of a behaviour, the teacher will harbour a positive attitude towards the execution of that behaviour (Ajzen, 2005). Within the TPB framework, *behavioural beliefs* play a crucial role in shaping attitudes. *"Behavioural Beliefs" (BB)* are formulated by two sub-dimensions: perceived possible outcome of the behaviour, including its advantages (BB_{ad}) and disadvantages (BB_{disad}) (expectancy-belief likelihood judgement), and the evaluation of these outcomes (value-belief evaluation judgement) (Ajzen, 1991, 2005; Fishbein & Ajzen, 1975). By multiplying the possible outcome (o_i) with the evaluation of the outcomes (e_i), behavioural beliefs approximate (≈) positive or negative attitudes (*A*). This equation is formulated by Ajzen and Fishbein (2008) as follows:

$$A \approx \sum o_i \, e_i$$

"*Subjective norm*" (SN) pertains to a teacher's perception of whether others (individuals or institutions) approve of a certain behaviour. It essentially signifies the social pressure experienced by teachers in relation to the performance of a specific behaviour (Ajzen, 2002). SN stems from *normative beliefs*, which within the model, comprise two sub-dimensions: the teacher's estimation of possible expectations from possible referent individuals or institutions (expectancy-belief likelihood judgement), and the teacher's motivation to fulfil these expectations (value-belief evaluation judgement). By multiplying the normative referents (nr_i) with the motivation (m_i), normative beliefs approximate (≈) social pressure (*SN*). The formulation is as follow (Ajzen & Fishbein, 2008):

$$SN \approx \sum nr_i \, m_i$$

"*Perceived behavioural control*" (*PBC*) embodies a teacher's proficiency and command over a behaviour, akin to Bandura's concept of self-efficacy (Ajzen, 2002). Consequently, *PBC* holds a pivotal position within the model as it is a significant predictor directly influencing both behaviour and intention. *PBC* arises from *control beliefs*, which include two sub-dimensions: a teacher's estimation of the degree to which potential factors might inhibit or facilitate the performance of a behaviour (value-belief evaluation judgement), and the presence of those factors when performing the behaviour (expectancy-belief likelihood judgement). To examine the influence of individual and situational control factors separately, several researchers have categorized control beliefs into personal (CB_{per}) and situational (CB_{sit}) facets (Armitage & Conner, 2001; Fishbein & Ajzen, 2010; Yzer, 2012). By multiplying the inhibiting factors (f_i) with the presence of those factors (p_i), control beliefs approximate (≈) perceived behavioural control *(PBC)*. The formulation is as follow (Ajzen & Fishbein, 2008):

$$PBC \approx \sum f_i \, p_i$$

Findings from independent studies in early education conducted over the past three decades are congruent with TPB and its predictors.

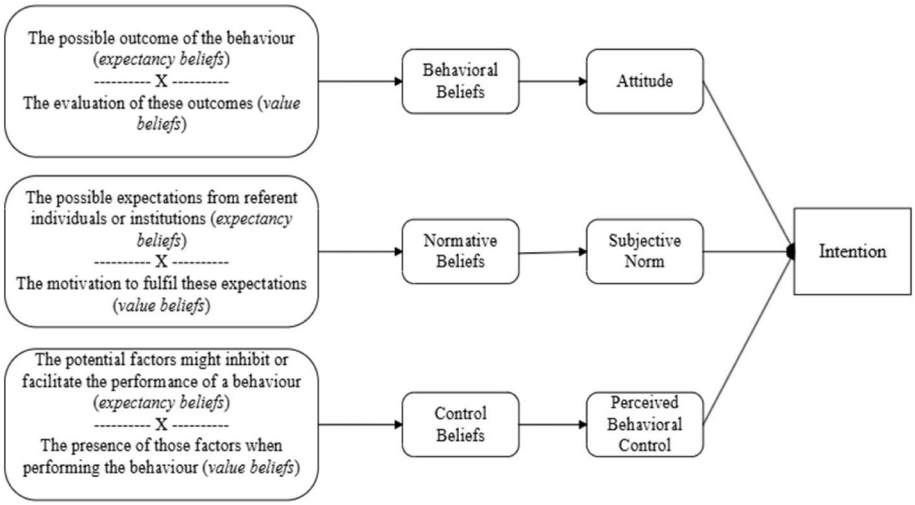

Fig. 1. The components of Theory of Planned Behaviour.

These investigations have consistently demonstrated that factors such as self-efficacy (Cobanoglu et al., 2019; Fantuzzo et al., 2012; McMullen, 1999; Perren et al., 2017), attitude (Fives & Buehl, 2012; Hegde & Cassidy, 2009; Perren et al., 2017), and social pressure (Charlesworth et al., 1991; Goldstein, 2007; Parker & Neuharth-Prichett, 2006) significantly affect early childhood teachers' intentions towards adopting *C-CA*.

1.3. Rationale for using the theory of planned behaviour in the current study

Four key considerations underpin the employment of TPB in this study. Primarily, TPB presents a comprehensive framework facilitating the evaluation of various factors, derived from early education literature and their predictive influence on intention within a singular model. It essentially provides a holistic perspective. Secondly, TPB's belief-based model offers profound and detailed insights into how social and personal factors shape teachers' beliefs (Ajzen & Driver, 1991). This, in turn, allows a closer examination of the minutiae. Thirdly, the validity of the results is enhanced by the incorporation of both the global and the belief-based model. Finally, numerous educational studies have attested to the efficacy of TPB as a robust model for elucidating teachers' intentions (Cooper et al., 2016). Thus, TPB fortifies confidence in the reliable interpretation of this study's results.

1.4. Turkish context

Preschool education holds a central and indispensable position within the Turkish education system. It places significant emphasis on nurturing the holistic development and early learning of young children during their crucial formative years, which typically extend from birth to six years of age. This foundational stage constitutes the inception of their enduring learning journey. Through the cultivation of solid educational bedrock and the nurturing of indispensable social, emotional, and cognitive competencies, this stage crucial for their future academic accomplishments and holistic personal development. The Ministry of National Education (MoNE) regulates and oversees preschool education for children aged 36–72 months, while the Ministry of Family and Social Policies regulates daycare for children aged 0–36 months (Gol-Guven, 2017). Meanwhile, the participants in this research consist of teachers who are actively engaged in working with children between 36 and 72 months. Educational practices for children in the period of 36–72 months are conducted following the guidelines and framework of a national curriculum. This curriculum based on a child-centred approach that emphasized play-based learning and hands-on activities. The primary goal is to support children's holistic development, including cognitive, language, motor, and social-emotional skills. Play serves as a central element to promote exploration and discovery within a safe and supportive setting (Dilek, 2016; MoNE, 2013). In the Turkish preschool education system, the child-centred approach emerged with the curriculum introduced in 2002 and became more pronounced with the curriculum revisions in 2006. Notably, changes such as prioritizing children's interests, needs, and their development in activities, along with providing detailed guidelines for parent involvement and assessment of the educational process, have made these curricula and practices more child centred (Dilek, 2016; MoNE, 2002, 2006).

