Inducing Support for Organizational Visions through Person-Vision Congruence

in Values and Identity

by

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Author's Declaration

I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

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Abstract

Organizational visions articulate a desirable future state in connection to some shared values or identity among organizational members. Theories in both visionary and transformational leadership suggest that values and identity are an integral component of visions that can enhance employee motivation. However, empirical studies have rarely tested this claim. Some available studies on vision-based motivation have been subject to criticism, primarily on the basis of potential confounds or experimental designs that do not allow for claims to be made about the motivational effects of vision as a stand-alone component of leadership. On the other hand, empirical research has repeatedly demonstrated that actions or messages that are framed to be congruent with the self (in values and identity) can motivate behaviour while incongruence can be de-motivating. The purpose of this research is to integrate these domains and examine whether person-vision congruence can motivate support for a vision.

In Study 1, a field survey with full-time employees, value congruence between employees and their organization's vision was associated with greater intentions to support the vision. In Study 2, a laboratory study, person-vision congruence in identity was associated with greater vision support intentions among participants with lower tenure. In Study 3, a laboratory experiment, there were statistically significant interactions between participants' identity (their self-construal), primed values, and a vision's corresponding value emphasis on vision support intentions. Across the studies, participants' views about the self in relation to the value or identity aspect of the vision (i.e., identification with vision in Studies 1 and 3; beliefs about identity-related consequences of the vision in Study 2) mediated the relationship between congruence and vision support motivation. Taken together, the findings suggest that visions can motivate behaviour by forging a link with followers' values and identity.

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CHAPTER 1

INTRODUCTION

The essence of leadership is influence. Leaders influence the activities of their followers to reach desired outcomes (Yukl, 1992), and the core function of organizations is the collective attainment of these outcomes (Locke, 2005). Today many organizations are realizing the importance of having a *vision* to render those outcomes and the strategies in place to attain them (Kohles, Bligh, & Carsten, 2012). Accordingly, a key responsibility of organizational leaders is to articulate a vision of the future and create the internal operative conditions to pursue it. By doing so, leaders need to garner followers' commitment and support to realize their vision amidst changing external conditions and possibly internal resistance (Zaccaro & Banks, 2001). An important yet understudied question for both leadership scholars and practitioners is, then, how can leaders effectively motivate employees to support a vision and contribute to its realization?

What is a Vision?

When asked to think about his prospective presidency, former United States president George H.W. Bush infamously responded in exasperation: "Oh, the vision thing…" What is this "vision thing" if not just embellished words on a wooden plague or a page on the annual report? While there is no particular agreed-upon definition of "vision" in the literature, it has been characterized by some recurring themes in various sources (see Table 1 for a partial list). Among them, Boal and Bryson (1988) defined vision as "an ideal and unique image of the future that articulates the values, purposes, and identity of its followers." Other leadership scholars have described vision as an ideal future state that represents or reflects a set of shared values to which the organization should aspire (Bass, 1985; Conger & Kanungo, 1987; House, 1977). In the business press, Collins' (2001) vision framework characterized organizational visions as the combination of a vivid, audacious description of the company's future along with an ideology that includes its core values (i.e., what abstract ideals it stands for) and core purpose (i.e., what it is uniquely placed in this world to do). Across the different definitions of vision, Mumford and Strange (2005) noted that the common emphases are on having an idealized state of an

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organization's future that contains "a set of beliefs about how people should act, and interact, to make manifest [that future state]." As such, a vision can be broadly characterized as a desirable, idealized state of an organization's future that is tied to some core values. Implicit in this definition is that visions give meaning about (1) a future-oriented (or forward-looking) state of being that is more desirable or otherwise discrepant from the organization's current state and (2) a set of values—abstract ideals and other worthy ends—that the organization wishes to uphold and promote through its internal operations or impact on stakeholders.

Some examples of organizational visions may animate these definitions. E-commerce giant Amazon has a vision "to be earth's most customer-centric company; to build a place where people can come to find and discover anything they might want to buy online." (Hull, 2012) This vision could be interpreted as describing a *future state* of commerce that is electronic (i.e., shopping online) and *values* convenience, time efficiency, and customer satisfaction. In perhaps a more elaborated form of expression, humanitarian group UNICEF's stated vision is "a world in which people come together as equals and…are empowered to make informed choices, reach their full potential, and participate meaningfully in decisions affecting their lives and realize their rights."(UNICEF, 2008). Pursuant to this vision, UNICEF engages in abuse protection, education, and food supply for underprivileged children around the world. Their vision statement is explicit about how these services work toward a desired future state that has valued ends like equality and empowerment of citizens. In academia, the vision of the Psychology Department at a premier Canadian university is "excellence in research, teaching, graduate training, and service," which is further detailed (in part) as "providing students with knowledge and skills through innovative and rigorous courses and rich experiential learning opportunities" and "applying [psychology knowledge and expertise] to the improvement of mental well-being." (University of Waterloo Psychology, 2014). Both statements describe idealized conditions in which scholarly activity promotes values of educational innovation and personal well-being. As these examples illustrate, visions describe desirable future states that promote a set of values.

Table 1

Definitions of Vision in Organizational Psychology/Management Literatures and Business Press

Source	Definition
Nanus (1992)	A mental model of a future state of a process, a group, or an organization.
Yukl (2006)	A picture of a desirable future that should appeal to the values, hopes, and ideals for organizational members and other stakeholders whose support is needed.
Boal & Bryson (1988)	An ideal and unique image of the future that articulates the values, purposes, and identity of its followers.
Shamir, House, & Arthur (1993)	An ideal statement that reflects the shared values to which the organization should aspire.
Daft (1999)	An ambitious view of the future that everyone in the organization can believe in, one that can be realistically achieved, yet offers a future that is better in important ways than what now exists.
Kirkpatrick & Locke (1996)	A general transcendent ideal that represents shared values; it is ideological in nature and has moral overtones.
Berson, Shamir, Avolio, & Popper (2001)	Visions help leaders set "the future agenda" and convey the leader's intrinsic beliefs and values to followers

The Motivational Nature of Vision

Insofar as values are embedded in a vision, they can provide employees with information about the broader purpose and significance underlying their organization's products and services (Piccolo & Colquitt, 2006). These higher level outcomes could be the basis of employees' perceived task significance which is conducive to greater motivation and job performance (Hackman & Oldham 1976; Grant, 2008a). It is conceivable, then, that the articulation of a vision can impact organizational performance, and there is some supporting evidence for this notion.

Vision's Impact on Organizational Performance. In one of the few empirical studies on vision and organizational performance, Kirkpatrick and Locke (1996) found that the presence of a vision emphasizing product quality and providing clarification about tasks resulted in higher subordinate performance compared to those who received non-vision statements. Relatedly, Baum, Locke, and Kirkpatrick (1998) found that vision content (which emphasized business growth), vision attributes (such as future orientation, ability to inspire, and clarity), and the extent to which a vision was communicated to employees were positively associated with three different measures of business growth, including profits.

Values and Identity Alignment as Operative Motivational Components. Zaccaro and Banks (2001) claimed that among the most important element of a vision is *values* because, in part, they provide the passion and persuasiveness that effective leaders convey when articulating their visions. Thompson and Bunderson (2003) claimed that a vision is a "moral appeal that emphasize some core values or ideals…transcends self-interest, communicates how the organization's work advances a greater good or is beneficial to others." When leaders pronounce visions that emphasize fundamental values such as beauty, honesty, dignity, and human rights (Burns, 1978), it compels the motivation of followers who accept the underlying ideology to help realize the vision based on a principled or altruistic model of human nature (Thomson & Bunderson, 2003, p. 576). Accordingly, the ideological end and value-based core of a vision can lead subordinates to respond with self-identification with the vision (Zaccaro & Banks, 2001).

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This identification involves a perception of oneness on the basis of alignment in key characteristics (such as values), as when person-organization value congruence lead employees to identify with their organization (Ashforth & Mael, 1989). Individuals who identify with an object associate themselves with it publicly, feel pride for their association, and are willing to defend or advocate on behalf of the identified object; thus, identification can be a potent antecedent of motivation as employees with high organizational identification show better performance and higher rates of retention (Ashforth, Harrison, & Corley, 2008). Accordingly, self-identification with a vision has been theorized as the linkage to enhancing organizational effectiveness (Zaccaro & Banks, 2001). Hence, the values of a vision are said to facilitate a leaders' organization-wide influence (Senge, 1990) and is the reason why visions are a powerful tool for leaders (Zaccaro & Banks, 2001).

Furthermore, House's (1977) theory of charismatic leadership argued that leaders can motivate followers to accept and support organizational change by articulating a vision with values that link to followers' self-concept (Shamir et al., 1993). A leader's pronouncement of a vision—along with other charismatic leadership behaviours such as role modeling espoused values, communicating confidence, and setting high expectations—are said to develop high trust and commitment among subordinates that result in unquestioned acceptance of organizational changes (Eden, 1984).

