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Research paper

Longitudinal relationships between teachers' utility values and quitting intentions: A person-organization fit perspective

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ABSTRACT

This five-month, two-wave longitudinal study investigated the direct associations between teachers' utility values and quitting intentions, as well as the indirect associations between utility values and teacher outcomes via perceived person-organization fit. The sample included 1,086 Canadian teachers. Results from the latent change structural equation modeling suggested that teachers' social and personal utility values at the beginning of the semester were directly and indirectly associated with their quitting intentions, as mediated by perceived person-organization fit. Analyses into the pattern of changes further found that increased social utility values corresponded with increased fit perceptions, yielding decreased intentions to leave current schools.

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1. Introduction

Teacher turnover and shortages are worldwide crises, and they have a huge impact on school functioning and student learning (Williams et al., 2022). International statistics show a 30–50% teacher turnover in Western countries such as the U.S., Canada, the U.K., and Australia (Saatcioglu, 2020; Madigan & Kim, 2021). Among the teachers who decide to leave a teaching position, about half change schools (i.e., migration), and the other half leave the teaching profession entirely (i.e., attrition; Saatcioglu, 2020). Teacher turnover reflects psychological challenges for teachers, with studies consistently showing high turnover intentions in teachers to correspond with low job satisfaction and high burnout (Caprara et al., 2006; Wang et al., 2015).

What teachers value in their professional life predicts their quitting intentions. Based on the perceived usefulness, or the utility, of the teaching career, teachers are typically motivated to pursue the teaching profession with two main values: (a) personal utility value, such as job security, autonomy, or prestige, and/or (b) social utility value, such as making social contributions, helping students, or connecting with colleagues (Klassen et al., 2021; Watt & Richardson, 2007). These utility values influence teachers' perceptions, specifically concerning their fit within the school setting, that further corresponds with their subsequent quitting intentions and decisions.

In this article, we first present a comprehensive overview of the predictors of teachers' turnover intentions. Then, we particularly focus on teachers' utility values (e.g., Cable & Edwards, 2004; Schwartz, 1992; Watt & Richardson, 2007) and person-organization fit (e.g., Kristof, 1996), and propose a mediational model depicting the direct associations between teachers' utility values and their quitting intentions, as well as the indirect associations between utility values and the outcomes through teachers' perceived person-organization fit. Finally, we discuss and interpret the study findings, limitations, and implications for practice.

2. An overview of the predictors of teachers' turnover and turnover intentions

Research in past decades has investigated various factors that contribute to teacher turnover and turnover intentions. Findings suggest that there are both individual and contextual factors. Individual factors such as teaching values, motivation, personality, attitudes, demographics, and previous experiences influence turnover and turnover intentions in multiple settings. More

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specifically, teachers who are more intrinsically or altruistically motivated (e.g., Australia, Canada; Richardson & Watt, 2016; Wang & Hall, 2019; Watt & Richardson, 2007, 2008), or who are more self-efficacious in managing disruptive classrooms, engaging students, and adopting various teaching strategies reported lower quitting intentions (e.g., Canada, USA; Klassen & Chiu, 2011; Tschannen-Moran et al., 1998; Wang et al., 2015). Teachers who hold mastery goals (e.g., the goal of teaching is to learn new things) or interpersonal goals (e.g., the goal of teaching is to connect with students; Butler, 2007, 2012) reported a lower intention to quit (e.g., Canada; Wang et al., 2015; 2017). Moreover, teachers who present a more agreeable personality or are more open to new experiences tend to regulate classroom emotions more effectively (e.g., Turkey; Basim et al., 2013), yielding greater job satisfaction, lower burnout (e.g., USA; Taxer & Frenzel, 2015), and a lower intention to quit (e.g., Canada; Wang et al., 2015).

In addition, teacher turnover and turnover intentions are also closely related to demographic factors. For example, male teachers have consistently reported higher intentions to quit than their female counterparts (e.g., Canada; Wang et al., 2015; Wang & Hall, 2021). More experienced teachers have been found to change schools more frequently due to greater marketability (e.g., USA; Ingersoll, 2001; see also Borman & Dowling, 2008 for a review), but are nevertheless less likely to quit the teaching profession entirely (e.g., USA; Smith & Ingersoll, 2004; Van Overschelde & Wiggins, 2020). Special education teachers have higher turnover rates than mainstream teachers (e.g., USA; Ingersoll, 2001). Furthermore, although certified teachers tend to be more persistent than uncertified teachers (e.g., Hong Kong; Zhang & Zeller, 2016), those with higher education levels or excellent academic performance (e.g., USA; Boyd et al., 2011; Latham & Vogt, 2007), in contrast, have broader career pathways and variant job choices than others, thus, are less persistent (e.g., USA; Saatcioglu, 2020). Finally, teachers who teach at primary levels (Grades 1–6) reported relatively higher levels of self-efficacy in teaching and lower quitting intentions than those teaching at secondary levels (Grades 7–12; e.g., Canada; Klassen & Chiu, 2011).

In addition to the individual factors, contextual factors influencing turnover and turnover intentions include culture, school climate, classroom climate, work demand, as well as the characteristics of the principals, students, colleagues, and parents with whom teachers interact (Allensworth et al., 2009). More specifically, countries or cultures with more supportive educational infrastructures, such as higher salaries, better resources, and effective policies, tend to have low teacher attrition (e.g., Finland and Singapore; Darling-Hammond & Rothman, 2011). Schools in rural areas (as opposed to urban or suburban schools; e.g., USA; Ingersoll, 2001; Sutcher et al., 2016), public schools (e.g., USA; Ingersoll et al., 1997), and larger schools (e.g., USA; Boyd et al., 2011) tend to have lower teacher turnover. Moreover, teachers who teach at high poverty schools, with many academically disadvantaged and ethnic minority students are more likely to leave schools (e.g., USA; Hanushek et al., 2004; Redding & Nguyen, 2020; Scafidi et al., 2007). However, teachers with more supportive administrators (e.g., Canada, USA; Kraft et al., 2016; Ladd, 2011; Redding & Nguyen, 2020; Wang & Hall, 2019), less disruptive and high performing students (e.g., USA; Boyd et al., 2011; see also Borman & Dowling, 2008 for a review), or who maintain close relationships with colleagues (e.g., Canada, USA: Jones et al., 2013; Kraft et al., 2016; Pogodzinski et al., 2013; Sass et al., 2011; Wang et al., 2021) report lower intentions to quit.

Although contextual factors explain *which* environmental features impact teacher turnover (or turnover intentions) and individual elements explain *who* is more likely to encounter occupational challenges and thus, more likely to quit, studies have also suggested that it is the combination of both these factors, explaining *who* is more likely to thrive or suffer in *what* situations, that most proximally and strongly predict teacher well-being and persistence (for reviews, see Chang, 2009 and Klassen et al., 2021). It is, therefore, the match between teachers and their working environment (i.e., *person-organization fit*; e.g., Canada, USA; Miller & Youngs, 2021; Miller et al., 2020; Wang & Hall, 2019) that most strongly predicts teacher turnover (intentions). The effects of individual and contextual factors are filtered through teachers' perceptions of their fit within the environment. Regardless of the impact of individual or contextual factors, it is, after all, teachers' own perceptions of fit that most strongly and proximally predict their quitting intentions and decisions.

3. A values-based approach to understanding teachers' quitting intentions

Values, defined as the "concepts or beliefs that pertain to desirable end states or behaviors, transcend specific situations, guide selection or evaluation of behavior and events, and are ordered by relative importance," are stable personal traits that guide action and predict persistence (Schwartz, 1992, p. 4; Schwartz, 2017). One of the most important value frameworks is Schwartz's circumplex model, which has classified four major types of human values – *self-transcendence*, *self-enhancement*, *conservation*, and *openness to change*. *Self-enhancement* values focus on personal development, achievement, and power; *self-transcendence* values emphasize collective interest, group consensus, and sociability. The *conservation* values focus on conformity and job security, and the values of *openness-to-change* favor self-direction and autonomy (Schwartz, 1992).

Based on Schwartz's framework of fundamental human values, Cable and Edwards (2004) further mapped these values onto respective work values. More specifically, it is suggested that individuals who hold self-transcendence values believe it is essential for them, in their jobs, to make the world a better place, be of service to society (altruism), and form close relationships with others (relationships). Individuals who present high self-enhancement values focus on their salary level (pay) or whether they are gaining enough respect from others (prestige). Moreover, individuals who hold conservation values regard keeping their jobs as one of the top priorities (job security), and those who have high openness-to-change values consider it essential to do their work in their own ways and make their own decisions (autonomy). In essence, individuals' fundamental life values largely reflect their job behaviors and performance (Cable & Edwards, 2004).