As of the most recent available data show that preschool education for children between 36 and 72 months has made significant strides in recent years, with increased enrolment rates, a child-centred curriculum, and ongoing efforts to enhance quality (MoNE, 2022; OECD, 2020; Turkish Statistical Institute [TurkStat], 2022). These developments bode well for providing young children with a strong educational foundation and setting them on a path towards academic success and lifelong learning. Despite these efforts, the enrolment rate of 36–72-month-old children in preschool education in Türkiye remains below the average of OECD (OECD, 2022). Additionally, the preschool education system in Türkiye faced significant challenges, including a high child-teacher ratio, inequitable distribution of resources, insufficient funding, and limited diversity in available services (Gol-Guven, 2017; Keser Ozmantar & Karatasoglu, 2019; World Bank, 2015). While the child-teacher ratio in Türkiye lags countries such as the USA and Germany, it is in line with the ratios seen in countries such as Portugal and China (OECD, 2022; Yaya-Bryson et al., 2020).

1.5. Research objectives and hypotheses

In the rapidly growing field of early childhood research, emerging trends about *C-CA* emphasizes the critical examination of the congruence between preschool teachers' child-centred practices and their attitudes or beliefs. While existing studies contribute valuable insights, there are still a need for studies, investigating *C-CA* in depth and more holistically. Otherwise, the conclusions drawn in the studies will be insufficient and will continue to be an important limitation for the research. Recognizing the inherent limitations of examining only a few variables, this study attempts to explore the multifaceted nature of *C-CA* by offering a more holistic perspective that can inform the development of effective and contextually appropriate strategies to promote *C-CA* in preschool settings. Drawing upon the existing body of studies (Fantuzzo et al., 2012; Fives & Buehl, 2012; Goldstein, 2007; Hegde & Cassidy, 2009; Parker & Neuharth-Prichett, 2006; Perren et al., 2017) and theoretical framework (Ajzen, 2002; Ajzen & Fishbein, 2008), two primary objectives were identified. The first objective, accompanied by eight corresponding hypotheses, sought to determine the extent to which the factors in both the global and belief-based model predict teachers' intentions. Given that the behavioural, normative, and control beliefs in the belief-based model are the determinants of the components in the global model (Ajzen & Driver, 1991; Cooper et al., 2016), employing the belief-based model in a study facilitates the acquisition of more detailed results (Heuckmann et al., 2020; Taylor, 2015). In this line, the second objective aimed to reveal the predictive power of the belief-based model on the global model. Fig. 2 presents the hypothetical structure of the current study.

Within the theoretical framework of TPB, attitudes and *BB* are crucial determinants of intention (Ajzen 2005). Attitude refers to the degree to which a person has a favourable or unfavourable evaluation or appraisal of the behaviour in question. *BB* are also the underlying beliefs about the consequences of performing the behaviour. These beliefs also influence on the attitude and intention toward the behaviour (Ajzen, 2005; Ajzen & Driver, 1991; Cooper et al., 2016; Heuckmann et al., 2020; Taylor, 2015). Studies examining various educational behaviours have identified teachers' attitudes as crucial predictors of their intentions (Heuckmann et al., 2020; Knauder & Koschmieder, 2019; Wilson et al., 2022). Moreover, research conducted with preschool teachers has also demonstrated that attitude is a critical determinant in their practices concerning the child-centred approach (Fives & Buehl, 2012; Hegde & Cassidy, 2009). Meanwhile, considering that behavioural beliefs pertain to the perceived advantages and disadvantages of a particular behaviour, the current study separately examined the impact of the perceived advantages and disadvantages of the child-centred approach on teachers' intentions. In this way, I assume that this research would yield more detailed and nuanced results. Within this context, I structured the following research question and proposed three hypotheses regarded to this research question.

Research Question-1 (RQ-1). To what extent do attitudes and BB_{ad} and BB_{disad} predict teachers' intentions?

H1. Attitude positively predicts teachers' intention.

H2. BB_{ad} positively predicts teachers' intention.

H3. BB_{disad} negatively predicts teachers' intention.

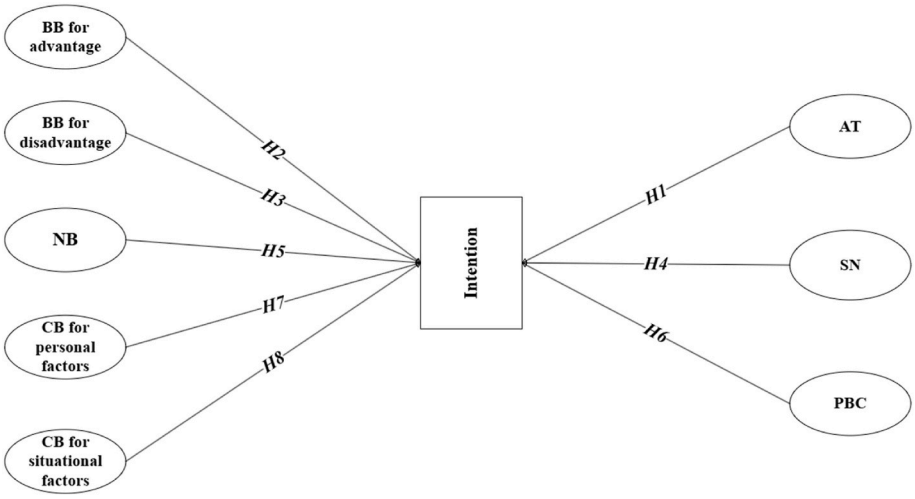

Fig. 2. The hypothetical structure of the study.
CB: Control Beliefs, NB: Normative Beliefs, BB: Behavioural Beliefs, AT: Attitude, PBC: Perceived Behavioural Control, SN: Social Norm.