Criticisms of Visionary Leadership Theories. Accordingly it is widely assumed in the existing literature on visionary leadership that visions *can* motivate employees to attain higher performance. However, some scholars have criticized these assumptions recently. Grant and Hofmann (2011) pointed out that vision articulation is but one of many leadership behaviours in the transformational leadership taxonomy, and although transformational leadership is consistently related to higher employee performance (e.g., Bono & Judge, 2003; Dvir, Eden, Avolio, & Shamir, 2002), it is difficult to isolate vision communication as an active component in these effects. In fact, in one of the most popular assessments of transformational leadership— the multifactor leadership questionnaire (MLQ)—the "inspirational motivation" factor contains

one item that is tangentially related to vision communication (i.e., "Talks optimistically about the future"), but it is tied to other items about the extent to which the leader instills efficacy (e.g., "Talks in a way that makes me believe I can succeed" and "express confidence…") (Bass & Avolio, 1994). Therefore, using measures of this sort makes it difficult to attribute any positive effects of transformational leadership to vision communication itself. Not surprisingly, after reporting some inconsistent results of the effects of vision communications, Grant and Hofmann (2011) concluded that existing research "has yet to clearly articulate the conditions necessary for [visions] to be effective."

In a similar vein, van Knippenberg & Stam (in press) are also skeptical about the effectiveness of visionary leadership and elements that make visions effective. In their review of the vision literature, they also point out that leadership measures tend to confound visioning with other elements of leadership. For example, they pointed out that Kirkpatrick & Locke's (1996) vision statement condition differed from the non-vision statement condition in multiple aspects (including topic, appeal to competition, and appeal to self-efficacy), and thus it is impossible to determine to what extent each difference contributed to the vision's effects. The authors also reported examples of research studies that theorized about vision but seemed to have tested goal-setting, as when researchers asked participants the extent to which their leader provides inspiring *goals* and clearly understands where they are going. As well, most measures of transformational leadership include "content-free" references to vision that only assesses whether and to what extent a leader articulates a vision without delineating what elements of a vision make it particularly motivational.

Thus it seems warranted to investigate vision as a stand-alone component of transformational leadership and to specify whether the theorized motivational element— connection to follower values and identity—can indeed be operative in vision's effectiveness. Therefore, the goal of this research is to examine whether and how a vision's emphasis on followers' values and identity could be operative in motivating support for the vision. In the

following section, I will review some literature on the effects of value- and identity-congruence on behaviour as the basis of application and extension to the context of visionary leadership.

CHAPTER 2

LITERATURE REVIEW

Congruence with the Self Motivates Action

Both values and identity are core parts of the self, and many studies in social and organizational psychology have demonstrated that when behaviours are more congruent with central aspects of the self, they are more likely to be enacted. Both identity and values are core aspects of the self that contain a structure of schemas to guide the selection and prioritization of behaviours over time and across situations.

Identity Congruence Motivates Behaviour. *Identity* is an individual's description of the self that is reflected in various self-concepts and self-schemata (Leary & Tangney, 2003). A central aspect of identity is an organizing structure for needs and values associated with itself. Thus, identity can represent an idealized self based on how individuals conceptualize their own being and what is important to them (Burke, 1991). One's identity is also associated with a set of behavioural expectations that are attributed by oneself and others (Stryker, 1987).

The consistency between identity and enactments of identity-relevant behaviours fulfills individuals' needs for self-verification and allows for identification and categorization by the self as well as by others (Swann, 1983). Therefore, much like personal values, identity confers priorities that guide behaviours across situations and over time. The more central an identity is to an individual, the higher the probability that identity-consistent behaviours would occur. As an example, a professor who identifies as an "educator" may devote more time to teaching activities like pedagogical innovation, lecturing, and student mentorship compared to research or service activities. On the other hand, a professor who identifies more with being a "researcher" may be more devoted to publishing and obtaining grants compared to teaching activities. Consistent with this hypothetical example, empirical studies have shown that identity can influence a wide range of identity-relevant behaviours.

For example, in two studies, Aquino and Reed (2002) examined the impact of moral identity on related pro-social behaviours among high school students. Moral identity is a self-

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conception defined by a set of moral traits (such as caring, helpful, kind, etc.) and reflected by the extent to which it is internalized as being important to the self and symbolized for others' awareness (e.g., wearing clothes that communicate the identity). Moral behaviour is defined as social responsiveness to the needs of others, and volunteering and making donations are activities that benefit people in need so they can be characterized as identity-relevant behaviours as such. In their studies, Aquino and Reed (2002) measured participants' centrality of moral identity and asked how much they had participated in volunteering activities within the last two years (Study 1) and how much food they donated to help the needy (Study 2). Their results showed that participants with a higher moral identity (both internalized and symbolized) tended to engage in more volunteering activities (Study 1), and those who had a strongly internalized moral identity were both more likely to donate food and donated significantly more than those who did not (Study 2).

Psychologically central identities also predict behaviours in the workplace. In a study of 278 employees at a non-profit organization, Farmer and Van Dyne (2010) measured the extent to which participants rated two distinctive identities as central to themselves—namely, "helping" and "industrious work" identities. Then they obtained supervisor-rated workplace behaviours that are associated with those identities (helping behaviours and industriousness, respectively), along with employee's tenure and job status as a part- or full-time worker. The latter two variables were measured because such "role occupancy" is an activating force that influences the salience of enacting the identity-relevant behaviours on the job. Consistent with their hypothesis, Farmer and Van Dyne's (2010) results showed that employees who had higher centrality on the industrious work (helping) identity were more likely to exhibit industrious work (helping) behaviours, but only among those who had high role occupancy (i.e., high organizational tenure or working full-time). The authors argued that employees with higher role occupancy have developed a greater schema for how to enact identity-relevant behaviours on the job, and thus have more opportunities to perform their jobs in a manner that is consistent with their identity.

Farmer and Van Dyne's (2010) study showed that psychologically central identities predict identity-enacting behaviours when there are sufficient schemas and opportunities to enact them. While the behaviours in these findings are enacted out of the employees' own volition on their jobs, it is also possible for others to prescribe or suggest identity-relevant behaviours as conducive to fulfilling a particular identity. When others attribute meaning to an identity in the form of a credible behavioural expectation and it gets adopted by the identity holder, the expected behaviour should be more likely to occur, especially when the opportunity to do so is salient. Thus, when a leader pronounces a vision that is framed as an opportunity to enact and affirm an important identity, recipients would be more likely to support the vision to fulfill the behavioural expectations of their identity. In the present research, I sought to extend and apply identity-based motivation to vision communications in Study 2, where I measure the centrality of an identity among participants and present them with a vision that is framed as congruent to that identity. In further extension of this research, I also assessed vision recipients' beliefs in identity-related consequences (i.e., identity enactment and development) as the mediating mechanism between identity and support for an identity-congruent vision.

Aside from identities in specific domains (such as morality or industriousness), another prominent scheme of identity involves perception of the self in relation to others, and this type of identity can also influence a range of behaviours.

Congruence with Self-Construal Motivates Behaviour. Self-construal is a form of identity that reflects the extent to which one defines the self as *interdependent* (being connected and intertwined with others, occupying social roles, and belonging to groups) and *independent* from others (being autonomous, unique, and self-expressive). Self-construal is associated with a schematic network of cognitions, affect, and behaviour concerning relationships with and distinction from others (Singelis, 1994). Individuals with a strong interdependent self-construal values belongingness and relationship with others, such that they seek positive self-regard through connecting with others and fitting in with their group. On the other hand, those with a strong independent self-construal value autonomy and individualism, and they seek positive self-

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regard through promoting their own goals, being unique, and expressing the self (Singelis, 1994; Singelis, Triandis, Bhawuk, & Gelfand, 1995). Consequently, one would be more motivated to pursue actions that are congruent with one's self-construal and less motivated to pursue incongruent ones. Examining this hypothesis, Hamedani, Markus, and Fu (2013) recruited European American undergraduates (who tend to have higher independent self-construals) and Asian American undergraduates (who tend to have both self-construals) to evaluate a new university course on environment sustainability. The course description was either framed as promoting students' autonomy and development of personal skills (catering to the independent self) or promoting students' collaboration with others and develop social skills for coordination (catering to the interdependent self). Their results showed that European American participants (who tend to have independent self-construals) would be less motivated to take the new course, allocate less money to fund it, and show lower agreement to make the course a university requirement when the course is framed as promoting interdependence rather than independence. On the other hand, Asian American participants (who have both self-construals) did not show such a difference between the two types of course framing. In a later set of studies, Fu and Markus (2014) found that interdependently-oriented Asian American students are more motivated on a task after they were reminded of a close other (their mother) but the same motivational effect did not occur for independence-oriented European Americans. Taken together, the results suggest that when actions are communicated as promoting values that are inconsistent with the self, it can undermine motivation to pursue those actions. Extending this finding, one could deduce that when a leader pronounces a vision with values that are consistent with one's identity (or self-construal), it would be particularly motivational for recipients to pursue the vision. In addition, this type of congruence effect could potentially be bolstered by the situation. For example, the priming of self-construal can strengthen the effects of individual differences in the corresponding self-construal to behave in identity-consistent ways (e.g., Holmvall & Bobocel, 2008). Thus, congruence could be sought with identity that is measured and primed by the situation. The present research examined the theorized effects of person-vision

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congruence in Study 3 where a vision was presented as congruent or incongruent with the self (both measured and primed) and subsequent motivation to pursue vision-supportive action was assessed.