3.1. The FIT-choice motivation framework

As another major values framework in education and motivation, expectancy-value theory suggests that *expectancy of success* and *values* are the two key determinants of students' or teachers' choices and performance (Eccles & Wigfield, 2002). Moreover, the theory suggests that individuals' expectations of success strongly predict their performance and that their values are powerful determinants of academic or career-related choices (e.g., Bong, 2001). As informed by expectancy-value theory, Watt and Richardson's (2007) Factors Influencing Teaching Choice (FIT-Choice) motivation framework has provided a prominent approach to identifying various factors associated with teachers' career choices.

The framework proposes three key higher-order constructs that predict teachers' career choices: (1) expectancy/ability beliefs (i.e., the *self*), (2) perceived task difficulty (i.e., the *task*), and (3) subjective task value (i.e., the *value*; Watt, 2004). The *self* factor pertains to teachers' perceived teaching ability; the *task* factor includes

task demand (e.g., teaching as an expert career with high demand) and task return (e.g., perceived social status and teacher morale, and salary). The *value* factor encompasses intrinsic career values (the enjoyment of teaching) and two classes of utility values – *social utility values* and *personal utility values*; Watt & Richardson, 2008). These two classes of utility values suggest that teachers may choose a teaching career for personal reasons (i.e., *personal utility*), such as improving their quality of life, and/or for social reasons (i.e., *social utility*), such as helping students and contributing to society. They also suggest that teachers' career choices (e.g., retention, migration, or attrition) are influenced by how they see their teaching jobs as helpful in realizing their personal and/or socially oriented utility values. Comparing across these factors, relatively less research attention has been paid to investigating how perceived usefulness and importance (the utility values) of a teaching career influence teachers' subsequent career-related decision making. Therefore, the current study focuses specifically on teachers' utility values.

3.2. Mapping discrete work values onto utility values

Both Schwartz's (1992) value theory and Watt and Richardson's (2007, 2008) FIT-Choice framework are renowned values frameworks, with the former generally focusing on occupational decision-making and the latter focusing on teaching choices. In fact, the integration of both kinds of literature from occupational psychology, which point out discrete work values (specific value types; Cable & Edwards, 2004), and educational psychology, which investigates utility values specifically in the teaching profession (Watt & Richardson, 2007), facilitates a comprehensive and nuanced understanding of teachers' career choices.

More specifically, teachers' personal utility values are related to beliefs that a teaching career can help increase their or their families' life quality (Watt & Richardson, 2007, 2008), and such values can include discrete work values such as job security (under the *conservation* factor), prestige (under the *self-enhancement* factor), and autonomy (under the *openness-to-change* factor; Cable & Edwards, 2004). Moreover, social utility values are related to beliefs that a teaching career contributes to society and builds connections with other people (Watt & Richardson, 2008), which can be reflected in discrete work values, including altruism, relationships with students, and relationships with colleagues (all under the *self-transcendence* factor; Cable & Edwards, 2004). Integrating these two frameworks helps bridge the theory and research gaps between organizational and educational psychology and helps put into context the previous work on teachers' motivation and occupational values. Integrating related theoretical perspectives from separate disciplinary traditions also helps build a convergent understanding of an important phenomenon, in this case, teachers' career intentions (e.g., Steel & König, 2006).

3.3. Influences of teachers' utility values on their quitting intentions

It is generally believed that if individuals focus on personal gains or losses, they will be less committed to group development or collective benefits (Lönnqvist et al., 2009; Schwartz, 1992; Spain et al., 2014). For example, an individual who values prestige or job security may, in the first place, show a strong inclination to stay because the longer they stay, the more likely they will be promoted (hence gaining more prestige) or tenured (henceforth achieving job security). However, these inclinations to remain are not readily transferred into organizational or professional commitment (Mohsin et al., 2013). These individuals may nevertheless leave once their organizations or professions can no longer satisfy their personal needs (Delahaij et al., 2014; Haivas et al., 2013). Unlike personal utility values, focusing on social utility values transfers a person's focus from personal gains to social or societal contributions. Individuals with higher social utility values are more committed to their careers (Grant, 2007), have better work performance (Levontin & Bardi, 2018; Van Loon et al., 2018), and are less likely to leave the profession (Thompson & Gregory, 2012; Willis-Shattuck et al., 2008).

3.3.1. Empirical findings

Empirical studies conducted in the teaching profession have confirmed these findings. For example, a study conducted among preservice teachers in the U.S. found that teachers who perceived a loss of autonomy reported a stronger intention to leave the teaching profession (Bouwma-Gearhart, 2010). In another study among Canadian in-service teachers, it was similarly found that teachers who presented stronger values toward job security or autonomy than other teachers tended to suffer from psychological ill-being (e.g., low job satisfaction, high burnout), which stimulated higher intentions to leave (Wang & Hall, 2019). In contrast, social utility values showed more positive results. A study conducted among Taiwanese teachers found that teachers with stronger altruistic values tended to report greater trust among colleagues and greater intention to share knowledge with their group members (Chen et al., 2014). Moreover, results from another study revealed that Canadian teachers who focused on making social contributions and establishing close relationships with students reported greater job satisfaction, lower burnout, and lower intentions to leave the teaching profession (Wang & Hall, 2019).

In addition, other empirical studies conducted by Watt and Richardson, adopting the FIT-Choice model, have found similar results. For example, their studies among Australian pre-service teachers showed that teachers were driven primarily by social reasons as opposed to personal reasons when choosing teaching as a career (Richardson & Watt, 2014; Watt & Richardson, 2007). In a few cross-country comparisons, Watt and colleagues (2012, 2017) have found that teachers, especially teachers from western countries (e.g., the US, Dutch, German, Swiss), regarded contributing to society and connecting with students as their primary reasons for teaching, rather than gaining job security or reserving time for family. Moreover, social utility values were more adaptive for student teachers' planned persistence, with making social contributions and connecting with students demonstrating the strongest relationships with planned persistence (Richardson & Watt, 2014; Watt & Richardson, 2007).

In the current study, we are interested in (1) how teachers' utility values and outcome variables are related to each other *concurrently* (e.g., early-semester utility values being associated with early-semester quitting intentions), (2) how they are related *longitudinally* (e.g., early-semester utility values being associated with an increase or decrease in quitting intentions across a span of a semester), as well as (3) how the *change* in teachers' utility values and the *change* in their quitting intentions across a school semester are related to each other (e.g., an increase/decrease of utility values across a semester being associated with the increase/decrease of the quitting intentions across a semester). Given that prior research provides limited evidence concerning the relations between change over time in teachers' values and quitting intentions, our analyses of relations between variables' changes should be considered exploratory in nature.

Hypothesis 1. Teachers with greater personal utility values at the beginning of the semester will report higher intentions to leave their current schools and the teaching profession at the beginning of the semester (*concurrent relationship*; H1a). Teachers with greater baseline levels of personal utility values will also report an

increase in their quitting intentions after a semester (*longitudinal relationship*; H1b). Teachers with a greater increase in personal utility values will also report an increase in their quitting intentions across a school semester (*change relationship*; H1c).

Hypothesis 2. Teachers with greater social utility values at the beginning of the semester will report lower intentions to leave their current schools and the teaching profession at the beginning of the semester (*concurrent relationship*; H2a) and they will also experience a decrease in quitting intentions across the span of a school semester (*longitudinal relationship*; H2b). Teachers with a greater increase in social utility values will report a decrease in their quitting intentions across a school semester (*change relationship*; H2c).

4. A person-organization fit perspective to understanding teachers' quitting intentions

Both individual factors, such as teachers' work values, and environmental factors, such as school climate are strongly associated with teachers' professional well-being. However, more importantly, the interplay between individual and environmental factors, as seen in person-organization fit, more strongly and proximally influence valued outcomes (Van Vianen, 2018).

Situated in person-environment fit theories (Barrick & Parks-Leduc, 2019), person-organization fit can be broadly understood as the compatibility between the individual and their organization (Kristof, 1996). There are two classes of person-organization fit. *Supplementary fit* focuses on the similarity or the level of congruence between the individual and organizational characteristics. Examples of this fit include value congruence or goal congruence, which suggest that what the individuals wish to achieve is aligned with the perceived goals of their organizations. On the other hand, *complementary fit* focuses on how the individuals' knowledge, skills, and ability can fill the missing part of the organization and present a unique contribution to the organization. Instead of focusing on how similar individuals are with their organizations concerning their values, goals, or needs, complementary fit focuses on the needs-supplies or demands-abilities relationships between the individuals and the organizations (Kristof-Brown et al., 2005; Lauver & Kristof-Brown, 2001). Therefore, it is suggested that individuals are more likely to perceive a person-organization fit when (a) their values or goals are aligned to those of their organizations (*supplementary fit*), (b) their needs can be addressed by the organization (*complementary needs-supplies fit*), or (c) their knowledge, skills, and abilities match up with the organizations' needs (*complementary demands-abilities fit*). Fulfilling any of these fit functions builds perceptions of person-organization fit (Guan et al., 2021; Kristof, 1996).