In the TPB framework, *SN* and *NB* can significantly influence an individual's intention to perform a behaviour. These components reflect the influence of significant others on an individual's decision-making process. Moreover, *NB* influence on the *SN* and intention toward the behaviour (Ajzen, 2002; Ajzen & Driver, 1991; Cooper et al., 2016; Heuckmann et al., 2020; Taylor, 2015). Prior studies in the field of education have established that *SN* exert a significant influence on intention (Heuckmann et al., 2020; Kilinc et al., 2016; Taylor, 2015). Given the lack of recent studies exploring the effect of social pressure on the child-centred approach, the current research addresses a critical variable in early childhood education literature. Accordingly, I structured the following research question and proposed two hypotheses accompanied by this research question.

RQ-2. To what extent do *SN* and *NB* predict their' intentions?

H4. *SN* positively predicts teachers' intention.

H5. *NB* positively predict teachers' intention.

Finally, *PBC* and *CB* are two additional essential components within the TPB framework. *PBC* refers to an individual's perception of their ability to perform a given behaviour. *PBC* is similar to the concept of self-efficacy (Ajzen, 2002). *CB* are also the underlying beliefs about the presence of factors that may facilitate or inhibit the performance of the behaviour (Cooper et al., 2016; Francis et al., 2004). These beliefs influence on the perceived behavioural control and the intention (Ajzen & Driver, 1991; Cooper et al., 2016; Heuckmann et al., 2020; Taylor, 2015). Many studies have found that PBC has a positive impact on teachers' intentions (Gülsün et al., 2023; Kilinc et al., 2016; Voet & De Wever, 2020). Furthermore, research in early education has also indicated that self-efficacy is a crucial variable influencing teachers' child-centred practices (Cobanoglu et al., 2019; Fantuzzo et al., 2012; Perren et al., 2017). Meanwhile, control beliefs have been examined in two types: individual control factors and situational control factors (Armitage & Conner, 2001; Fishbein & Ajzen, 2010; Yzer, 2012). Therefore, this study separately examined the impact of individual and situational factors on intention. This approach allowed for a more in-depth exploration of the research issue. In this regard, I structured the following research question and proposed last three hypotheses corresponding with this research question.

RQ-3. To what extent do *PBC* and CB_{per} and CB_{sit} predict their' intentions?

H6. *PBC* positively predicts teachers' intention.

H7. CB_{per} negatively predicts teachers' intention.

H8. CB_{sit} negatively predicts teachers' intention.

2. Method

The current study employs a mixed-method design, specifically adopting the logic of a sequential exploratory design, to comprehensively investigate teachers' intentions towards *C-CA*. This design is bifurcated into two separate phases, commencing with the collection and analysis of qualitative data, which is then succeeded by a sequential quantitative data collection and analysis (Creswell & Plano Clark, 2011). The findings from the qualitative phase lay the groundwork for the subsequent quantitative stage, wherein a sample group is subjected to structured surveys to quantitatively ascertain the factors influencing teachers' predispositions towards *C-CA*.

2.1. Data collection process and participants

Implementing a belief-based measurement in a TPB study necessitates specific steps, often referred to as elicitation phases, to formulate the items (Fishbein & Ajzen, 2010; Francis et al., 2004; Heuckmann et al., 2018). Accordingly, the current study encompasses these elicitation phases to construct the items for the belief-based measurement. Hence, the study was naturally constructed as a mixed-method design based on the logic of sequential exploratory design. Data were collected over four phases (Fig. 3).

The initial phase aimed to elicit teachers' key beliefs about *C-CA*. As per Fishbein and Ajzen's (2010) suggestion, an open-ended questionnaire was presented to teachers who voluntarily participated in the first elicitation stage (n = 80, Table 1). This questionnaire proved invaluable in identifying teachers' salient beliefs about behavioural outcomes, normative referents, and control factors linked to *C-CA*, a standard procedure for belief-based measurement (Ajzen, 2006; Fishbein & Ajzen, 2010). To further interpret the teachers' concise or unclear responses in the open-ended questionnaire, face-to-face interviews were conducted in the second elicitation stage (n = 11, Table 1), with the questions from the open-ended questionnaire serving as a guide (e.g., *What do you think might be some advantages to implement the activities in a child-centred way within the next three months?, Are there any individuals or groups who would approve of you implementing the activities in a child-centred way within the next three months?)*. All questions on belief dimensions are provided in the supplementary material. The third phase sought to evaluate the psychometric properties of the preliminary

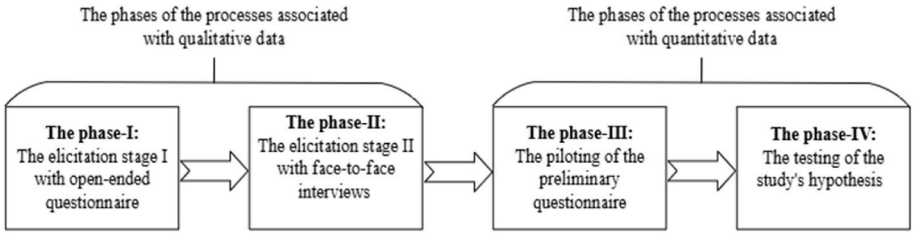

Fig. 3. Progression of research phases with mixed method: from elicitation to hypothesis testing.

Table 1
Participants characteristic.

	Phase-I (n = 80)	Phase-II (n = 11)	Phase-III (n = 181)	Phase-IV (n = 286)
Gender, n (%)				
Female	80 (100)	11 (100)	158 (87.3)	246 (86.0)
Male	–	–	23 (12.7)	40 (14.0)
Age, mean (SD)	39. 61 (6.62)	41.90 (7.354)	38.60 (6.17)	37.70 (5.36)
Teaching experiences, mean (SD)	14.25 (4.80)	17.27 (9.26)	14.13 (4.99)	13.82 (4.98)
Educational degrees, n (%)				
High school	–	–	–	4 (1.4)
Associate	4 (5)	2 (18.2)	8 (4.4)	29 (10.2)
Bachelor	74 (92.5)	8 (72.7)	163 (90.1)	236 (82.5)
Master	2 (2.5)	1 (9.1)	10 (5.5)	17 (5.9)

questionnaire, devised following the content analysis of teachers' perspectives obtained during the first two phases. The teachers participating in this stage worked in central Anatolia. School directors were contacted and informed about the research. The reliability and validity analyses were conducted using the data from 181 teachers (Table 1). The final phase focused on the primary study that intended to test the study's hypotheses. In the study, a self-administered survey approach was employed, and participants were informed about the study objectives and then their voluntary participation was ensured before starting. It was carried out between January and February 2021, based on convenience sampling model, with the participation of 286 volunteer teachers working in a metropolitan city in Central Anatolia. Teachers' ages ranged from 23 to 55 (M = 37.7, SD = 5.36), and their teaching experience spanned from 1 to 37 years (M = 13.82, SD = 4.98). Most teachers graduated from departments of 'preschool education' and 'child development and education', working with children aged between 36 and 72 months. Table 1 provides detailed information about the teachers participating in each phase. Formal permissions for data collection were secured from the Ministry of National Education (for phase III and IV) and from the local education commission (for phase I and II).