Value Congruence Motivates Behaviour. Schwartz defined *values* as conceptions of desirable end states that influence the way people select their actions and evaluate events across situations and over time (Schwartz & Bilsky, 1987; Schwartz, 1992). Values are motivational because they signal which desirable ends to seek and what undesirable ends to change or avoid. Both individuals and organizations can hold values for prioritizing and selecting what ends to strive for ("terminal values"; Rokeach, 1968) and how to conduct themselves ("instrumental values"; Rokeach, 1968). Similar to one's identity, then, values reflect an individual's priorities and both of these aspects of the self (1) guide selection of behaviour, (2) guide evaluation of objects, events, and other stimuli, and (3) are influential across situation and over time (Epstein, 1979; Rokeach, 1973). We therefore see identity and values as two sides of the same coin: One's identity is associated with some values, and one's collective values would attract them to associate with certain identities. Returning to the previous example, the professor who *identifies* as an "educator" may *value* teaching excellence, student success, and pedagogical innovation; another professor who identifies as a "researcher" may value grant money, peer recognition in professional societies, and obtaining tenure. Therefore, both values and identity are studied in the present research, and below we present some examples of how value congruence influences behaviour in organizational contexts.

At the broadest level, a substantial amount of research has shown that when employees value what their organizations value (i.e., an optimal person-organizational fit), they have greater identification with their organization, higher job satisfaction, and less turnover intentions (Verquer, Beehr, & Wagner, 2003; Edwards & Cable, 2009). A meta-analysis by Kristof-Brown, Zimmerman, and Johnson (2005) has shown that person-organizational value congruence is related to various pre-entry criteria (higher applicant attraction and job acceptance, among others) as well as post-entry criteria (higher job satisfaction and organizational commitment;

lower turnover intentions). Evidently, prospective employees are attracted to work in a value-congruent organization, and once on the job, they tend to have more positive work attitudes.

In the context of visionary leadership, the potency of values in vision communication has been demonstrated in an experiment by Shipley and Michela (2006). The researchers presented to undergraduate students a vision of a new bicycle path system for their university campus and the surrounding city. Then the students were asked to engage in small group discussions followed by writing a communications plan to promote the vision. The salience of the vision's values was manipulated by (1) the inclusion vs. exclusion of an explicit narrative statement at the end of the video about the vision's values, such as environmentally-friendliness, convenience, appreciation of outdoors, etc. and (2) the nature of participants' post-presentation discussions. These discussions, randomly assigned, were on either the values inherent in the vision (values condition) or how to get started to implement the vision (the implementation condition). After completing the experimental procedures, participants were asked how much money they are willing to add to their student fees to fund the bicycle paths as well as how motivated they were to promote the vision, as indicated by their self-reported rating of how much effort they devoted to writing the communications plan. The results showed a significant interaction between value salience and discussion topic on dollar contributions to the vision: those who saw the vision with an explicit message *and* engaged in a values discussion were willing to donate the most money compared to the other combination of conditions. Relatedly, participants who watched the vision with the explicit values message reported a higher level of energy and effort in generating the subsequent communications plan. Evidently, spotlighting the values of a vision can motivate vision-supportive actions, especially given that the values promoted are generally well accepted. On that note, the values espoused in their vision may be particularly well endorsed among the participants in their study (undergraduate students in environmental studies).

This latter fact leaves one to wonder what would happen when a vision's recipients hold values that are not aligned with those of a vision, because although values are generally desirable, endorsement levels among different values do vary between individuals (Schwartz,

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1992). Consequently, individuals may express varying levels of support for different visions based on its particular value endorsements. In fact, Haidt (2012) argued that John Kerry's loss to George W. Bush in the 2004 presidential election may be linked to Kerry's vision being too narrow in its scope of values and failing to connect with voters on a broader set of values such as security from outside threat, personal responsibility, and family values. Given the unidimensional structures of prominent value schemes (e.g., Schwartz, 1992), the endorsement of certain values imply lower endorsement or even rejection of oppositional values. Accordingly, individuals may support a value-congruent vision but reject another one that is value-incongruent. Thus, it seems warranted to extend Shipley and Michela's (2006) study to examine conditions where the values among the audience vary in congruence with those emphasized by a vision and then assess their subsequent vision support intentions. In the present research I took two different approaches (one survey and one lab study) to address this specific question and expand the current understanding of value congruence effects in visionary leadership.

Overview of Studies

So far, two divergent streams of theory and research have been discussed in this introduction. On the one hand, both the business press and the leadership literature have claimed that leaders' inspiring visions can motivate greater employee performance, primarily because it makes connection to the recipients' values and identity. Despite the pervasiveness of these claims, empirical studies have rarely tested this notion, and some of the available studies are compromised by potential confounds as when communicating a vision is part of a broad range of transformational leadership behaviours. On the other hand, various studies in the social and applied psychology literature have shown that individuals are motivated to pursue behaviours that are congruent to the self (in values and identity) in various contexts. Until now, there are no studies we know of that attempt to merge these two domains to examine the motivational effectiveness of visions. Hence, the goal of the present research is to bridge the gap between these domains to examine how leaders can effectively formulate and communicate a vision to garner follower support. In doing so, I aim to apply and extend self-congruent-based motivation

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to visionary leadership and uncover underlying psychological mechanisms with mediation analyses. This research contributes to the existing literature by (1) empirically testing the theorized claims about the motivational effects of vision through its connection to follower values and identity; (2) applying and extending self-congruent motivation to the domain of visionary leadership and uncovering the mediating mechanisms; and (3) testing the vision component of transformational leadership as a stand-alone, "active ingredient" of employee motivation without embedding it in a broader range of leadership behaviours.

This paper contains three instantiations of the self in visionary communications and examined the motivational effects of self-vision congruence in each of them. Study 1 is a field survey that examined the effects of person-vision value congruence on employees' identification with their organization's vision and their willingness to support it. Study 2 is a lab study that examined the effects of person-vision identity congruence on undergraduate participants' willingness to support a vision of a more enriched and rigorous educational approach. Study 3 is an experiment that manipulated the value emphasis of a vision and the momentary centrality of two corresponding value domains to examine the effects of value congruence on undergraduates' intentions to support a vision of a modern educational approach. In each study, I also assessed how participants viewed themselves in relation to a vision. In Studies 1 and 3, this response is expressed as their identification with the vision; in Study 2, it is expressed as their subjective beliefs about the identity-related consequences of the vision. These responses are tested as mediators between person-vision congruence and vision support intentions. Overall, based on the theories discussed, it is expected that higher person-vision congruence would lead to greater identification with the vision (in the value congruence studies) or greater beliefs in the identity-related consequences of the vision (in the identity congruence study), which in turn would lead to higher intentions to support a vision.

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CHAPTER 3: THREE STUDIES EXAMINING THE EFFECTS OF PERSON-VISION CONGRUENCE ON MOTIVATION TO SUPPORT A VISION

Study 1a

The starting point was to select a suitable measure of values for the following studies. It was necessary to use a scheme that can assess the relative priority of a broad range of values that are widely held by individuals. In this regard, Schwartz's (1992) value scheme is particularly apt for this purpose. This scheme was empirically derived by surveying over 25000 respondents across 44 countries, measuring 10 different "universal values" that are motivationally distinct but necessary to fulfill human needs for biological survival, social coordination, as well as group welfare and survival. The 10 different values (namely, power, achievement, hedonism, stimulation, self-direction, universalism, benevolence, tradition, conformity, and security) are organized in a circumplex such that those placed closer to each other (e.g., power and achievement) have similar underlying motivation and therefore more highly correlated in ratings, while those that are farther apart from each other (e.g., power and universalism) have more incompatible underlying motivations. In Study 1, Schwartz's scheme was used as the core measure of personal values. However, in order to examine person-vision value congruence, it was also necessary to have a corresponding values scheme to assess the value endorsements of organizational visions. That was the core undertaking of Study 1a (the pilot study).

The goal of this pilot study was to develop and validate 10 organizational vision statements with value emphases that commensurate the 10 values in Schwartz's (1992) value scheme. This instrument will be used to assess a vision's value emphasis to detect effects of person-vision congruence. In a match-and-rank exercise (detailed below), the newly-developed vision statements were expected to show a higher correspondence to the Schwartz value that it is intended to endorse compared to other Schwartz values. The validated vision statements would be used in Study 1b, along with a measure of personal values on the Schwartz scheme, to assess the effects of person-vision value congruence on motivation to support a vision.