4.1. Utility values as the antecedents of person-organization fit

Schools exist to cultivate knowledge exchange and relationship building. They contribute to society by educating students and providing them with essential knowledge and social skills to thrive. In this process, teachers play more critical roles in influencing their students' learning than any other controllable factor (Hattie, 2008). Recent studies on the purposes and functions of schools have also pointed out the importance of teachers' social roles (e.g., showing care and respect, facilitating equality) in student development and academic improvement (Hattie & Larsen, 2020). Schools' values are to make social contributions by fostering student learning and building positive relationships. Therefore, teachers who perceive their roles to take care of students and foster student development should be more likely to perceive an alignment between their missions and schools' roles (Wang & Hall, 2019).

Empirically, it has been found that teachers who strongly endorse social utility values of teaching (e.g., caring about students) tend to perceive a congruence between their own values and those of their schools, which in turn, contributes to a perception of supplementary fit (i.e., value congruence; Turkey: Erdogan et al., 2004; China: Li et al., 2015). However, on the other hand, teachers committed to the profession or their schools under internal (e.g., seeking autonomy) pressure report low person-organization fit (Li et al., 2015). These teachers who focus on the personal benefits of a teaching career regard job security, autonomy, prestige, or pay as their primary occupational pursuits. They present strong personal demands, but if these demands cannot be addressed or teachers perceive little control over the efforts to realize these values, they will be more likely than others to experience a values misfit.

Hypothesis 3. Teachers with high levels of social utility values at the beginning of the semester will tend to report higher person-organization fit at the start of the semester (*concurrent relationship*; H3a) and an increase in perceived fit across a semester (*longitudinal relationship*; H3b). A greater increase in social utility values will also correspond with an increase in perceived fit across a school semester (*change relationship*; H3c). However, those who present high levels of personal utility values will tend to perceive a low person-organization fit at the beginning of the semester (*concurrent relationship*; H3d), and a decrease in perceived fit across the span of a school semester (*longitudinal relationship*; H3e). A greater increase in personal utility values will lead to a reduced perceived fit across a school semester (*change relationship*; H3f).

4.2. Consequences of person-organization fit

According to Schneider et al.'s (1998) attraction-selection-attrition (ASA) framework, individuals are attracted to, selected by, and retained in organizations or professions that match their individual characteristics. Individuals are assumed to possess an innate drive to seek consistency, control over their lives, belonging, and life satisfaction (Yu, 2013). Therefore, a better fit between the individuals and their surroundings regarding capability, core values, or norms is expected to foster greater motivation (Li et al., 2015) and commitment (Qiao & Hu, 2021) while reducing attrition (Hayes & Stazyk, 2019). Consistent with Schneider's framework, research in organizational settings has found that high levels of person-organization fit fosters positive work attitudes, commitment, and job satisfaction, and reduces stress and attrition (Kristof, 1996; Kristof-Brown et al., 2005).

Empirically, consistent results have been observed for the teaching profession. More specifically, several studies conducted among US teachers found that teachers' perception of person-organization fit, especially the fit concerning colleague relationships, was one of the strongest predictors of their retention intentions (Jones et al., 2013; Miller et al., 2020; Miller & Youngs, 2021; Pogodzinski et al., 2013). Another study, conducted among US early-career teachers, found that teachers who obtained a more accurate preview of their teaching positions (e.g., during the hiring process) tended to report higher levels of person-organization fit, which in turn, yielded greater job satisfaction in these teachers (Ellis et al., 2017). Finally, a study with Canadian teachers found that a great alignment between teachers' personal values and those endorsed by school administrators predicted a lower quitting intention in teachers (Wang et al., 2021).

In addition to person-organization fit, which focuses on the match between the individual and their organization's characteristics, other types of fit may overlap with the person-organization fit but contribute to individual outcomes differently. For example,

person-job fit and person-vocation fit focus on the alignment between personal characteristics and job/vocation characteristics. They are related to individuals' subjective feelings towards the job, such as job satisfaction or job commitment (Kristof-Brown et al., 2005; Lauver & Kristof-Brown, 2001). Person-group fit pertains to one's perceived alignment with the group; hence it is more closely related to coworker relationships (Seong et al., 2015; Werbel & Johnson, 2001). Person-organization fit, as compared to other types of fit, focuses more on the quality of the organizational environment, hence, is more relevant to one's organizational commitment and migration intentions (leaving the organization) than professional commitment and attrition intentions (leaving the occupation; Cable & Judge, 1996; Verquer et al., 2003).

Hypothesis 4. Teachers who perceive greater person-organization fit at the beginning of the school semester should report a lower intention to leave their current schools or the teaching profession at the beginning of the semester (*concurrent relationship*; H4a) and they will also experience a decrease in quitting intentions across the semester (*longitudinal relationship*; H4b). An increase in teachers' person-organization fit will correspond with a decrease in teachers' quitting intentions (*change relationship*; H4c). Moreover, the magnitude of these hypothesized effects should be stronger on migration intentions (leaving the current school) than on attrition intentions (leaving the profession; H4d).

5. The integrative mediational model

Integrating the theoretical frameworks concerning utility values and person-organization fit perceptions, mediational models are now proposed suggesting the concurrent and change relationships between teachers' beliefs about the personal and social utility of teaching and their intentions to leave the schools or the teaching profession. More specifically, first, we propose a mediational model concerning the baseline levels of the variables. Early-semester beliefs about contributing to knowledge and establishing close relationships with students and colleagues (*social utility values*) should correspond with teachers' early-semester perception of person-organization fit that, in turn, yield lower intentions to leave current schools or the teaching profession at the beginning of the semester. Moreover, early-semester beliefs about the personal benefits of a teaching career (*personal utility values* reflected by prestige, autonomy, and job security) should be negatively associated with teachers' person-organization fit at the beginning of the semester, that in turn, result in teachers' higher intention to leave the current schools and the teaching profession at the beginning of the semester. Therefore, perceived person-organization fit is proposed to mediate the relationship between teachers' utility values and quitting intentions.

Second, we propose another mediational model concerning the change in each of the variables. An increase in teachers' personal utility value should correspond with a decrease in perceived fit after a semester, which in turn, leads to an increase in quitting intentions. Moreover, an increase in teachers' social utility value is hypothesized to correspond with an increase in perceived fit, yielding a decrease in teachers' quitting intentions after a semester.

Hypothesis 5. Teachers' early-semester perceived person-organization fit mediates the relationship between their utility values and intentions to leave the current school or the profession at the beginning of the semester (*mediation of baseline levels*; H5a). A change in perceived fit also mediates the relationship between the change in teachers' utility values and the change in their quitting intentions (*mediation of change*; H5b).

6. Method

6.1. Participants

A total number of 1,086 practicing teachers from Canada (female: 81.3%; Caucasian: 94.6%) participated in the Time 1 survey, and 752 teachers participated in the Time 2 survey (82.2% female). Participants had a mean age of 42 years ($SD_{Time\ 1} = 9.13$; $SD_{Time\ 2} = 8.99$) and an average of 15 years of teaching experience ($SD_{Time\ 1} = 7.86$; $SD_{Time\ 2} = 7.66$; ranging from early-career to late-career teachers). These teachers taught at primary schools (grades 1–6; Time 1: 43.6%; Time 2: 42.7%) and secondary schools (grades 7–12: Time 1: 44.9%; Time 2: 44.5%), with a few others teaching at post-secondary levels or across multiple education levels (e.g., primary and secondary; Time 1: 11.5%; Time 2: 12.8%). Most of the teachers held either a bachelor's degree (Time 1: 61.4%; Time 2: 62.0%) or a Master's degree (Time 1: 29.3%; Time 2: 28.2%)[1]. The participants were from 621 schools and taught a diverse range of subjects (e.g., language, math, science, arts, music, physical education; homeroom teachers who taught multiple subjects). As very few teachers were nested in each school (i.e., on average, fewer than two participants were from the same school) or under a specific subject, we analyzed the data at the single level (i.e., teacher level) rather than at multiple levels (i.e., school or subject levels).

To evaluate the effects of missing data, multivariate analysis of variance (MANOVA) was conducted to examine mean-level differences between teachers who completed both time points ($n = 752$) of the surveys and those who did not participate in the Time 2 survey ($n = 334$) concerning their values (i.e., altruism, relationships with students, relationships with colleagues, prestige, job security, and autonomy), perceived person-organization fit, migration intentions, and attrition intentions. The results, based on Pillai's trace,[2] indicated that there were no significant differences between the two groups, with $V = 0.010$, $F(9,895) = 0.961$, $p = .471$; multivariate $\eta^2 = 0.010$. The independent samples t-tests showed no significant differences between these two teacher groups concerning teacher demographics, including age, gender, teaching grade level, years of teaching, and teachers' highest level of education, with $|t|$s $= 1.02–1.63$, $ps < .05$. We used full information maximum likelihood (FIML) estimation to deal with missing data (Muthén & Muthén, 1998-2017).