2.2. Measures

TPB encompasses two measurement models, namely global and belief-based measures (Ajzen, 1991, 2002). Although most TPB-related studies have used the global measure, the current study also incorporated a belief-based measurement. While both models are grounded in the same theory, they were used in tandem in this study for the following reasons: a) to complement each other's assumptions, b) to bolster the validity of the study's results, and c) to provide more comprehensive and detailed results for pre/in-service training.

2.2.1. Global measurement

This measure includes the primary model that uncovers the determinants of teachers' intentions towards *C-CA*. In this model, four socio-psychological components are featured, namely "*intention, attitude, subjective norm, and perceived behavioural control*". The global measurement model of this study was constructed by adapting items used in previous TPB studies across diverse subject areas (Ajzen, 2006; Cheung et al., 1999; Davis et al., 2002; Fishbein & Ajzen, 2010; Mummery & Wankel, 1999). The model comprised a total of 13 items. Attitude is evaluated using three items on a semantic differential scale, such as "*Implementing activities in a child-centred way is … useless [1] – useful [7],"* which measure teachers' evaluations of the child-centred approach from negative to positive. *SN* is measured through four items, for example, "*Teachers at my school implement their activities in a child-centred way*," reflecting the perceived social pressure and normative expectations from the possible referent individuals or institutions regarding child-centred approach. *PBC* is assessed by four items like "*I can implement my activities in a child-centred way*," which gauge the teachers' perceived ease or difficulty of implementation, influenced by internal competencies and external circumstances. Intention is measured using two distinct items that elucidate the strength and certainty of commitment. The item "*In the next three months, I plan to implement my activities in a child-centred way*" is intended to capture a definitive commitment to action, reflecting a strong intent to engage in the behaviour. Conversely, the item " *In the next three months, I will try to implement my activities in a child-centred way*" is designed to assess a more tentative willingness, recognizing potential challenges and indicating a lower certainty of action.

A scale ranging from strongly disagree (1) to strongly agree (7) is used for components other than attitude, to evaluate the strength of these perceptions and intentions. All questions in the global measurement, including their detailed descriptions, are provided in the supplementary material, ensuring transparency and accessibility of the methodology used.

2.2.2. Belief-based measurement

Similarly, this model seeks to reveal the determinants of teachers' intentions at the level of belief regarding *C-CA*. As the belief-based model offers a more comprehensive and detailed understanding of the behaviour in question, several studies have focused on identifying the determinants of behaviour through the application of belief-based measurement (Ajzen & Driver, 1991; Taylor, 2015). In this study, the belief-based measurement was made up of a total of 30 items. Each component of belief (*behavioural beliefs, normative beliefs, and control beliefs*) emerged as new latent variables according to the expectancy-value formulation outlined in the theoretical framework. Detailed information about expectancy and value items in each component of belief, as well as the content of beliefs, is provided in the supplementary material.

Although the factor analysis for the belief-based measurement indicated that all items of control beliefs were grouped under the same factor, I scrutinized the effects of CB_{per} and CB_{sit} separately on intention, as researchers suggest that personal and situational factors influence behaviour separately (Armitage & Conner, 2001; Fishbein & Ajzen, 2010; Yzer, 2012). When creating the questionnaire for the belief-based measurement, I adhered to the guidelines in the sample questionnaire provided by Ajzen (2002; 2006; 2013).

2.3. Statistical analysis

Owing to the nature of mixed methods, the current study incorporates both qualitative and quantitative data. The subsequent sections provide a detailed explanation of the analysis processes pertaining to these data.

2.3.1. The analysis for qualitative data

The analysis of the qualitative data collected in phases I and II was organized into three distinct steps. I named these stages as "the preliminary examination, framing/comprehension, and conclusion" (Creswell, 2014; Miles & Hubermann, 1994; Yin, 2011). In the preliminary examination stage, the responses to the open-ended questionnaire were initially read and reviewed. Subsequently, the audio recordings from the phase II were meticulously transcribed. The initial data readings served as the point where the transition to the second stage and the conceptual understanding of the data started to develop. The second stage named as the framing/comprehension stage began with re-reading the data and trying to delve deeper into understanding the teachers' statements. During these readings, brief notes were taken on the qualitative data. Based on these notes, codes were assigned that would fully reflect the teachers' opinions. These codes were created to meet teachers' salient beliefs regarding the sub-dimensions of TBP's belief-based model. For instance, a teacher's salient belief in the open-ended questionnaire, *"it becomes very difficult to provide child-centred education in crowded classes,"* was coded as "crowded classroom." This code was then included under the category of "the inhibitors of child-centred approach." The conclusion stage began with the process of categorizing codes according to their common characteristics. The categories were determined in accordance with the belief-based model of TBP such as the advantages of child-centred approach, the disadvantages of child-centred approach, the personal inhibitors of child-centred approach, the situational inhibitors of child-centred approach, and the social references of child-centred approach. Additionally, these codes form the basis of the item contents. In other words, the items pertaining to behavioural, normative, and control beliefs within the belief-based model were derived from the beliefs encapsulated by these codes.

The analytical process about qualitative data was carried out independently by two coders (one is author of this study). The inter-rater reliability, or the agreement on beliefs by the coders, was calculated at .87 for all the codes (Miles & Hubermann, 1994). Codes that caused divergent opinions were negotiated between two coders. Subsequently, a consensus was reached by engaging a scholar with expertise in qualitative analysis and educational research in the process. It is worth noting that the interviews conducted in phase II allowed for the clarification of vague statements such as "*It is useful for children*" and "*It is necessary for preschoolers*," as well as one-word responses like "challenging" and "unnecessary," which were expressed by teachers in the open-ended survey during the first phase. Furthermore, the interviews in phase II enabled the discovery of new codes within some categories (e.g., the code of "*democratic learning environment*" emerged in the interviews).