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Method

  Participants. Ten graduate and senior undergraduate students (3 men and 7 women) from the Department of Psychology at the University of Waterloo volunteered to participate in this pilot study.

  Procedure. This study took place in a lab room. Participants were first introduced to 10 "stations" on a table that each had one Schwartz value labelled on it. They were then given the 10 newly-developed vision statements which were all written on paper strips; each participant was given 10 copies of each vision statement. In the first round, participants were asked to put down a vision statement at a given station if it could be seen as promoting or endorsing the Schwartz value that is labelled there, regardless of the degree of promotion or endorsement. They were told that they could "spend" as many vision statements as they see fit, but (1) they must put at least one vision statement at each station, and after doing that, (2) they must not put down anything if they do not see any relevance to the value labelled at the station. Upon completion, participants were told to revisit each station to rank order the vision statements they put down, starting from the most endorsing of that station's value to the least endorsing. Then, participants were told to review every station once more to make any adjustments as they see fit. Afterwards, participants were debriefed and dismissed.

  Each participant's data were entered into a set that has the same structure shown in Table 1. Within this dataset, each column represents the vision statements' intended value endorsement and each row represents the Schwartz value in its original scheme, listed in the same order as the numbering of columns (i.e., 1 is power, 2 is achievement, etc.). In a given row (the value "station"), each vision statement's ranking on its endorsement of that station's value is entered. If the vision statement was not put down at that station (i.e., not ranked), it was entered as 0. As an example, for the station labelled power (row 1 in Table 1), a participant may have placed the vision statements that intend to endorse power, achievement, and self-direction (in this order) and not placed the others. For this participant, the cell in row 1 and column 1 (power vision) was entered as 1, the cell in row 1 and column 2 (achievement vision) was entered as 2, and the cell

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in row 1 and column 4 (stimulation vision) was entered as 3 while all the remaining cells in that row were entered as 0. All participants' rankings at each data point were then averaged to form the values shown in Table 1.

Materials. The organizational vision statements were developed partly based on responses to a survey in a different research program which asked participants to write what they recall of their organization's vision or mission statement(s). A selection of those statements was revised to make the endorsement of a particular value salient. For example, one response to the vision statement recall item was "to be number one in our industry." This statement was elaborated upon to form a vision statement that emphasized the achievement value in Schwartz's scheme: "Becoming a larger, more competitive company; to be the best in the industry." Another example of a vision statement which endorsed the value of stimulation was "providing entertainment and fun; making others happy." The full list of vision statements is shown in Appendix B.

The list of 10 personal values was derived from Schwartz's value scheme (Schwartz, 1992), with each value accompanied by a short description of its meaning written in parentheses. Examples include "Stimulation (daring, a varied and challenging life, an exciting life)" and "Self-Direction (creativity, freedom, curiosity, independence, choosing one's own goals)." The full list of values is shown in Appendix C.

Results

An analysis of variance (ANOVA) was conducted between the vision statements' ranking within a single value domain. Viewed from Table 2, the numbers across each row (i.e., the vision's rankings) are compared with each other in the ANOVA. Within a row, any values that do not share a subscript are significantly different from one another as demonstrated by the Tukey B test.

For six of the 10 values, the vision statement's ranking on the target (corresponding) value was significantly higher than its ranking on the other values. In two instances—Power and Achievement—the vision statement's ranking on the target value was higher than seven other

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values but not higher than its adjacent value on the Schwartz circumplex. For the Power value (row 1), the mean rankings of the Power-emphasizing vision and Achievement-emphasizing vision were not significantly different. Similarly, for the Achievement value (row 2), the mean rankings of the Achievement-emphasizing vision and Power-emphasizing vision were not significantly different. It should be noted that both Power and Achievement are adjacent to each other on the Schwartz value circumplex and thus are closely related values. For the value of Hedonism, its vision statement's ranking was significantly different from all values except for Power. Similarly, for Self-Direction, its vision's ranking was significantly different from all values except for Achievement.

Table 2

Analysis of variance on the rankings of value endorsement on the 10 organizational vision statements

	Organizational Vision Statement's Value Endorsement									
	1	2	3	4	5	6	7	8	9	10
	Power	Achievement	Hedonism	Stimulation	Self-Direction	Universalism	Benevolence	Conformity	Tradition	Security
1	**.80$_a$**	.65$_a$	.05$_b$	.07$_b$	.16$_b$	.00$_b$	.00$_b$	.05$_b$	.06$_b$	.00$_b$
2	.46$_{a,b}$	**.71$_a$**	.10$_{c,d}$	.13$_{c,d}$	.35$_{b,c}$	.00$_d$	.03$_d$	.10$_{c,d}$	.00$_d$	.00$_d$
3	.55$_a$	.10$_b$	**.70$_a$**	.18$_b$	.00$_b$	.03$_b$	.00$_b$	.00$_b$	.00$_b$	.00$_b$
4	.13$_c$	.22$_{b,c}$	.41$_b$	**.90$_a$**	.22$_{b,c}$	.03$_c$	.00$_c$	.00$_c$	.00$_c$	.00$_c$
5	.03$_c$	.70$_a$	.08$_{b,c}$	.25$_b$	**1.00$_a$**	.08$_{b,c}$	.00$_c$	.05$_c$	.00$_c$	.00$_c$
6	.00$_d$	.00$_d$	.14$_{c,d}$	.03$_{c,d}$	.00$_d$	**.95$_a$**	.38$_b$	.03$_{c,d}$	.00$_d$	.22$_{b,c}$
7	.00$_c$	.00$_c$	.08$_{b,c}$	.05$_{b,c}$	.00$_c$	.31$_b$	**.85$_a$**	.22$_{b,c}$	.00$_c$	.25$_{b,c}$
8	.00$_c$	.00$_c$	.00$_c$	.00$_c$	.00$_c$	.00$_c$	.08$_c$	**.95$_a$**	.40$_b$	.08$_c$
9	.00$_c$	.00$_c$	.00$_c$	.00$_c$	.00$_c$	.05$_c$	.13$_c$	.42$_b$	**1.00$_a$**	.00$_c$
10	.04$_{b,c}$	.04$_{b,c}$	.00$_c$	.00$_c$	.00$_c$	.22$_b$	.18$_{b,c}$	.16$_{b,c}$	.22$_b$	**1.00$_a$**

Note: Each row is a Schwartz value that corresponds to the labelling in the title row (e.g., row 1 is "Power"). Within each row, means not sharing a subscript are significantly different from one another at $p< .05$ by the Tukey B test (Tukey, 1949).

Further analysis was done with a planned contrast test between a vision statement's ranking on the target value versus the other nine values. As shown in Table 3, all vision statements were given a ranking on the target value that was significantly different from the other nine values. Overall, the results suggest that the newly developed vision statements were perceived to be emphasizing their intended values. Thus, these vision statements were used in Study 1b to assess the value emphasis of the visions of participants' employment organization.

Table 3

Planned contrast between a vision statement's ranking on the target value versus the other nine values

Vision's Value Emphasis	Contrast Tests				
	Value of Contrast	Standard Error	t	df	Significance
1. Power	6.16	.50	12.21	90	$p< .001$
2. Achievement	5.20	.70	7.41	90	$p< .001$
3. Hedonism	5.43	.66	8.24	90	$p< .001$
4. Stimulation	7.09	.53	13.32	90	$p< .001$
5. Self-Direction	8.38	.44	19.06	90	$p< .001$
6. Universalism	7.76	.45	17.07	90	$p< .001$
7. Benevolence	6.75	.63	10.75	90	$p< .001$
8. Conformity	7.99	.41	19.54	90	$p< .001$
9. Tradition	8.40	.30	28.09	90	$p< .001$
10. Security	8.15	.44	18.41	90	$p< .001$

Study 1b

Using the instrument developed in Study 1a, this study sought to assess both personal and organizational vision values to see whether their alignment is associated with greater motivation to support the vision. As the theories and past studies reviewed in the Introduction suggest, greater person-vision value congruence is linked to greater motivation to realize a vision (e.g., Shamir et al., 1993; Zaccaro & Banks, 2001). Therefore, it is expected that the more similarly participants rate their own values and their organizational vision's values, the greater the intentions they would express to support their organization's vision. In particular, it is expected that such a congruence effect would occur across the 10 Schwartz value dimensions and their respective value categories (i.e., self-enhancement, self-transcendence, openness, and conservation). Additionally, I tested whether identification with a vision is a potent mechanism of value congruence effects, as theorized by Zaccaro and Banks (2001). Pursuant to this test, a mediation analysis was also conducted among competing potential mediators including task significance, as suggested by Grant's (2008a) studies of enhancing employee motivation with ideological messages; and organizational identification, as suggested by Edwards and Cable's (2009) study of the effects of person-organization value congruence.