6.2. Measures

6.2.1. Teachers' discrete work values/utility values

Cable and Edwards' (2004) Work Values Survey was used to measure six types of teachers' discrete values (three items per value), and these values were mapped onto two corresponding FIT-

[1] The study sample was largely representative of teachers in Canada. For example, according to Statistics Canada, females comprised 74% of public elementary and secondary school teachers (e.g., Ontario, female = 74.1%; Quebec, female = 74.1%; study data, female = 81%) with age statistics being comparable with our participants (e.g., Census vs. current study: <29 years = 11.9% vs. 11.3%; 30–39 years = 33.7% vs. 36.6%; 40–49 years = 30.6% vs. 29.5%; 50–59 years = 20% vs. 18.9%; >60 years = 3.9% vs. 3.7%). In general, census data suggest consistency between our sample and the general population of teachers from which they were recruited on basic demographic measures. Moreover, the reported Canadian average secondary school class size was about 26 with slight variations from one province to the other (Allison, 2019). For more information about Canadian education and how it compares with other countries/regions, please refer to the OECD webpage https://gpseducation.oecd.org/CountryProfile?primaryCountry = CAN&treshold = 10&topic = PI.

[2] Pillai's trace is a test statistic produced by a MANOVA, and it can range from 0 to 1, with 0 representing the lowest and 1 representing the strongest evidence that the explanatory variables are predicting the outcome variables.

Table 1
Descriptive statistics of study variables.

Variables	*N*		*M*		*SD*		α	
	Time 1	Time 2	Time 1	Time 2	Time 1	Time 2	Time 1	Time 2
Personal utility values	1008	732	3.61	3.63	0.69	0.68	.84	.86
Prestige	1021	744	3.16	3.18	0.84	0.86	.76	.80
Job security	1025	746	3.72	3.77	1.11	1.05	.94	.95
Autonomy	1025	743	3.95	3.95	0.74	0.73	.84	.88
Social utility values	1015	736	4.07	4.05	0.53	0.53	.81	.82
Altruism	1025	747	4.30	4.30	0.69	0.67	.84	.87
Student relationships	1025	745	4.35	4.29	0.68	0.69	.84	.84
Colleague relationships	1029	746	3.55	3.56	0.86	0.82	.89	.89
Perceived P–O fit	991	732	3.53	3.42	1.00	0.99	.95	.95
Quit the school	954	730	2.13	2.42	1.18	1.25	.85	.88
Quit the profession	952	728	1.84	1.77	1.01	0.97	.84	.87

Choice utility values (i.e., social utility values: *altruism*, *relationships with students*, *relationships with colleagues*; personal utility values: *prestige*, *autonomy*, *job security*; 1 = *Not important at all* to 5 = *Extremely important*). The scale preambles asked teachers "How important are each of the following to you as a teacher?" Teachers' personal utility values included *prestige* (e.g., "being looked up to by others"), *job security* (e.g., "being certain of keeping my job"), and *autonomy* (e.g., "determining the way my work is done"), and social utility values included *altruism* (e.g., "making the world a better place"), *relationships with students* (e.g., "getting to know my students quite well"), and *relationships with colleagues* (e.g., "getting to know my colleagues quite well"). See Table 1 for more information regarding the means, standard deviations, and internal reliability of the scales used.

6.2.2. Perceived person-organization fit

Cable and DeRue's (2002) 3-item, 5-point Likert scale was administered in the current study to assess teachers' perceived person-organization fit (1 = *strongly disagree*, 5 = *strongly agree*). Sample item includes: "The things I value in teaching are very similar to the things my school values" (see Table 1 for more details).

6.2.3. Quitting intentions

Two 3-item, 5-point scales were used to assess teachers' intentions to quit the current school and the teaching profession. McInerney et al.'s (2015) scale was administered to measure teachers' *migration intentions* (intention to leave the position at the current school; e.g., "I often think about leaving this school"), and Hackett et al.'s (2001) scale was used to assess teachers' *attrition intentions* (quit the teaching profession entirely; e.g., "I think about quitting the teaching profession"; 1 = *Very unlikely*, 5 = *Certain*).

6.3. Procedures

Study participants were recruited for a two-phase, longitudinal study in collaboration with 22 teacher associations across five Canadian provinces and one territory (i.e., Quebec, Ontario, British Columbia, New Brunswick, Newfoundland and Labrador, Yukon). At the beginning of the school semester, mass emails and newsletter announcements were directly disseminated to teachers from their affiliated teacher associations or unions, linking the teachers to our online study survey. After reviewing the initial consent page, including information on the study purpose, associated risks, benefits, and confidentiality, teachers completed the online questionnaire. The questionnaire consisted of demographic items and self-report measures of teachers' discrete work values, perceived person-organization fit, and quitting intentions. After five months, teachers who completed the initial survey were contacted again to complete the same survey a second time at the end of the school semester.

6.4. Data analyses

6.4.1. Construct validity and longitudinal measurement invariance

Confirmatory factor analyses were conducted to evaluate the construct validity of the study measures. More specifically, three models were examined. The first one examined the higher-order factors of utility values across time, the second one tested the six discrete value types across time, and the third one assessed all key study variables across time. Goodness-of-fit indices included the comparative fit index (CFI), Tucker-Lewis index (TLI), root mean square error of approximation (RMSEA), and standardized root mean square residual (SRMR). RMSEA and SRMR values below 0.06 and 0.08 and CFI and TLI values greater than 0.95 and 0.90, respectively, indicate an excellent and acceptable fit to the data (e.g., Hu & Bentler, 1999; Kline, 2015).

We then conducted longitudinal invariance analyses to examine the measurement invariance across the two times of data collection. More specifically, we have examined the *configural* (constrain the number of factors to be identical across time points), *weak* (constrain factor loadings to be equal), *strong* (constrain the factor loadings and intercepts to be equal), and *strict* (constrain factor loadings, intercepts, and unique variances to be equal) measurement invariance of the study variables across the two-time points according to Grimm et al. (2016). The change in CFI, TLI, and RMSEA values were calculated across adjacent models, with a decrease in CFI/TLI < 0.01 and an increase in RMSEA < 0.015 regarded as evidence of invariance (Chen, 2007; Cheung & Rensvold, 2002).

6.4.2. Hypothesis testing

To evaluate the study hypothesis with the two-wave data, we conducted mediational latent change structural equation modeling to address the relationships between teachers' social/personal utility values and quitting intentions as mediated by teachers' perceived person-organization fit using M*Plus* statistical software (Muthén & Muthén, 1998-2017).

Two models were examined. Model 1 assessed the relationships among teachers' utility values, perceived fit, and quitting intentions. More specifically, we modeled the paths from the intercept of teachers' utility values to the intercept of their perceived fit and the intercept of their quitting intentions, as well as the intercept of perceived fit to the intercept of quitting intentions. These paths explain concurrent relationships between study variables (i.e., Hypotheses 1a, 2a, 3a 3 d, 4a, and 5a). Moreover, we modeled the paths from the intercept of teachers' utility values to the change in their perceived fit, the intercept of perceived fit to the change in quitting intentions, as well las the intercept of utility values to the

change in quitting intentions. These paths explain longitudinal relationships concerning whether the variable at the beginning of the semester is associated with any change in another variable after a semester (i.e., Hypotheses 1 b, 2 b, 3 b, 3e, and 4 b). Finally, we modeled the paths from the change in teachers' utility values to the change in their perceived fit and quitting intentions, as well as the change in perceived fit to the change in quitting intentions. These paths explain the change relationship between variables, specifically concerning whether an increase or decrease in a variable corresponds with an increase or decrease in another variable across a semester (i.e., Hypotheses 1c, 2c, 3c, 3f, 4c, and 5 b). Model 2 evaluated the same paths as Model 1 but replaced the two utility values with six discrete work values.

The models were constructed by setting the loadings of teachers' utility values (in Model 1)/discrete work values (in Model 2), perceived person-organization fit, and quitting items at both Time 1 and Time 2 to 1 for the latent intercept factor (baseline) and setting loadings to 0 and 1 for the latent change factors at Time 1 and Time 2, separately. Intercepts for all manifest items were fixed at 0. These analyses thus afforded a specific test of our study hypotheses such that the proposed perceived fit was expected to mediate the relationships between teachers' utility values (and their value factors) and quitting intentions.