2.3.2. The analysis for quantitative data

To test the psychometric properties of the items, a series of analyses, including exploratory factor analysis (EFA, $\lambda \geq |0.40|$), item-total correlation ($r_{it} > |0.30|$), and analyses for convergent and discriminant validity (Hair et al., 2014), were conducted. Items failing to meet the threshold values required for robust psychometric properties were excluded from the draft questionnaire (for instance, an item was excluded from the intention variable). Multiple imputation with expectation maximization algorithm was performed to estimate missing values.

Structural Equation Modelling (SEM) is extensively used in testing causal models grounded in theoretical underpinnings (Hair et al., 2014). Moreover, SEM is perceived as the most suitable method for analysing the relationships between the multidimensional components of the TPB (Cooper et al., 2016). In this study, therefore, a two-stage SEM process is implemented for both the global and belief-based measurements separately. The process commences with confirmatory factor analysis (CFA) to test the validity and reliability of observed variables across indicators, employing the measurement models for global and belief-based measurement. Even though the skewness and kurtosis values fell within acceptable boundaries (*<3 for skewness, <8 for kurtosis*), the bootstrapping method, based on the Bollen-Stine bootstrap, was utilized for the global model, as the assumption of multivariate normality was not completely fulfilled (Kline, 2016). Following this process, the study's hypotheses were tested using a structural model to investigate the extent to which the factors in each model predict teachers' intentions. It's worth noting that the latent variable of the belief-based model emerged with an Expectancy-Value-Product (EVP) formulation. To elucidate the predictive power of the belief-based model on the global model, the single belief items as suggested by Heuckmann et al. (2020) were utilized. For this procedure, a double mean strategy based on the EVP formulation was initially performed for each belief area in the belief-based measurement (Lin et al., 2010). After this process, separate analyses were run for behavioural beliefs (6 items), normative beliefs (4 items), and control beliefs (5 items), utilizing a multiple-indicators-multiple-cases procedure (SEM-based MIMIC model, Kline, 2016; Zhu & Aryadoust, 2019). SPSS V.24 & AMOS V.24 statistical package programs facilitated the analytical process.

3. Results

3.1. Qualitative results

First of all, the aim of the qualitative part of the study is only to set up a background and to develop the item pool for the questionnaire, which is used for data collection in quantitative part of the study (Ajzen, 2006; Fishbein & Ajzen, 2010). According to the qualitative findings from the elicitation stages, teachers highlighted several advantages of *C-CA*, including fostering a democratic learning environment, facilitating school adaptation, and permanent learning in children. However, they also expressed concerns that *C-CA* may increase their workload, difficulty in the implementing activities, and make children control more challenging. Teachers also noted that parents, the curriculum, school directors, and colleagues might have specific expectations regarding the implementation of *C-CA*. Additionally, situational factors such as crowded classrooms, lack of physical resources, and a lack of support from school administration were identified as potential inhibitors to the effective implementation of *C-CA*. Personal factors, including professional reluctance and fatigue, were also reported as important inhibitors. Table 2 represents the salient beliefs of teachers according to the qualitative results.

Table 2
Teachers' salient beliefs in belief-based model.

Belief dimension	Content of belief
Behavioural beliefs	The establishment of a democratic learning environment
	Facilitating of adaptation to school for children
	Realisation of permanent learning in children
	Increase in teacher's workload
	Difficulty in implementing activities
	Challenges in child control
Normative beliefs	Parents
	Curriculum
	School directors
	Colleagues
Control beliefs	Crowded classroom
	Lack of instructional support from school administration
	Lack of physical facilities
	The professional reluctance
	The professional fatigue

3.2. Quantitative results

3.2.1. Descriptive results

Table 3 exhibits the descriptive scores of key components in the TPB model. Overall, teachers reported having a positive attitude *(M = 6.44, SD = 1.12)* and strong intention towards utilizing *C-CA (M = 6.04, SD = 1.16)*. Additionally, teachers reported high social pressure *(M = 5.67, SD = 1.08)* and high self-efficacy *(M = 5.65, SD = 1.10)* concerning *C-CA*.

3.2.2. Models' goodness-of-fit results

To ascertain the validity of measurement models, it is recommended that CFI, GFI, NFI and TLI exceed .90, that SRMR and RMSEA range between .03 and .08, and that x^2/df remains below 5 (Hair et al., 2014). In this vein, the results of the CFA suggested that the goodness-of-fit scores for each measurement model have an appropriate threshold value (The scores for the global measurement: $x^2 = 110.71$; $df = 58$, $x^2/df = 1.909$: $p < .00.01$; *CFI*: *0.969*; *GFI:0.933*; *NFI:0.937*; *TLI: 0.958*; *SRMR:0.043*; *RMSEA*: *0.064*. The scores for the belief-based measurement: $x^2 = 108.67$; $df = 75$; $x^2/df = 1.449$, $p < 0.01$; *CFI: 0.983*; *GFI:0.942*; *NFI*: *0.949*; *TLI:0.977*; *SRMR: 0.040*; *RMSEA*: *0.045)*. The convergent and discriminant validity of each model were assessed with the scores of Composite Reliability (CR) and Average Validity Extracted (AVE) (Fornell & Lacker, 1981). The CR value of each measurement exceeds .70, and the AVE values exceeds .50. Furthermore, the correlation coefficients between the components in each model are smaller than the square root values of the AVE. These results indicate that the convergent and discriminant validity of each model has been achieved (Table 3).

3.2.3. Path results

The second step of the analytical process is to investigate the extent to which the factors in each model predict teachers' intentions (Fig. 4). The analyses for structural models revealed that both the global measurement's goodness-of-fit scores *($x^2 = 82.605$; $df = 59$; $x^2/df = 1.675$; $p < 0.05$; CFI: 0.987; GFI:0.957; NFI: 0.955; TLI:0.982; SRMR: 0.038; RMSEA: 0.037)* and the belief-based model's goodness-of-fit scores *($x^2 = 130.706$; $df = 75$; $x^2/df = 1.743$, $p < 0.01$; CFI: 0.969; GFI: 0.936; NFI: 0.932; TLI: 0.957; SRMR: 0.057; RMSEA:0.056)* are at acceptable levels. The path analysis for the global measurement demonstrated that *SN* has a significant and robust path to intention *($\beta = 0.497$; $t = 7.376$, $p < 0.001$)*, a result that stands above the influence of other paths from attitude and *PBC* to intention. Moreover, *PBC* exerts a significant influence on intention *($\beta = 0.320$; $t = 4.906$, $p < 0.001$)*. However, attitude does not significantly influence intention *($\beta = 0.052$; $t = 1.033$, $p = 0.302$)*. The path analysis for the belief-based model also showed that *NB* significantly affects intention and this influence stands above the impact of other paths in the model *($\beta = 0.432$; $t = 6.635$, $p < 0.001$)*. The analysis revealed that both CB_{per} *($\beta = -0.213$; $t = -2.688$, $p < 0.05$)* and CB_{sit} *($\beta = -0.206$; $t = -2.500$, $p < 0.05$)* have a significant and negative impact on intention. Likewise, the analysis showed that BB_{disad} has a significant and negative influence on intention *($\beta = -0.144$; $t = -2.566$, $p \leq 0.01$)*. However, BB_{ad} does not have any effect on intention *($\beta = 0.06$; $t = 0.505$, $p = 0.614$)*.