Method

Participants and procedure. Prior to screening, 270 full-time employees over the age of 18 in the United States were recruited through CrowdFlower, a U.S.-based crowdsourcing service website that administers online questionnaires to paid contributors. Participants were paid a monetary reward of $0.60 USD for completing the 30-minute online survey in this study. The Information Letter provided to participants can be found in Appendix A.

Participants were first screened on three attention check items dispersed throughout the survey that asked them to click "strongly disagree" as their response. Seventy participants (26%) were removed for failing to pass all three attention check items. Among the 200 remaining participants, all of them answered correctly on three basic English comprehension questions (e.g., "Garage" is to "Car" as "Airport" is to [blank]). Afterwards, 35 participants who indicated

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that they do not know the vision or mission statement of their employment organization were removed.

After the screening procedure, data for 165 participants (90 women and 75 men) remained for subsequent analyses. The remaining participants' average age was 22.31 ($SD =$ 10.91) and had an average tenure of 8.08 years ($SD = 6.56$). Participants came from 40 different industries, with 12% of them from education, 8% from health care and social assistance, 6% from manufacturing, and the rest from across the remaining sectors. Sixty-two percent of the participants are in a non-supervisory position, while 16.3% of them are supervisors, 13.9% are mid-level managers, and 7.8% are top level managers. Participants' employment organization had an average of 100-499 employees and worked in an average unit size of 10-49 employees.

Measures. The following measures were administered through the online survey that participants completed.

Schwartz's measure of personal values. Participants were asked to rate the importance of 10 different values from Schwartz (1992) as a guiding principle in their life, ranging from -1 (*opposed to my values*) to 0 (*not important to me*) to 7 (*of supreme importance to me*). Each value dimension was accompanied by a short explanative description in parentheses. Sample items include "Power (social power, authority, wealth)" and "Self-Direction (creativity, freedom, curiosity, independence, choosing one's own goals)." See Appendix C for the complete list of values.

Measure of organizational vision's values. The commensurate measure of values for organizational visions developed in Study 1a was administered in this survey. Earlier in the survey, participants were oriented to think about their organization with this description: "Your organization may have mission or vision statements that describe what the organization is trying to accomplish and why. These statements may describe a higher purpose beyond goals such as making a profit or selling a certain number of products. Often these statements describe long-term outcomes for the organization and the people it serves. Examples include how your organization makes the community or the world a better place, or how your organization benefits

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the well-being of people, communities, or the environment through its operations. For the following questions, please think about your organization's mission, vision, or other statements of this sort. If your organization has both a vision and mission statement, for example, please keep both in mind as you answer questions about mission or vision."

For this section, participants were asked to think about their organization's vision/mission and the values that it is endorsing or promoting in explicit statements. Then they were asked to rate the extent to which each of the 10 values is important as a guiding principle of the vision/mission of their organization, ranging from -1 (*opposed to the vision/mission's values*) to 0 (*not at all important to the vision/mission*) to 7 (*of supreme importance to the vision/mission*). Each value was accompanied by a short explanative description in parentheses along with an example of vision/mission statements that promote or endorse that value. Sample items include "Achievement (success, capability, ambition, influence on people and events); Example: Becoming a larger, more competitive company; to be the best in the industry" and "Universalism (broadmindedness, beauty of nature and arts, social justice, a world at peace, equality, wisdom, unity with nature, environmental protection); Example: promoting environmental sustainability, equality, and social justice; promoting appreciation of art or nature." See Appendix B for the complete list of values.

Identification with vision. Participants' identification with their organization's vision was measured using an eight-item scale (α = .93) developed for this study. Each item is rated on a 7-point scale from 1 (*strongly disagree*) to 7 (*strongly agree*). This measure was primarily based on writings on identification by Ashforth and Mael (1989), Pratt (1998), and the Mael scale of organizational identification (Mael & Tetrick, 1992). According to these sources, the central concept of identification include recognizing similarities in important underlying ideals, feeling a sense of pride, and desiring public awareness of one's connection with the object of identification (their organization's vision). Example items targeting these concepts are, respectively, "The ideals in the vision/mission match up well with my own ideals," "I would be proud if my organization made this vision/mission a reality," and "I would be happy to have

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others know that I'm working toward my organization's vision/mission." See Appendix D for the complete list of items.

Task Significance. Participants' perception of their job's task significance was measured using a four-item scale ($\alpha = .91$) developed by Morgeson and Humphrey (2006). Each item was rated on a 7-point scale from 1 (*strongly disagree*) to 7 (*strongly agree*). A sample item is, "The job itself is very significant and important in the broader scheme of things."

Organizational Identification. Participants' identification with their organization was measured with a six-item scale ($\alpha = .90$) developed by Mael and Ashforth (1992). Each item was rated on a 7-point scale from 1 (*strongly disagree*) to 7 (*strongly agree*). A sample item is, "When someone praises this organization it feels like a personal compliment."

Intentions to support organizational vision. Participants were asked how willing they would be to engage in seven different behaviours to support their organization's vision/mission. Each item was rated on a 7-point scale ($\alpha = .91$) from 1 (*definitely not willing*) to 7 (*definitely willing*). Sample items include, "Participate in an employee focus group interview session to make suggestions about how employees in your work unit or at your rank level could contribute to accomplishing the vision/mission" and "Attend a job fair or other recruitment event for your organization and tell prospective job applicants about the positive impact of your organization's vision/mission." See Appendix E for the complete list of items.

Demographic variables. Data were collected on participants' gender and tenure as control variables as it is done in other research concerning employee responses to leadership visions (e.g., Kohles et al., 2012). One basis of this decision is that demographic variables may be correlated with substantive variables in the model (for example, as shown in Table 4, gender is significantly correlated with vision support intentions).

Results

Means, standard deviations, and intercorrelations of all the variables used in subsequent analyses are presented in Table 4.

Table 4

Means, Standard Deviations, and Intercorrelations of Variables in Study 1

Variables	Mean	s.d.	1	2	3	4	5	6	7	8
1. Gender	.55	.50								
2. Tenure	8.08	6.56	-.01							
3. Congruence of Self-Enhancing Values (Block Variable)	4.67	.36	-.03	-.09						
4. Congruence of Self-Transcendent Values (Block Variable)	5.26	.60	.28**	-.02	.29**					
5. Task Significance	5.18	1.14	.13	.09	.13	.25**				
6. Organizational Identification	4.97	1.19	.08	.07	.31**	.55**	.54**			
7. Identification with Vision	5.39	1.25	.14	.07	.28**	.49**	.53**	.70**		
8. Intentions to Support Vision	35.12	8.42	.20*	-.07	.18*	.28**	.40**	.51**	.69**	

Note. Gender was coded as 0 = male and 1 = female. *$p < .05$, ** $p < .01$.

Calculation of a Value Congruence Variable

To examine the effects of congruence between personal and vision values, it was necessary to model it as a predictor in the regression equation. It should be noted there are two intuitively appealing (and widely-used) approaches to modeling congruence that each have their limitations: (1) Arithmetic difference between person/vision value ratings and (2) two-way interaction between person and vision values. First, the congruence of personal and vision values cannot simply be computed as an arithmetic difference between the two ratings because there is an unwarranted assumption that the regression coefficient of the expression, P-V, apply equally and oppositely to the two value ratings (Edwards, 2001). Second, the two-way interaction approach can risk foregoing information about how the outcome variable relates to the two predictors when they are in agreement (i.e., high or low ratings on both) and how well the variables associate with each other compared to a hypothetical context of perfect agreement (Shanock, L. R., Baran, B. E., Gentry, W. A., Pattison, S. C., & Heggestad, E. D., 2010). For example, an outcome variable may be highest when ratings on both variables are high *and* when ratings on both are low, in which case the two-way interaction would not be able to capture the effect properly since a significant interaction emerges when both variables are high *or* when both are low, but not simultaneously. Given these limitations, Edwards (2007) recommended using a full polynomial equation with quadratic terms to evaluate congruence effects. Thus, in this study, the effects of the congruence between personal and vision values are captured by the following equation:

$$Z = b_0 + b_1P + b_2V + b_3P^2 + b_4PV + b_5V^2 + e. \tag{1}$$

In the first test, the outcome variable, Z, is intentions to support the vision; P is personal value; and V is the vision's value. The quadratic terms, P^2, V^2, and PV were included along with P and V to determine whether the effects of personal and vision values can be interpreted as a value congruence effect. In some of the following analyses, the five quadratic terms are replaced with a block variable, which is a weighted linear composite of the variables that constitute the block

where the weights are the estimated regression coefficients for the variables in the block (Edwards & Cable, 2009).