All study variables were evaluated as latent variables informed by multiple indicators. The manifest items were directly used as indicators of teachers' perceived fit and quitting intentions, and the parcels (means of manifest items) were created as indicators of teachers' utility values (i.e., six parcels under two utility value types). The model parameters were estimated via a robust maximum likelihood (MLR) estimator as a variant of the maximum likelihood (ML) estimator (Muthén & Muthén, 1998-2017). Correlations were modeled between the same items/parcels across the two time points. Finally, the analyses used teachers' gender, teaching grade level, and years of teaching as three covariates. These covariates were included consistently with prior studies suggesting that these factors significantly correspond to teachers' motivation, well-being, and quitting intentions (Klassen & Chiu, 2010, 2011; Skaalvik & Skaalvik, 2011; Wang et al., 2015, 2017; Wang & Hall, 2021).

7. Results

7.1. Descriptive statistics, correlations, construct validity, and longitudinal invariance

The results of the preliminary descriptive and correlational analyses are shown in Table 1. Teachers reported relatively higher levels of social utility values with smaller interpersonal variances than personal utility values [$t_{Time1}(990) = 19.84$, $p < .001$; $t_{Time2}(717) = 17.06$, $p < .001$]. Among all six types of discrete values, at the beginning of the semester (Time 1), teachers reported the greatest value for student relationships, followed by values for altruism, autonomy, job security, colleague relationships, and prestige. At the end of the semester (Time 2), teachers reported the greatest value for altruism, followed by values for student relationships, autonomy, job security, colleague relationships, and prestige. Concerning quitting intentions, teachers reported greater tendencies to quit their current schools than to leave the teaching profession entirely. Such results were found consistently across both time points [$t_{Time1}(947) = 7.87$, $p < .001$ and $t_{Time2}(725) = 11.21$, $p < .001$]. Moreover, across a school semester, teachers reported increases in their value for job security [$t(722) = 1.93$, $p = .055$; marginal significance] and in their intention to leave their current schools [$t(683) = 5.61$, $p < .001$], but decreases in their values for student relationships [$t(722) = -2.94$, $p = .003$], perceived person-organization fit [$t(696) = -4.93$, $p < .001$], and the intentions to leave the teaching profession [$t(680) = -2.00$, $p = .045$]. These significant findings provide empirical grounds for conducting latent change analyses (see Table 1 for statistical details).

Concerning the covariates, the results of the independent samples *t*-tests concerning gender differences showed that female teachers reported greater levels of values for student relationships [$t_{Time1}(1018) = 5.50$, $p < .001$; $t_{Time2}(740) = 5.07$, $p < .001$], colleague relationships [$t_{Time1}(1022) = 4.52$, $p < .001$; $t_{Time2}(741) = 3.03$, $p = .003$], prestige [$t_{Time1}(1014) = 3.36$, $p = .001$; $t_{Time2}(739) = 2.344$, $p = .019$], perceived person-organization fit [at Time 2 only; $t_{Time2}(727) = 3.08$, $p = .002$], and social utility values [$t_{Time1}(1008) = 5.33$, $p < .001$; $t_{Time2}(731) = 3.65$, $p < .001$]. Male teachers reported higher intentions to quit their current school [at Time 1 only; $t_{Time1}(947) = -3.09$, $p = .002$]. In addition, the results also showed significant effects of teaching grade level. Primary school teachers reported significantly higher levels of values than secondary school teachers concerning their student relationships [$t_{Time1}(876) = 7.65$, $p < .001$ $t_{Time2}(647) = 7.65$, $p < .001$], colleague relationships [$t_{Time1}(880) = 3.21$, $p = .001$; $t_{Time2}(648) = 3.50$, $p < .001$], prestige [$t_{Time1}(874) = 4.17$, $p < .001$; $t_{Time2}(646) = 3.63$, $p < .001$], job security [$t_{Time1}(877) = 3.03$, $p = .003$; $t_{Time2}(648) = 2.36$, $p = .019$], personal utility values [$t_{Time1}(864) = 3.23$, $p = .001$; $t_{Time2}(635) = 3.26$, $p = .001$], and social utility values [$t_{Time1}(868) = 5.32$, $p < .001$; $t_{Time2}(638) = 5.63$, $p < .001$]. They also reported greater perceived person-organization fit [$t_{Time1}(851) = 4.71$, $p < .001$; $t_{Time2}(636) = 4.54$, $p < .001$] than their counterparts at secondary schools.

Furthermore, the results from correlational analyses showed that greater years of teaching experience corresponded with greater values for autonomy [$r_{Time1}(1022) = 0.11$, $p = .001$; $r_{Time2}(740) = 0.15$, $p < .001$), altruism [$r_{Time1}(1022) = 0.12$, $p < .001$; $r_{Time2}(744) = 0.10$, $p = .009$], and lower migration intentions [$r_{Time1}(951) = -0.12$, $p < .001$; $r_{Time2}(727) = -0.14$, $p < .001$; see Table 2 for statistical details]. Moreover, the confirmatory factor analysis results showed acceptable model fit for all three models assessed (see Table 3 for model fit indices), and the longitudinal measurement invariance analyses showed that strict measurement invariance was achieved (see Table 4 for more details on longitudinal measurement invariance across the two-time points).

7.2. Mediational latent change SEM

7.2.1. Model 1: utility values

Model 1 for utility values fits the data well (Table 3 and Fig. 1). The intercept (baseline levels) of teachers' social utility values was positively associated with the intercept for teachers' perceived person-organization fit (H3a) and negatively associated with the intercept for intention to leave the teaching profession (H2a; concurrent relationship). In contrast, the intercept for personal utility values was negatively associated with the intercept for teachers' perceived fit (H3a) and positively associated with the intercept for the intention to quit the profession (H1a; concurrent relationship). Moreover, a higher intercept for the perceived person-organization fit corresponded with lower intercepts for migration and attrition intentions (H4a; concurrent relationship). Finally, a decrease in teachers' social utility values across the semester was related to a decrease in teachers' perceived fit across time (H3b), which led to an increase in teachers' intentions to leave their current schools (H2b; change relationship).

7.2.2. Model 2: discrete work values

Model 2 for discrete values also fits the data well (Table 3 and Fig. 2). The intercept for autonomy value (a factor of personal utility value) was negatively associated with the intercept for person-

Table 2
Latent correlations among study variables.

	1	2	3	4	5	6	7	8	9
Personal utility values									
1. Prestige	**.84****	.53**	.34**	.20**	.40**	.45**	.22**	−.12**	−.09
2. Job security	.49**	**.68****	.40**	.13**	.20**	.34**	.15**	−.07	−.11**
3. Autonomy	.29**	.43**	**.68****	.19**	.19**	.20**	.00	.01	.09*
Social utility values									
4. Altruism	.21**	.10**	.19**	**.72****	.31**	.14**	.15**	.02	−.06
5. Student relationships	.31**	.08*	.09*	.23**	**.78****	.48**	.20**	−.07	−.19**
6. Colleague relationships	.45**	.25**	.12**	.16**	.45**	**.73****	.26**	−.19**	−.12**
7. Perceived P−O fit	.18**	.08*	−.06	.18**	.20**	.24**	**.73****	−.53**	−.37**
8. Intention to quit school	−.10**	−.07	.04	−.05	−.04	−.16**	−.54**	**.85****	.57**
9. Intention to quit profession	−.03	−.04	.10*	−.07	−.18**	−.10*	−.34**	.55**	**.87****
10. Years of teaching	−.02	−.05	.11**	.12**	−.04	−.03	−.01	−.12**	−.06

Note. *$p < .05$; **$p < .01$. Below the diagonal are correlations between Time 1 variables; above the diagonal are correlations between Time 2 variables. The bolded figures represent the correlations between Time 1 and Time 2 of the same variable.

Table 3
Model fit indices for the confirmatory factor analyses and mediational latent change structural equation modeling.

Models tested	CFI	TLI	RMSEA	SRMR	χ^2 (*df*)
Measurement model − two utility value types	.947	.940	.042	.059	1595.599 (552)***
Measurement model − six specific value types	.953	.942	.042	.039	1442.148 (510)***
Measurement model − all study variables	.959	.951	.032	.036	2508.660 (1197)***
Mediational latent change SEM − utility values (Model 1)	.943	.931	.044	.073	1276.154 (437)***
Supplemental latent change SEM (Model 1a)	.922	.904	.051	.080	1027.240 (284)***
Mediational latent change SEM − discrete values (Model 2)	.939	.928	.038	.057	3284.173 (1361)***
Supplemental latent change SEM (Model 2a)	.930	.917	.041	.061	2903.593 (1076)***

Note. ***$p < .001$.

Table 4
Longitudinal measurement invariance.