3.2.4. The predictive power of the belief-based model on the global model

In this section of the results, I present the effect of individual beliefs on the components of TPB to enhance understanding about the factors influencing teachers' intentions toward *C-CA*. The MIMIC analysis showed that the four *NB* accounted for 35.6% of variance in social pressure, and three of them were perceived by the teachers as a social pressure factor for *C-CA*. The most critical social pressure factors for teachers are the school directors *($\beta = 0.225$; $p < 0.01$)*, curriculum *($\beta = 0.205$; $p < 0.01$)*, and parents *($\beta = 0.180$; $p < 0.05$)*, respectively. Two belief items related to CB_{per} explained 27.5% of the variance in *CB*. Both have significant and negative impacts on teachers' control over *C-CA*, namely, teachers' professional reluctance *($\beta = -0.299$; $p < 0.01$)* and professional fatigue *($\beta = -0.282$; $p < 0.01$)*. Two belief items related to CB_{sit} explained 24.6% of the variance in *CB*. They are a crowded classroom ($\beta = -0.279$; $p < 0.01$) and lack of physical facilities *($\beta = -0.275$; $p < 0.01$)*. While BB_{disad} had a significant effect on intention, the analysis revealed that none of the items belonging to this component had predictive power on attitude. As BB_{ad} does not affect intention, I did not examine the predictive power of the items of this component on attitude.

4. Discussion

This study, viewed through the lens of social psychology, comprises two specific objectives. The first objective is to examine the socio-psychological determinants that influence teachers' intentions towards executing child-centred approach, by utilizing two TPB models. The second objective is to examine the predictive power of the belief-based model on the global model, thereby offering an intricate insight into teachers' intentions. Given that beliefs construct components that act as intention predictors (Ajzen, 2002; Ajzen & Fishbein, 2008), they can be seen as profound determinants of intention within the overarching model. This study's findings illuminate certain obscure aspects that have emerged over recent years. Moreover, they appear to construct an in-depth understanding of the consistency/inconsistency between teachers' beliefs and classroom practices explored in previous research (Hegde & Cassidy, 2009; Jones & Gullo; 1999; McCarty et al., 2001; Sak et al., 2018; Wen et al., 2011).

4.1. Identifying of predictive power of attitude and behavioural beliefs on teachers' intention

Paths in both the global and belief-based models reveal that teachers' attitudes and beliefs about the advantages of child-centred approach were not effective in influencing intention (H1 and H2 were not confirmed). These findings align with previous studies demonstrating

Table 3
The discriminant validity of each model.

	ATT	PBC	SN	IN		BB_{ad}	BB_{disad}	NB	CB_{per}	CB_{sit}	IN
ATT	**.84**				BB_{ad}	**.94**					
PBC	.09	**.83**			BB_{disad}	−.09	**.92**				
SN	.08	.46	**.78**		NB	.05	.13	**.84**			
IN	.11	.55	.62	**.92**	CB_{per}	−.21	.20	.22	**.75**		
					CB_{sit}	−.04	.22	.20	.49	**.75**	
					IN	.11	−.13	.37	−.15	−.14	**.94**
M	6.44	5.65	5.67	6.04		41.74	23.75	25.64	10.44	20.77	6.04
SD	1.12	1.10	1.08	1.16		6.37	14.49	10.05	10.57	10.48	1.16
AVE	.71	.70	.61	.85		.88	.84	.71	.57	.57	.88
CR	.88	.89	.85	.92		.95	.94	.90	.72	.80	.93

Note 1: "AVE: Average Variance Extracted, CR: Composite Reliability."
Note 2. "The bold values are indicator of square root of AVE for each variable."

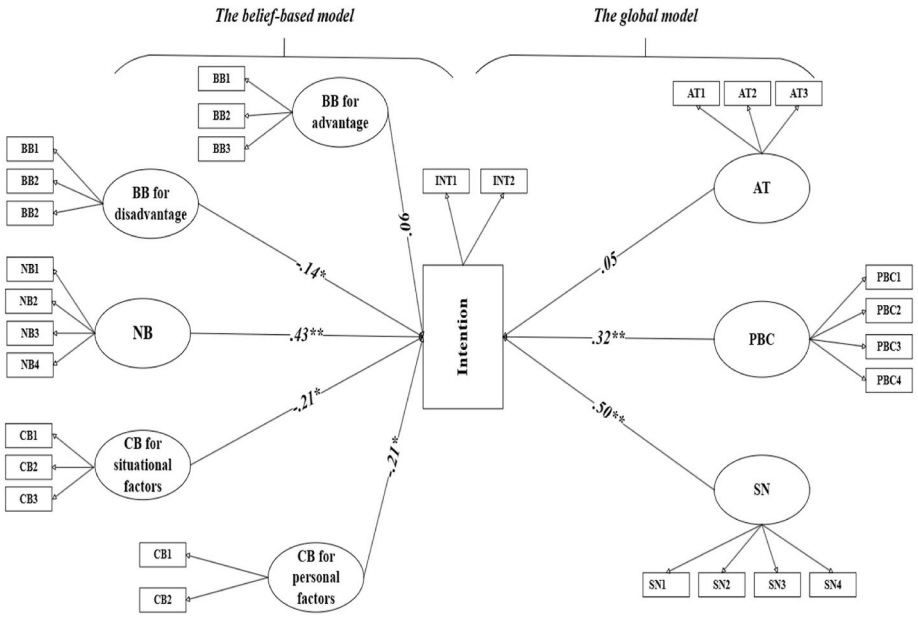

Fig. 4. Structural equation models for each investigated model.
**p < 0.001, *p < 0.05, CB: Control Beliefs, NB: Normative Beliefs, BB: Behavioural Beliefs, AT: Attitude, PBC: Perceived Behavioural Control, SN: Social Norm.