Value Congruence Hypotheses Test

In this and all subsequent analyses, gender and tenure served as control variables as patterned after other research on vision and motivation (e.g., Kohles et al., 2012). As shown in Equation 1, vision support intention was regressed on ratings of personal values and vision values. This regression analysis was conducted with each of the 10 value dimensions as well as their broader categorical dimensions of self-enhancement (the combination of achievement and power), self-transcendence (the combination of universalism and benevolence), openness (the combination of stimulation and self-direction), conservation (the combination of security, tradition, and conformity), and the average of all the values. The categorical value dimensions were calculated as the sum of ratings of values that comprise that category (for example, self-transcendence is the sum of universalism and benevolence). The average value was calculated by two approaches. The first approach took the average ratings of all the value domains for both personal values and vision values, and then generated the three polynomial terms based on these aggregates. The second approach also took average ratings of all the value domains as well as the average of the three polynomial terms. Both averaging approaches are presented in the following results. Prior to conducting the analyses, all the variables were scale-centered.

Following Edwards and Cable (2009) we may determine from Table 5 whether there was sufficient symmetry and other attributes of the regression coefficients to support presence of the expected form of congruence effect. Notably, the sum of b_3, b_4, and b_5 was quite near zero in most cases, especially so for value domains for which surface plots are provided, such as Universalism. In addition, the quantity $(b_3 - b_4 + b_5)$ generally yielded a negative value as expected given the expected proportionality of weights of the three individual terms upon expansion of $(x-y)^2$.

Table 5

Polynomial Regression Coefficients in Prediction of Behavioural Support of Vision

Personal and Organizational Value	b_1 (P)	b_2 (V)	b_3 (P^2)	b_4 (PV)	b_5 (V^2)	(b_3-b_4+b_5)	Total R^2	ΔR^2
1. Universalism	1.1*	-.26	-.23	.30	-.16	-.69	.10	.03*
2. Benevolence	-.66	.93	.31	.02	-.23	.06	.10	.02*
3. Power	.25	-.77*	-.01	.05	.06	.00	.08	.00
4. Achievement	-.14	-.11	-.06	.31	-.14	-.51	.07	.01
5. Hedonism	-.43	-.06	.14	.19	-.17	-.22	.09	.04*
6. Stimulation	-.32	.51	.05	-.10	.03	.18	.06	.00
7. Self-Direction	.55	-.40	.00	.40	-.32*	-.72	.12	.05**
8. Tradition	.92	.60	-.21	.07	-.15	-.43	.10	.03*
9. Security	.74	-.19	.08	.18	-.28	-.38	.10	.02*
10. Conformity	1.45*	-.07	-.25	-.02	-.04	-.27	.13	.03**
11. Self-Enhancing Values	-.06	-.07	-.03	.08	-.07	-.18	.09	.02*
12. Self-Transcendent Values	.80	.20	-.04	.06	-.09*	-.19	.11	.04**
13. Openness Values	.22	.29	.00	.00	-.05	-.05	.06	.01
14. Conservation Values	.60	.17	-.05	.50	-.06	-.61	.15	.06**
15. Average (Method 1)	2.57	.04	-.94	.75	-.37	-2.06	.10	.04*
16. Average (Method 2)	.11	.07	-.05	.12**	-.07*	-.24	.17	.08**

Note. The incremental R^2 concerned addition of the b_3, b_4, and b_5 terms to a regression equation which initially estimated only b_1 and b_2. *$p<$ .05, ** $p<$.01.

Given the sizable linear effects (b_1 and b_2) in Table 5, the plots in the figures shown here were produced based only on b_3, b_4, and b_5, which isolate the potential congruence effect. The first line in Table 5 provides data for the value of Universalism, and the surface plot based on its quadratic terms is shown in Figure 1. The expected form of congruence effect is also evident in Figures 2 through 4, which show a selection of response surface plots including those for the aggregate of self-enhancing values, the aggregate of self-transcendent values, and the average of all values. As shown in figures, alignment between participants' personal values and their organizational vision's values is generally associated with higher levels of vision support intentions, although the highest level of support may not always occur exactly along the line of congruence where personal and vision values are in perfect alignment. The latter occurs when there is a statistically significant effect of the vision's values (e.g., self-transcendence; see line 12 of Figure 2) where high support intentions can occur even when personal values are not rated at similarly high level as the vision's value endorsement (see Figure 3).

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Figure 1

Polynomial Function of Personal Value and Organizational Vision's Value on Universalism Predicting Vision Support Intentions

Figure 2

Polynomial Function of Personal Value and Organizational Vision's Value in Self-Enhancing Values Predicting Vision Support Intentions
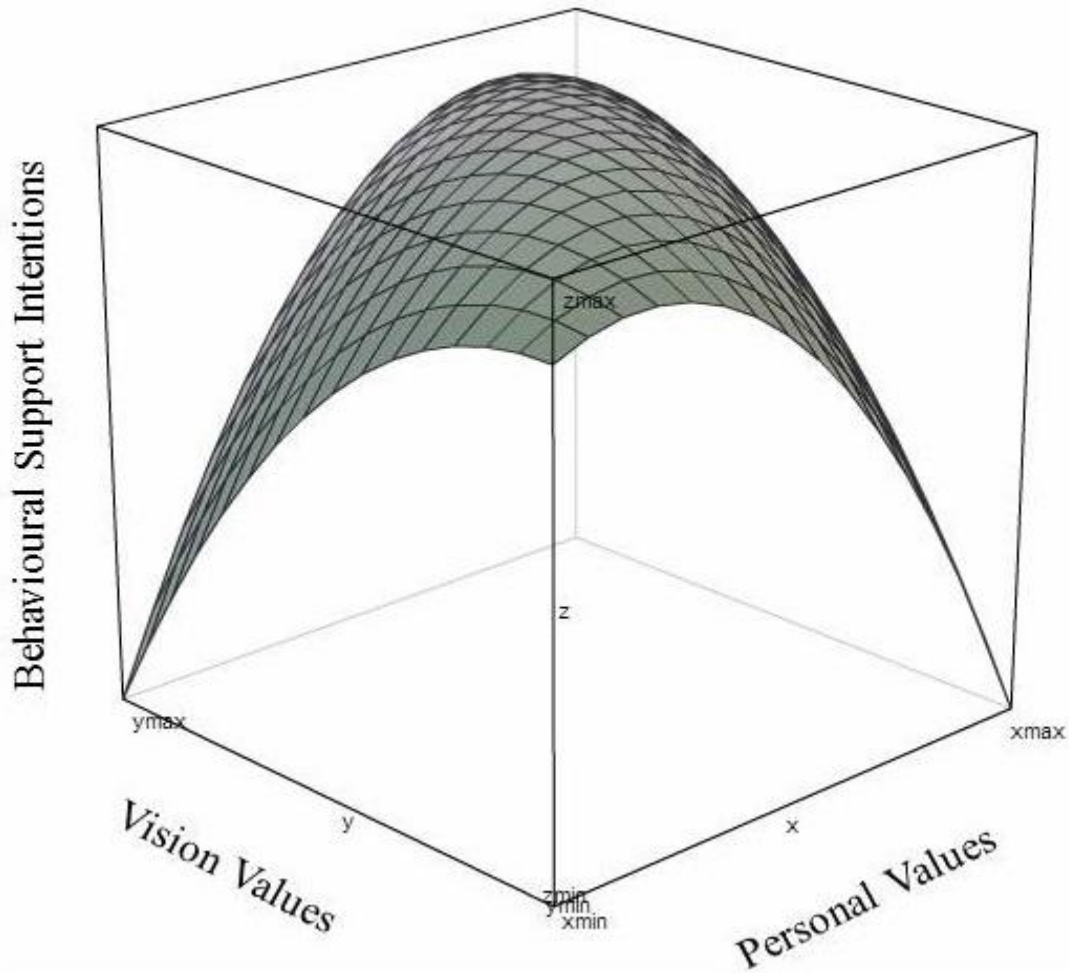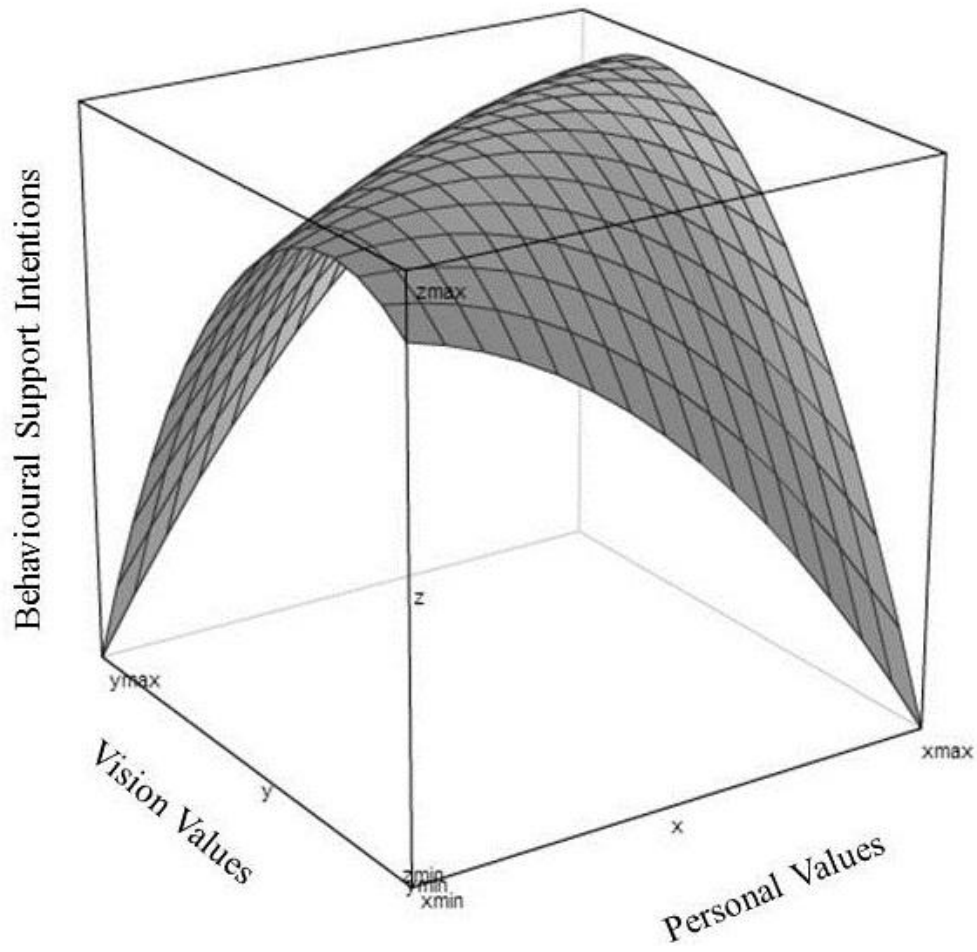
Figure 3