Description	MLR χ^2(df)	CFI	TLI	RMSEA	IC 90%	$\Delta\chi^2$ (df)	ΔCFI	ΔTLI	ΔRMSEA
Configural invariance ($N = 1049$)	1085.182 (504)*	.970	.963	.033	[.030; .036]	–	–	–	–
Weak Invariance	1098.876 (516)*	.970	.964	.033	[.030; .036]	13.694 (12)	.000	+.001	.000
Strong Invariance Full	1128.905 (528)*	.969	.964	.033	[.030; .036]	30.029 (12)*	−.001	.000	.000
Strict Invariance	1234.378 (546)*	.965	.960	.035	[.032; .037]	105.473 (18)*	−.004	−.004	+.002

Note. *Statistically significant at $p < .05$.

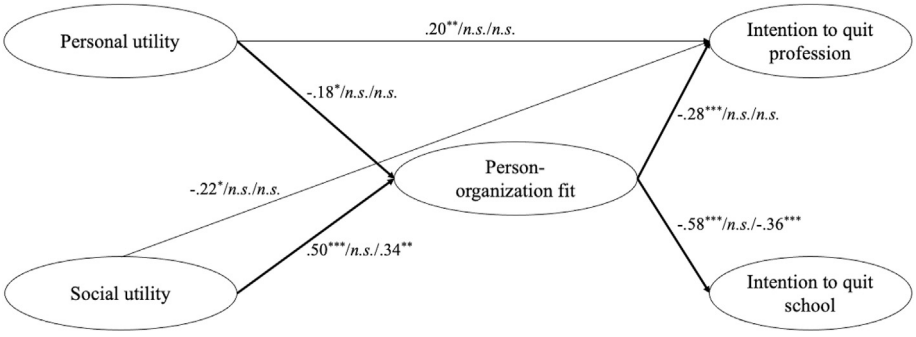

Fig. 1. Latent Change Structural Equation Modeling for the Utility Values***Note***. *$p < .05$; **$p < .01$; ***$p < .001$. Standardized coefficients were reported. *n.s.*: path not significant. Covariates: teacher gender, years of teaching, and teaching grade levels. Values presented: intercept effect on intercept (concurrent relationship)/intercept effect on change (longitudinal relationship)/change effect on change (change relationship). Circles represent constructs measured as latent variables. Bolded lines represent significant mediational paths. For parsimony purposes, sub-factors of utility values were not presented in the Figure. Personal utility values included prestige, job security, and autonomy (βs = 0.47-0.62); social utility values included altruism, student relationships, and colleague relationships (βs = 0.45-0.56).

organization fit (concurrent relationship). The intercepts for altruism and colleague relationships (both were factors of social utility values) were positively associated with the intercept for teachers' perceived fit (concurrent relationship). A higher intercept for perceived fit was related to lower intercepts of migration and attrition intentions (concurrent relationship). Moreover, the intercept for the autonomy value (personal utility value) was positively associated with the intercept for attrition intentions (concurrent relationship). In contrast, the intercepts for the job security value (a factor of personal utility value) and student relationships (a factor of social utility values) corresponded with a lower intercept for attrition intentions (concurrent relationship). Finally, an increase in valuing colleague relationships across a semester corresponded with an increase in teachers' perceived person-organization fit,

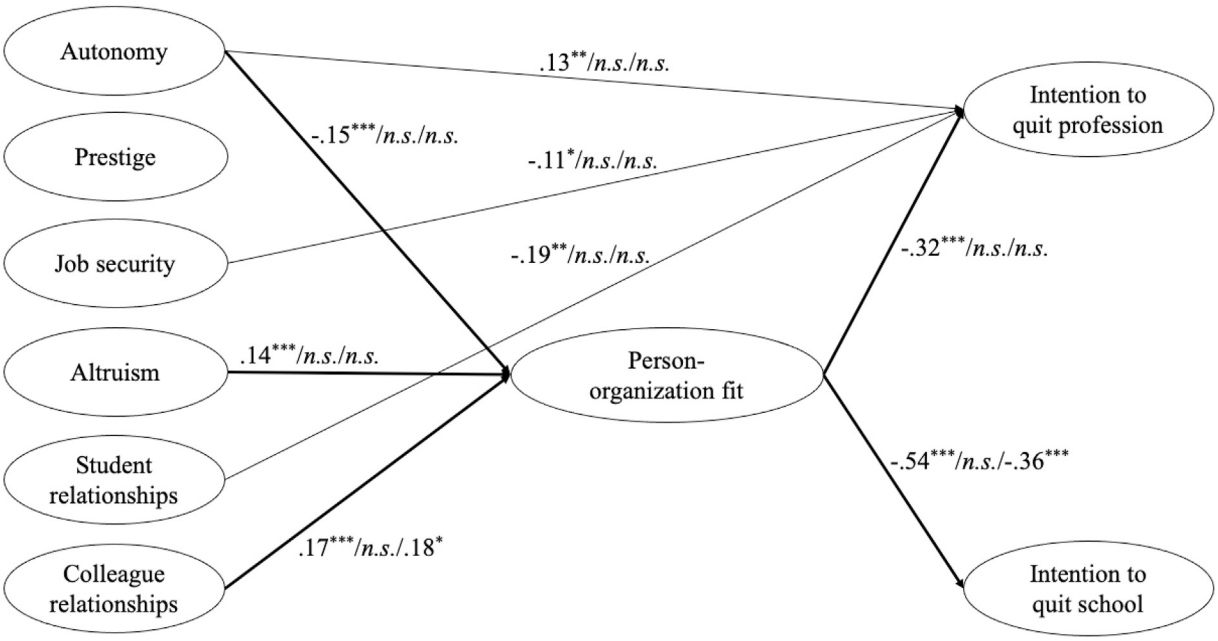

Fig. 2. Latent Change Structural Equation Modeling for Discrete Work Values***Note***. *$p < .05$; **$p < .01$; ***$p < .001$. Standardized coefficients were reported. *n.s.*: path not significant. Covariates: teacher gender, years of teaching, and teaching grade levels. 00Values presented: intercept effect on intercept (concurrent relationship)/intercept effect on change (longitudinal relationship)/change effect on change (change relationship). Circles represent constructs measured as latent variables. Bolded lines represent significant mediational paths.

yielding a decrease in their migration intentions across a semester (change relationship).

7.2.3. The evaluation of mediation

To further evaluate the mediational significance of the indirect paths from values to quitting intentions via perceived person-organization fit (for both their intercepts and changes), two additional latent change analyses (Models 1a and 2a) were conducted, which excluded the mediating variables (i.e., perceived person-organization fit). More precisely, these additional analyses modeled only the direct effects of the intercepts for teacher values (i.e., utility values in Model 1a and discrete work values in Model 2a) on the intercepts of and changes in teachers' quitting intentions (school and profession) and the direct effects of the changes in teachers' values on the changes in quitting intentions (gender, teaching grade level, and years of teaching included as time-invariant covariates; see Cheong et al., 2003, for mediational latent change protocols). The two additional comparative models fit the data acceptably well (see Table 3 for fit indices). The path loadings were compared between Models 1 and 1a, as well as between Models 2 and 2a using Sobel tests (Preacher & Hayes, 2008).

Concerning the utility values (i.e., Models 1 and 1a), significant mediation was observed between the intercept for teachers' social utility values and the intercept for quitting intentions (from school and profession) via the intercept for perceived person-organization fit (indirect effect = −0.82, Sobel $z = -5.34$, $p < .001$ and indirect effect = −0.34, Sobel $z = -4.02$, $p < .001$, respectively for migration and attrition intentions; *mediation of baseline levels*; H5a). Mediation was also observed between the intercept for teachers' personal utility values and their intercept for quitting intentions (from school and profession) via the intercept for perceived fit (indirect effect = 0.24, Sobel $z = 2.46$, $p = .014$ and indirect effect = 0.10, Sobel $z = 2.28$, $p = .023$, respectively for migration and attrition intentions (*mediation of baseline levels*; H5a). Furthermore, mediation was also observed between the change in teachers' utility values and the change in migration intentions through the change in their perceived fit (indirect effect = −0.30, Sobel $z = -2.31$, $p = .021$; *mediation of change*; H5b). More precisely, a decrease in teachers' social utility values was associated with a significant increase in their intentions to leave their current schools, with this relationship mediated by a decrease in teachers' perceived fit at school (see Fig. 1 for the bolded lines for significant mediational paths).