that teachers' attitudes do not exert any influence on their behaviours (Sak et al., 2018; Wen et al., 2011). The current findings might be attributed to the fact that teachers are compelled to adopt a positive attitude towards *C-CA*, as "*child-centeredness*" is a favoured approach in early childhood literature. Thus, teachers could potentially respond to attitude-related items based on the widely accepted *C-CA*, regardless of their actual beliefs. Moreover, both theoretical explanations and empirical findings align with my possible explanations (Armitage & Conner, 2001; Brown et al., 2002; Fishbein & Ajzen, 2010; Sommestad et al., 2015). They propose that mandatory choice, due to an external factor such as curriculum, may result in no relationship between TPB components. This obligatory choice may also cause a ceiling effect that threatens the relationship between two variables in the SEM and regression analyses (Kline, 2016).

However, the path analysis within the belief-based model exposed that behavioural beliefs about the disadvantages of *C-CA* negatively predict teachers' intentions (H3 was confirmed). These beliefs concern to the increased workload, the difficulty in implementing the activities, and the difficulty in controlling the children. This finding is coherent with the qualitative findings. Several studies have similarly found that teachers have concerns about *C-CA* (Leggett & Newman, 2017; Myagmar, 2010; Yalcin and Erden, 2018). Nevertheless, these studies did not investigate how teachers' concerns affect their intention. In this regard, the present study expands the current early childhood literature by suggesting that early childhood teachers' intentions are influenced more by their beliefs about the disadvantages of *C-CA* than their positive attitudes. This could also logically explain the inconsistency between attitude and behaviour evidenced in past studies. Interestingly, although I expected behavioural beliefs about the disadvantages of child-centeredness to predict their attitudes, the MIMIC analysis revealed that these beliefs had no effect on their attitudes. Nevertheless, this result is significant as it uncovers a deep cognitive mechanism within teachers' intentions regarding *C-CA*. According to both the theory of planned behaviour and reasoned action, beliefs constitute the deep cognitive layer of intention, as they generate psychological components (*attitude, subjective norm, and behavioural control*) in the global model. Consistent with theoretical explanations, it is expected that teachers' beliefs about the disadvantages of *C-CA* would negatively predict their attitudes. However, it appears that teachers' deep beliefs about the disadvantages of *C-CA* did not influence their attitudes. As stated earlier, there could be two reasons for this finding. Firstly, since child-centeredness is a favoured approach, teachers may have avoided reflecting their deep beliefs in their attitudes. Secondly, social pressure might shape their attitudes rather than their deep beliefs. The second explanation is already supported by my findings related to social pressure. This study suggests that teachers' attitudes towards *C-CA* are not internalized and are unrealistic. Therefore, future researchers aiming to investigate the relationship between attitudes and practices should consider teachers' beliefs about the disadvantages of *C-CA*, as these beliefs may play a vital role in this relationship. Neglecting to incorporate these profound beliefs into the research process might lead to a limited understanding of the actual situation, potentially resulting in misinterpretations. In this regard, this study raises questions about teachers' attitudes and highlights the need for further research to better understand the deep cognitive mechanisms underlying teachers' attitudes and whether their attitudes towards *C-CA* are realistic or not.

4.2. Identifying of predictive power of subjective norm and normative beliefs on teachers' intention

The path analysis within each model also revealed that the social pressure teachers experienced strongly predicts their intention regarding *C-CA* (H4 and H5 were confirmed). The association between social pressure and intention/behaviour has garnered less attention than the association between teachers' attitudes and intention, thereby leaving the influence of social pressure on teachers' intention less explored. Thus, this study broadens the existing early childhood literature by unveiling the significant influence of social pressure on teachers' intention. The social pressure emanated from the school director, curriculum, and parents. This finding is coherent with the qualitative findings to some extent. Because the directors, parents, curriculum and colleagues were found as important factors which affect the intention regarding *C-CA* in the qualitative part. Three key factors (the directors, parents, and curriculum) also came into prominence in the quantitative findings derived from MIMIC analysis.

The study's findings on both attitude and social pressure suggest that teachers' intentions were formed more by social pressure than intrinsic motivation. It is reasonable to speculate that there are certain risks associated with teachers forming intentions due to social pressure. Firstly, their intention might yield teacher-centred practices. Previous

research corroborates this speculation with findings demonstrating that teachers exposed to social pressure for effective teaching behaviours tend to exert more control over children (Hur et al., 2016; Pelletier et al., 2002). Secondly, teachers might refrain from using *C-CA* in the absence of social pressure. Finally, when teachers perceive that they are being coerced into implementing certain activities or approaches, they may exhibit reduced motivation and willingness to implement *C-CA* in their classrooms. Moreover, this study generated unexpected findings concerning the correlational relationships within each model. In the global model, it was found that social pressure had a positive effect on self-efficacy, suggesting that when teachers perceive higher levels of social pressure, they also experience an increase in their confidence in implementing *C-CA*. Conversely, within the belief-based model, social pressure was found to have a different effect, specifically increasing burnout, which subsequently threatened self-efficacy. This unforeseen finding indicates that when teachers perceive higher levels of social pressure within the belief-based model, it leads to increased burnout, ultimately undermining their confidence in implementing *C-CA*. Ajzen (1991) attributes this inconsistency to the fact that belief-based items, being more salient and evocative, necessitate thoughtful and reasoned responses, while global measures elicit more instinctive and automatic reactions. Gagné and Godin (2000) asserted that Ajzen's hypothesis had not been confirmed. However, the present findings provide evidence supporting his hypothesis.

4.3. Identifying of predictive power of perceived behavioural control and control beliefs on teachers' intention

Within the TPB framework, self-efficacy is crucial in shaping behaviour as well as intention (Ajzen, 1991, 2002). Therefore, it is a significant component for studies based on the TPB. Self-efficacy relates to an individual's belief in their ability to successfully accomplish a specific task (Ajzen, 2002; Bandura, 1991). Concerning *C-CA*, it is reasonable to propose that teachers who possess a strong sense of self-efficacy would be more likely to intend to employ this approach in their classrooms (Five & Buehl, 2012). Previous research corroborates this idea by highlighting that self-efficacy plays a central role in teachers' beliefs, intentions, and classroom practices (Cobanoglu et al., 2019; Fantuzzo et al., 2012; McMullen, 1999; Perren et al., 2017). In line with these findings, this study also determined that self-efficacy positively influenced teachers' intentions regarding *C-CA (*H6 was confirmed*)*. Especially, my findings closely correspond with a study demonstrating that teachers' self-efficacy exerts a more substantial impact on shaping educational practices than their attitudes (Perren et al., 2017).