Polynomial Function of Personal Value and Organizational Vision's Value in Self-Transcendent Values Predicting Vision Support Intentions
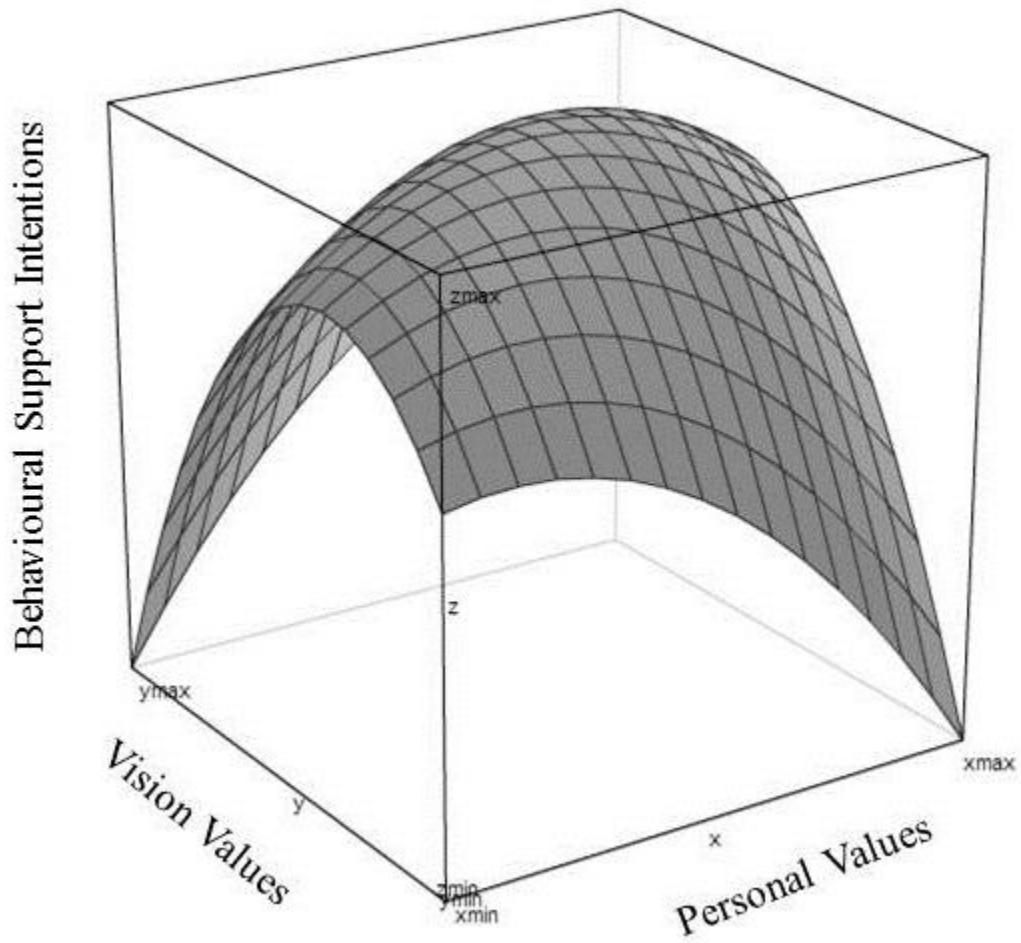
Figure 4

Polynomial Function of Personal Value and Organizational Vision's Value (Averaged) Jointly Predicting Vision Support Intentions
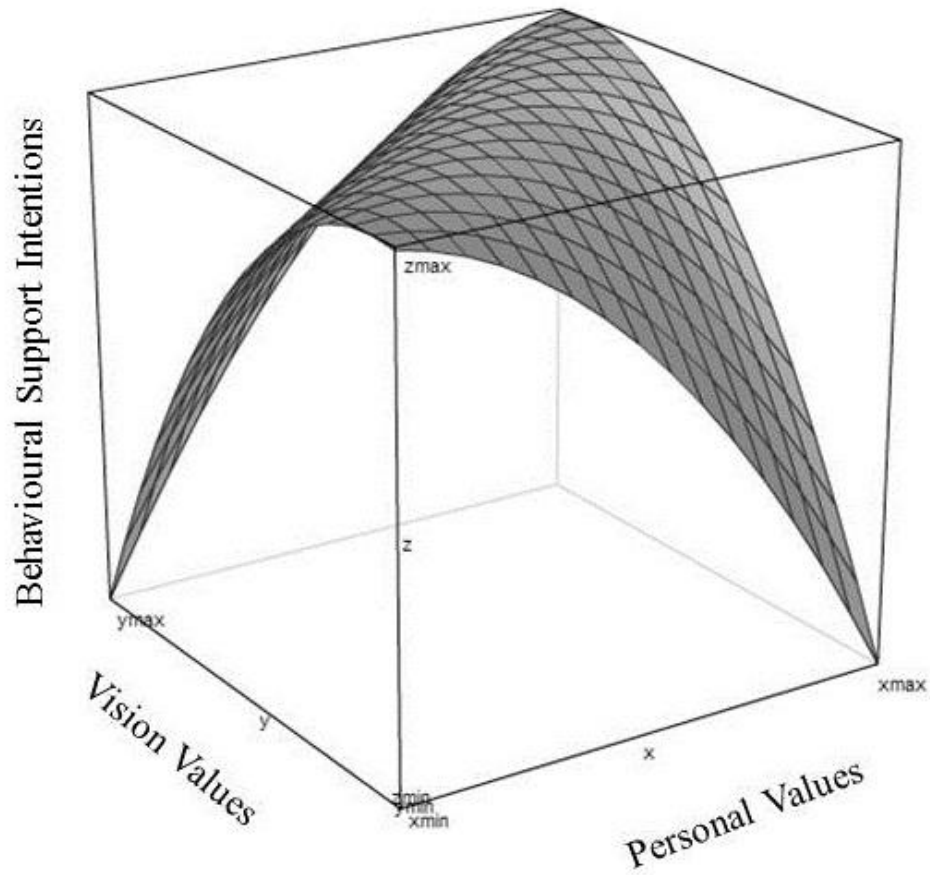
Mediation Analyses

Mediation models were constructed with person-vision value congruence (a block variable) as the exogenous variable, identification with vision as the mediator, and intentions to engage in vision-supportive actions as the outcome variable. Correspondingly, for the outcome of vision support intentions, the regression equation included personal and vision values as well as identification with vision as predictors, as shown below:

$$Z = b_0 + b_1 P + b_2 V + b_3 P^2 + b_4 PV + b_5 V^2 + + b_6 I + e. \tag{2}$$

The following mediation models were tested using Hayes' (2013) PROCESS macro version 2.11 for SPSS. The indirect and total effects were calculated by the products of the path coefficients, which were tested using bias-corrected confidence intervals constructed from estimates based on 5000 bootstrap samples.

The modeled effect of congruence of self-enhancing values on intentions to support the vision through identification with vision is depicted in Figure 5.The bias-corrected 95% confidence interval for the indirect effect of value congruence was [1.49, 7.69] and therefore statistically significant. Higher person-vision congruence in self-enhancing values is associated with higher identification with the vision, which in turn predicted higher levels of intentions to support the vision.