Concerning the discrete work values (i.e., Models 2 and 2a), significant mediation was observed between the intercepts for teachers' values for autonomy, altruism, colleague relationships and the intercepts for their intentions to quit the profession via the intercept for teachers' perceived person-organization fit (autonomy: indirect effect = .05, Sobel $z = 3.34$, $p < .001$; altruism: indirect effect = −0.06, Sobel $z = -3.48$, $p < .001$; colleague relationships: indirect effect = −0.07, Sobel $z = -3.26$, $p = .001$; *mediation of baseline levels*; H5a). The same pattern of mediation was also observed between the intercepts for the three work values and the intercepts for migration intentions through the intercept for perceived fit (autonomy: indirect effect = 0.13, Sobel $z = 3.57$, $p < .001$; altruism: indirect effect = −0.13, Sobel $z = -3.74$, $p < .001$; colleague relationships: indirect effect = −0.12, Sobel $z = -3.47$, $p < .001$; *mediation of baseline levels*; H5a). Finally, mediation was also observed between the change in teachers' values for colleague relationships and the change in migration intentions, via the change in teachers' perceived fit (indirect effect = −0.07, Sobel $z = -2.12$, $p = .033$; *mediation of change*; H5b). Such findings indicate that the decreased teachers' values for colleague relationships corresponded with migration intentions, with this relationship mediated by decreased perceived fit at school (see Fig. 2 the bolded lines for significant mediational paths).

8. Discussion

Overall, the findings from the study partially supported our hypotheses. For Hypothesis 1, teachers' personal utility values at the beginning of the semester were only positively associated with

their intentions to leave the teaching profession at the beginning of the semester (partially supporting H1a concerning attrition intentions) but were not significantly associated with their migration intentions at the beginning of the semester, nor were associated with any increase or decrease of quitting intentions at the end of the semester (Model 1; failed to support H1b and H1c). More nuanced investigations into the discrete work values suggested that teachers' specific value for autonomy was *positively* associated with their attrition intentions, but this may be the result of a dissatisfaction with the level of autonomy afforded in some school contexts. In contrast, their value for job security was *negatively* related to their attrition intentions (Model 2). Although the values for autonomy and job security showed opposite relationships regarding attrition intentions, since autonomy values show stronger effects than job security, a positive relationship remained between personal utility values and attrition intentions when the values were combined into one higher-order factor (i.e., personal utility values).

Our findings thus suggest that although teachers might think keeping a secure job is indeed important (so that they are more likely to stay), they may nevertheless consider making their own decisions more important for a teaching career (so that they may be more likely to leave if the needs for autonomy are not adequately satisfied; Deci and Ryan, 2000). It is also important to note that our main analyses did not find teachers' value for prestige to be associated with their perceived fit or quitting intentions. The positive, negative, and null associations between the factors of teachers' personal utility values and quitting intentions inform the complexity of teachers' personal needs and values, as well as their associations with teachers' career intentions.

Findings from the present study supported what Schwartz (1992) stated in his value theory that individuals are always in a state of trying to strike a dynamic balance across various personal values. These values may be contrasting or compatible with each other, and they are ordered by their relative importance to the individuals. It is not the existence or the absence of one value that eventually influences the individual's commitment, persistence, and decision-making, but the dynamic balance across many values and their ordered importance that predict the final outcomes (see also Wang et al., 2021). Therefore, decisions and sacrifices are made based on the relative, rather than the absolute, importance of needs and values. However, although personal values are diverse and they are all different in their own ways (e.g., valuing job security is different from valuing pedagogical autonomy), our current findings also suggest that they share commonalities and can nicely fit into a higher-order factor – *personal utility values*. These personal utility values suggest that teachers adopt them and choose to enter the teaching profession with the intention to improve their quality of life (e.g., gaining job security, prestige, and autonomy) through achieving greater income, higher social status, and more flexible time to spend with family. When these commonalities are assessed, we found that when teachers put a primary focus on personal gains in the profession, they are, in general, less committed to the profession.

Hypothesis 2 was also partially supported. Teachers who highly valued their relationships with students at the beginning of the semester were less likely to leave the teaching profession at the beginning of the semester (Model 2), thus partially supporting H2a (concerning attrition intentions). Moreover, when the factors of altruism, student relationships, and colleague relationships were analyzed together as a composite variable, namely *social utility values*, it was found that these values directly corresponded with lower intentions to leave the profession (Model 1; again, partially supporting H2a). However, no longitudinal relationships nor change relationships were observed between teachers' social utility values and quitting intentions, thus failing to support H2b and H2c.

These findings suggest that teachers' social utility values are more adaptive than personal utility values in relation to quitting intentions. Teachers who value their relationships with students are less likely to leave the profession because they care about their students and wish to contribute to students' growth and development. Moreover, teachers' social utility values are also indirectly associated with their migration intentions. When making career decisions (e.g., quitting or persisting), teachers judge whether what they value in their jobs fits with their school environment. Although social utility values are adaptive in nature, they only inform *who* is more likely to stay. A perception of fit is essential as it provides specific information concerning *who* will leave *which* environment, thereby having a stronger and more proximal association with teachers' quitting intentions (Chang, 2009; Klassen et al., 2021).

In this sense, our findings are largely consistent with Watt and Richardson's previous studies among Australian teachers (e.g., Richardson & Watt, 2014; Watt & Richardson, 2008), as well as their cross-country comparisons (e.g., Watt et al., 2017; Watt & Richardson, 2012). More specifically, teachers are driven more by social reasons than personal reasons when choosing a teaching career. Contributing to society and connecting with students, as opposed to gaining job security, are the primary motivators for teaching (e.g., among teachers from the Republic of Ireland, Spain, Switzerland, Germany, Austria, Estonia, Croatia, Turkey, Indonesia, USA, and Australia, as reported in Watt et al., 2017). Also consistent with Watt and Richardson's (2007; Richardson & Watt, 2014) studies, social utility values were more predictive of teachers' planned persistence, with making social contributions and connecting with students demonstrating the strongest relationships. However, slight differences were also found in previous studies. For example, Watt and Richardson's (2007) study did not find personal utility values, especially the value for job security, to be significantly associated with Australian novice teachers' planned persistence. In contrast, our study found that Canadian teachers with a stronger job security value were less likely to intend on leaving the teaching profession (perhaps due to our adoption of a different scale to assess these constructs).

Hypotheses 3a, 3c, and 3 d were supported, suggesting that teachers with greater social utility values (e.g., values for altruism and colleague relationships) perceived greater person-organization fit at the beginning of the semester (supporting H3a). In contrast, those with greater personal utility values (e.g., value for autonomy) reported lower person-organization fit at the beginning of the semester (supporting H3d). In addition to the concurrent relationships, we also found that the *change* in teachers' social utility values from the beginning to the end of the semester was positively associated with the *change* in teachers' perceived fit across time. Further investigation with discrete work values suggested that it was the *change* in the value for colleague relationships that positively corresponded with the *change* in fit perception (supporting H3c concerning the change relationships). Such findings suggest that having high baseline levels of social utility values (e.g., colleague relationships) may not be sufficient to bring about any improvement in teachers' perception of fit; encouraging *improvements* across time in social utility values is needed to increase teachers' person-organization fit.

Concerning Hypothesis 4, results found that teachers who perceived higher person-organization fit reported lower intention to leave their current schools and the profession at the beginning of the semester (thus supporting H4a). However, H4b was not supported. Higher levels of person-organization fit were not related longitudinally to any changes in teachers' quitting intentions across the semester. Hypothesis 4c was partially supported, with teachers who reported an increase in perceived fit across a semester also

reporting decreased migration intentions across the semester (supporting the change relationship). Moreover, the associations have been found to be stronger between teachers' perception of fit and migration intentions than between perceived fit and attrition intentions, thus supporting Hypothesis 4d concerning the comparison between the two types of quitting intentions.

Therefore, our results supported those of previous studies by confirming that teachers' perception of person-organization fit, especially the fit concerning colleague relationships, acted as a strong predictor of their retention intentions (Jones et al., 2013; Miller et al., 2020; Miller & Youngs, 2021; Pogodzinski et al., 2013). Teachers who report high levels of person-organization fit may have greater job satisfaction and lower emotional exhaustion (Ellis et al., 2017), and hence are less likely to quit school or profession (Wang et al., 2021). In addition, our findings are also consistent with previous research in revealing that different types of person-environment fit (e.g., person-job fit, person-group fit, person-vocation fit) may have overlapping but unique effects on individual outcomes (e.g., Cable & Judge, 1996; Kristof-Brown et al., 2005; Lauver & Kristof-Brown, 2001; Verquer et al., 2003). More specifically, teachers' person-organization fit has a more substantial impact on their intentions to leave their current schools than on the intentions to quit the teaching profession entirely. Teachers who are not satisfied with their schools may perceive a lack of fit at their school and leave the school; however, instead of completely quitting the teaching profession, these teachers may join another school. Person-job or person-vocation fit may have a stronger association with teachers' intentions to leave the profession (e.g., Miller et al., 1999; Redding & Henry, 2019; Wang & Hall, 2021).