Furthermore, this study extends beyond previous findings by disclosing that both situational and personal factors threaten teachers' intentions (H7 and H8 were confirmed) as well as their self-efficacy. Among the personal factors, professional burnout (comprising professional reluctance and fatigue) adversely affected teachers' self-efficacy and their intention, according to both qualitative and quantitative findings. This effect is not surprising as professional burnout is associated with stress, discontentment, and a lack of motivation. These psychological conditions play a significant role in teachers' classroom performance and self-efficacy (Brouwers & Tomic, 1999; Folkman et al., 1986). As such, the self-efficacy and intention of a teacher experiencing these situations will naturally diminish. Previous research supports this conclusion by demonstrating that teachers' self-efficacy and their intentions declined when they experienced burnout (Ansari et al., 2022; Herman et al., 2018; Rimm-Kaufman & Hamre, 2010; Roberts et al., 2020). Regarding situational factors, crowded classrooms and lack of physical facilities negatively affected teachers' self-efficacy and their intentions. These factors were already mentioned by the teachers of the qualitative part of the current study. The challenges presented by crowded classrooms and the absence of physical facilities are not unexpected findings in this study. Numerous past studies have consistently demonstrated that these factors adversely impact teachers' classroom practices (Layzer & Goodson, 2006; Sheridan, 2009; Slot et al., 2015). Although these factors may not be surprising, they nevertheless provide valuable insights into the complex association between situational factors and teachers' self-efficacy, and their intention.

5. Limitations and directions for future studies

While this study offers valuable insights into teachers' intentions towards *C-CA*, it is important to recognize its limitations and highlight potential areas for future exploration. First, this study employed a convenience sampling approach, potentially limiting the applicability of the findings to a wider population. To boost the generalizability of future studies, it would be beneficial to utilize a more representative sampling methodology. Second, while this study suggests that teachers have a high level of intention to implement child-centred activities, this result doesn't necessarily imply that their intentions will flawlessly translate into their behaviours. It is widely acknowledged that individuals do not always act in line with their intentions (Sheeran, 2002). Therefore, by adopting an observational approach, researchers could supplement and validate self-reported data, thereby delivering a more comprehensive and accurate appraisal of the factors influencing teachers' practices. Such an approach can contribute to a deeper understanding of the complex interplay between personal, social, and contextual factors that influence the implementation of *C-CA* in early childhood education. Another limitation observed in the study was the presence of a ceiling effect in the attitude-related items. To tackle this issue in future studies, it would be advantageous to employ a traditional Likert scale method in lieu of the semantic differential scale model. This modification could help to avoid response saturation and offer a more accurate assessment of teachers' attitudes towards *C-CA*. Furthermore, future studies might consider incorporating items that capture a distinct psychological component associated with willingness alongside teachers' attitudes. The inclusion of such items would allow teachers to express their preferences and choices more openly, thereby improving the measurement of their willingness to engage in the desired behaviour (Heuckmann et al., 2020). Evaluating teachers' willingness towards specific teaching approach could provide valuable insights into their intrinsic motivation and commitment. In addition to the limitations previously identified, it is crucial to acknowledge that this study didn't account for several factors that may have an impact on teachers' attitudes, self-efficacy, the social pressure they feel and their intentions towards the child-centred approach. Notably, individual differences such as teachers' gender, age, professional experience, and personal teaching philosophy were not included as variables in this study. In this line, future research might investigate the impact of individual differences on the components of the TPB. Moreover, the current study also didn't investigate the impact of specific circumstances in which teachers work such as school type, class size, working time, diversity and inclusion status in the classroom, and teachers' professional development status. This limitation underscores an important call for future research to elucidate the complex nature of teachers' intentions regarding child-centred approaches.

6. Conclusions and implications

This study, adopting a social psychology perspective, illustrates the multifaceted nature of the determinants influencing teachers' intentions towards *C-CA*. Especially, it provides key contributions to the scholarly understanding of the complex relationship between personal, social, and contextual factors. The present results revealed that teachers' attitudes and beliefs about the advantages of child-centeredness did not significantly influence their intention. However, teachers' beliefs about the disadvantages of *C-CA* emerged as a negative predictor of their intentions. Instead, the results highlighted the significant role of social pressure in shaping teachers' intentions. On a positive note, teachers' self-efficacy also emerged as a significant predictor of their intentions

towards *C-CA*. When teachers felt confident in their abilities to implement this approach, they expressed a stronger intention to do so. Furthermore, the study identified situational factors, such as crowded classrooms and lack of physical facilities and personal factors such as professional burnout as potential threats to teachers' self-efficacy and their intentions.

In line of current study's findings, policymakers, school directors, and teacher educators can design targeted interventions and professional development initiatives to support the effective implementation of *C-CA*. These programs can focus on building teachers' knowledge, skills, and confidence in implementing *C-CA*, while also addressing any misconceptions or apprehensions they may hold. Moreover, creating supportive learning environments that encourage experimentation, collaboration, and reflection can help alleviate teachers' concerns about *C-CA*. Through the establishment of a positive and non-judgmental school atmosphere, educators can foster a sense of comfort, enabling them to explore innovative approaches and receive valuable feedback from colleagues and mentors. This also enables teachers to overcome their stress and burnout (Grant et al., 2019; Jeon & Ardeleanu, 2020). Additionally, directors and policymakers should acknowledge the inherent challenges and intricacies involved in executing *C-CA* and ensure that expectations are set realistically. This includes considering the contextual factors that may impact teachers' ability to fully embrace child-centeredness and providing the necessary resources, time, and support to facilitate successful implementation.

CRediT authorship contribution statement

Hasan Dilek: Writing – original draft, Methodology, Investigation, Formal analysis, Conceptualization.

Declaration of generative AI and AI-assisted technologies in the writing process

During the preparation of this work the author used the Chat GPT in order to improve readability and language. After using this tool/service, the author reviewed and edited the content as needed and take full responsibility for the content of the publication.

Declaration of competing interest

The author report there are no competing interests to declare.

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Data availability

The data that has been used is confidential.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.tate.2024.104796.

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