Finally, we observed several mediation effects in the current study. More specifically, teachers' perceived person-organization fit mediated the relations between their social/personal utility values and quitting intentions (from current schools and the profession) at the beginning of the semester, thus supporting H5a concerning the concurrent relationships between study variables (*mediation of baseline levels*). Such findings partially supported our proposed theoretical model, suggesting that although teachers' personal/social utility values are closely linked to their quitting intentions, these values are filtered through teachers' perception of fit at school. Perceived fit has a stronger and more proximal relationship with teachers' quitting intentions than teachers' utility values alone. In addition, mediation was also found between teachers' values for altruism, autonomy, colleague relationships, and teachers' intentions to quit at the beginning of the semester (in Model 2; again, supporting H5a). Finally, an additional mediation was observed, showing that teachers' *decreased* social utility values, specifically concerning their colleague relationships, contributed to *increased* migration intentions, with this relationship mediated by *decreased* perceived fit, supporting our Hypothesis H5b concerning the *mediation of change*.

In addition, we also found that teachers who were thinking about quitting at the beginning of the semester tended to hold similar intentions at the end of the semester (i.e., high autoregressive weights; $\beta s = 0.85$ and 0.83 for leaving from current school and the profession, respectively), leaving little variance in teachers' quitting intentions at the end of the semester (Time 2) to be explained by other factors. However, even with a small portion of variance to be accounted for by other factors, we still robustly found that a decrease in teachers' social utility values, precisely their values for colleague relationships, corresponded with a decrease in teachers' person-organization fit that, in turn, lead to an increase of their migration intentions. Since teachers tended *not* to value their relationships with colleagues compared with other values (as reported in both of our early-semester and late-semester surveys), increasing teacher values for coworker relationships, such as encouraging communications, collaboration, and mentorships, might be an effective way to *improve* teacher fit and *reduce* migration intentions across time. Moreover, in the current study, we observed a significant decrease in teachers' perceived fit and an increase in their migration intentions across time. Improving coworker relationships at school and promoting teachers' values and commitment toward each other might be an effective solution to address the challenges in teachers' perceived fit and migration intentions when the semester ends (e.g., Jones et al., 2013; Kraft et al., 2016; Pogodzinski et al., 2013; Sass et al., 2011; Wang et al., 2021).

Finally, our results concerning the covariates (gender, years of teaching, and teaching grade levels) showed consistent results with previous studies. Male teachers, teachers with fewer years of teaching experience, or teachers teaching at higher grade levels were more likely to report quitting intentions. Future research and intervention programs can focus on these less persistent groups of teachers. More specifically, due to the gender stereotypes in the teaching profession, male teachers are more likely to be marginalized, with studies showing that male teachers tend to cope with stress or negative emotions less effectively than female teachers (e.g., hiding more negative emotions, using engagement strategies less often; Wang & Hall, 2021). Therefore, targeted support might be provided to male teachers. Moreover, novice teachers also warrant targeted support through induction programs, professional training, and teaching support to facilitate a stronger sense of school belonging.

Concerning the practical implications of the current study, interventions can be developed to facilitate teachers' person-environment fit. Our research revealed the finding that valuing autonomy was associated with higher intention to quit, but this may be due to the unmet need for autonomy in some teaching contexts. For example, past studies have shown that person-organization fit is dynamic and malleable: employees who are encouraged to actively shape their work roles—called 'job shaping'—report higher levels of engagement, and subsequent fit with their working environment (Lu et al., 2014). In school settings, actively encouraging autonomy through job-shaping (for example, by encouraging leadership of special projects aligned with interests and values) has the potential to increase higher levels of person-organization fit. Relatedly, previous studies concerning teachers' basic psychological needs have found that when teachers' needs for autonomy, relatedness, and competence are satisfied, they become more effective, committed, engaged, and persistent (Eyal & Roth, 2011; Reeve & Halusic, 2009).

Moreover, results from the current study also inform teacher education, and in particular, the selection and recruitment process of prospective teachers. Values-based recruitment strategies have been widely adopted and implemented in many public service sectors and healthcare fields (e.g., nurses, medical doctors, police officers; College of Policing, 2018; Miller & Bird, 2014) and have just started to be explored in the teaching profession (Klassen & Kim, 2021). Individuals who are selected based on their core occupational values, person-environment fit, and value congruence will be more committed and persistent (Klassen et al., 2021; Wang & Hall, 2019). A values-based approach influenced by prospective teachers' basic needs for autonomy, relatedness, and competence can be implemented in teacher education programs. For example, teacher education programs can encourage exploration of proactive teaching practices that reflect preservice teachers' own interests and values (thus building autonomy), the formation of strong social bonds with students and peers (building relatedness), and consistent striving for excellence in pedagogical practices (building

competence). A values-based approach can be used to inform the recruitment, selection, and development policies at multiple levels of education systems.

8.1. Study limitations and future directions

The current study is limited in the following ways. First, the study examined teachers' quitting intentions as the only outcome. Future studies should consider adopting a greater range of outcomes (e.g., instructional behaviors, teaching quality; Day & Qing, 2009). Second, concerning the assessment of teacher turnover, the current study only examined teachers' quitting intentions rather than actual quitting behaviors (e.g., Ingersoll, 2001; Ingersoll et al., 1997). Also, we did not have knowledge concerning whether there were any missing data in Time 2 (and the percentage of that) due to real attrition. More objective outcomes are thus encouraged in future studies to investigate the replicability of the present findings based on data measuring teachers' actual quitting behaviors (e.g., Henke & Zahn, 2001).

Third, the current study only examined one type of teacher fit. Future studies are warranted to explore the influences of multiple fit types and the nuanced differences between each kind of fit (e.g., Miller et al., 2020). However, we chose to examine person-organization fit in the current study because it has been argued to be more strongly related to the characteristics of the working context (e.g., Chang, 2009). Concerning the assessment of person-organization fit, the current study directly asked teachers to rate their perceived fit and thus assessed fit in a direct way. Other indirect methods to measure fit include contrasting teachers' characteristics or needs and those of their schools (e.g., Edwards & Cable, 2009; Kristof-Brown & Jansen, 2007). School characteristics, such as school size, students' ethnic, economic, and achievement backgrounds, can also be reported by teachers themselves or by school administrators (e.g., principals). Based on different assessment methods, the analysis techniques (e.g., polynomial regression, interaction analyses; Edwards, 2002; Edwards & Cable, 2009; Cable & Edwards, 2004; Wang & Hall, 2019) may also affect results. Future studies are thus encouraged to use a range of methods to assess teachers' person-organization fit and compare their effects.

Fourth, it is also important to note that the measures of work values used in the current study were not those developed and validated by Watt and Richardson's (2007, 2008) FIT-Choice model. Therefore, discrepancies in our research findings from other research using Watt and Richardson's value items may occur simply due to the differences in structuring value constructs and adopting different value scales rather than actual differences in teachers' values or quitting intentions across samples. Future studies are warranted to use the same items as Watt and Richardson's (2007) research and further compare the differences between teachers across samples, cultures, and countries.

Fifth, the present findings are limited in that only two study phases were administered, affording a single time lag for assessing change over time. Although we have found that changes in teacher values were associated with changes in their fit perceptions and quitting intentions, such findings cannot inform causality, and the reverse direction of relationships could also occur. For example, teachers who have already decided to quit at the beginning of the semester may have even stronger quitting intentions at the end of the semester. Therefore, future studies with more than two assessments are needed to provide more rigorous analyses concerning the mediational role of teachers' perceived fit and the predictive relationships among study variables. Sixth, due to the small number of teachers recruited at each school, the analyses of the current study did not account for the nesting of data. Future studies are warranted to recruit a sufficient number of teachers at each school to account for the nested nature of the data (e.g., teachers nested in schools).

Finally, it should be noted that the current study is conducted only among Canadian teachers (who were predominantly white Caucasians; 95%) and that quitting intentions can be influenced by various socio-cultural and structural factors (e.g., Borman & Dowling, 2008; Macdonald, 1999). Hence, the current findings may not be representative for teachers from other countries or cultures, such as those with more economic and ethnic diversities (e.g., Redding & Nguyen, 2020; Scafidi et al., 2007). In future studies, cross-cultural studies are warranted to establish the generalizability of the present study findings by investigating how the structures and effects of teacher values and fit perceptions on their quitting intentions may vary as a function of cultural or ethnic context. These studies should also consider including school or student characteristics, either as predictors or covariates of teachers' quitting intentions, to investigate teacher turnover (intentions) more comprehensively.

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Ethics approval

Ethics approval has been received from the REB office, McGill University (Ref. 333–0117).

Declaration of competing interests

The authors declare there are no conflicts of interest.

Data availability

Data will be made available on request.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.tate.2023.104109.

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