Figure 5

*Modeled Causal Pathway with Congruence in Self-Enhancing Values Predicting Intention to
Support the Vision through Identification with Vision, Study 1*
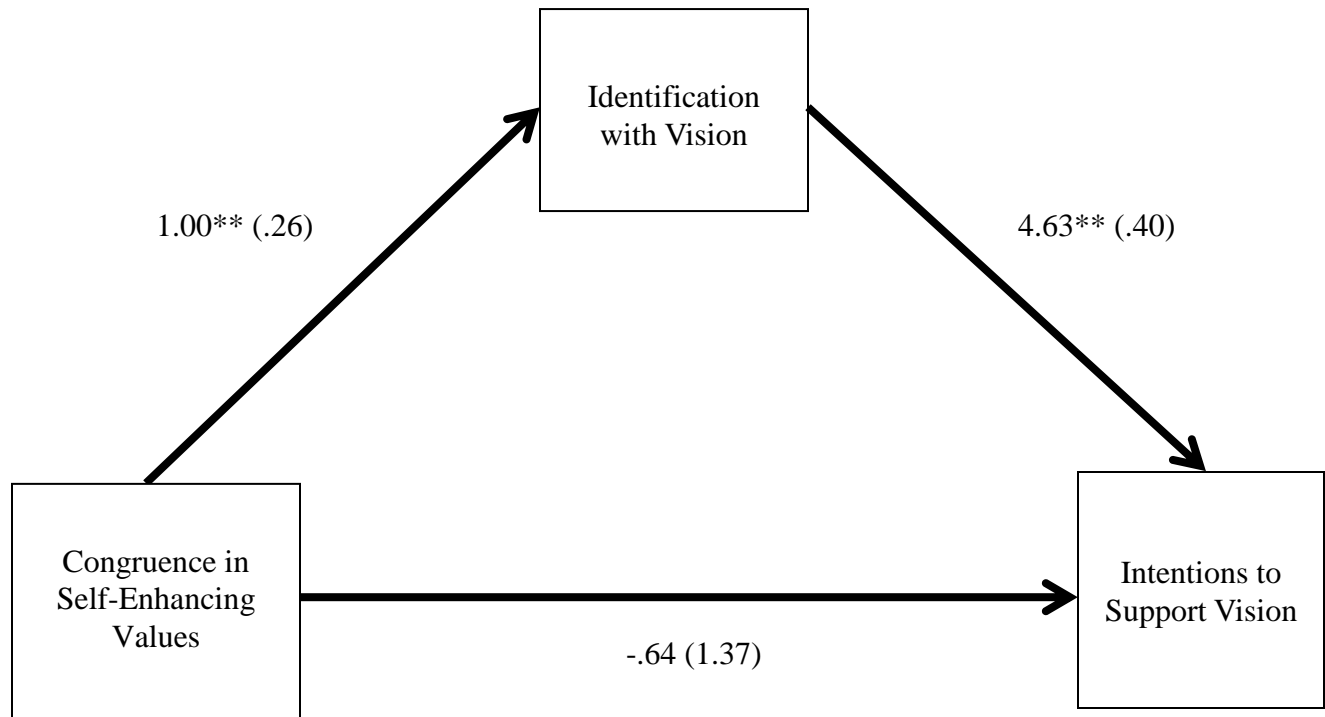
Bias corrected 95% C.I. for the indirect effect of congruence in self-enhancing values on
intentions to support visions through identification with vision: [1.49, 7.69]
Figures indicate estimated coefficients with their standard errors in parentheses.
*p<. 05** p< .01

Similarly, as shown in Figure 6, the bias-corrected 95% confidence interval for the indirect effect of congruence of self-transcendent values on intentions to support the vision also did not include zero, [3.62, 6.62], and was therefore statistically significant. Higher person-vision congruence in self-transcendent values is associated with higher identification with the vision, which in turn predicted higher levels of intentions to support the vision.

Figure 6

Modeled Causal Pathway with Congruence in Self-Transcendent Values Predicting Intention to Support the Vision through Identification with Vision, Study 1b

Bias corrected 95% C.I. for the indirect effect of congruence in self-enhancing values on intentions to support visions through identification with vision: [3.62, 6.62]
Figures indicate estimated coefficients with their standard errors in parentheses.
*p<. 05**p< .01

Furthermore, as shown in Figure 7, the bias-corrected 95% confidence interval for the indirect effect of averaged values on intentions to support the vision also did not include zero, [.33, 1.00], and was therefore statistically significant. Higher person-vision congruence across all values (as an aggregate) is associated with higher identification with the vision, which in turn predicted higher levels of intentions to support the vision. Altogether, findings from these mediation analyses support the hypothesis that congruence between the self and a vision leads to perceptions of similarity and a willingness to associate the self with a vision, which in turn motivates vision-supportive actions.

Figure 7

Modeled Causal Pathway with Congruence of Average Values Predicting Intentions to Support Vision through Identification with Vision, Study 1b

Bias corrected 95% C.I. for the indirect effect of the quadratic term of average values on intentions to support visions through identification with vision, controlling for the linear terms of personal values and vision's values: [.33, 1.00]
Figures indicate estimated coefficients with their standard errors in parentheses.
* *p*<. 05**p< .01

A further set of path models was generated to address a potential concern with the use of block variables. Block variables are estimated based on linear terms along with polynomial terms in a regression equation. However, if polynomial terms were used exclusively, the effect of congruence would be properly isolated. Accordingly, we devised an alternative mediation model wherein the quadratic term, $(P^2 + V^2 + P*V)$, served as the exogenous variable and the linear terms (P and V) served as control variables that independently predict both the mediator (identification with vision) and the outcome (vision support intentions). As shown in the Figure 8, the 95% confidence interval of the indirect effect of congruence of self-enhancing values did not include zero, [1.20, 7.82]. As demonstrated before, higher person-vision congruence in self-enhancing values predicted greater identification with the vision, which in turn predicted greater intentions to support the vision.

Figure 8

Modeled Causal Pathway with Congruence of Self-Enhancing Values Predicting Intentions to Support Vision through Identification with Vision, Study 1b

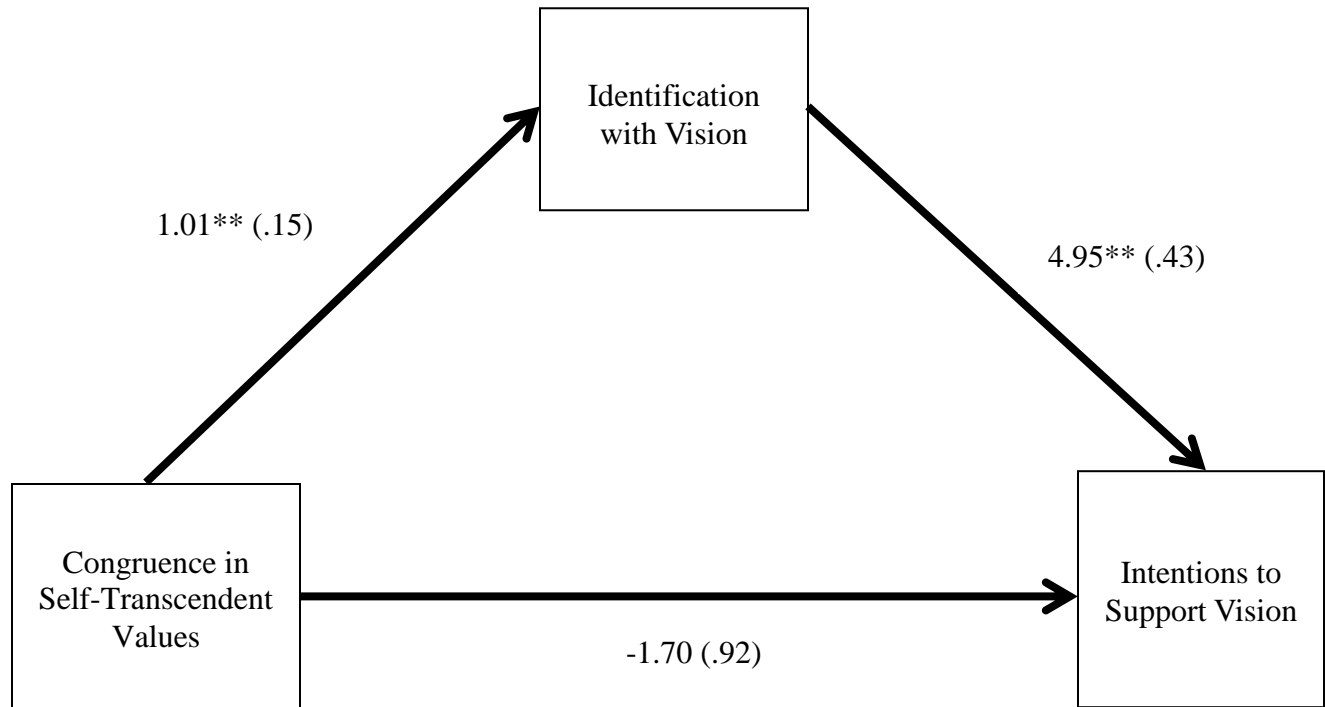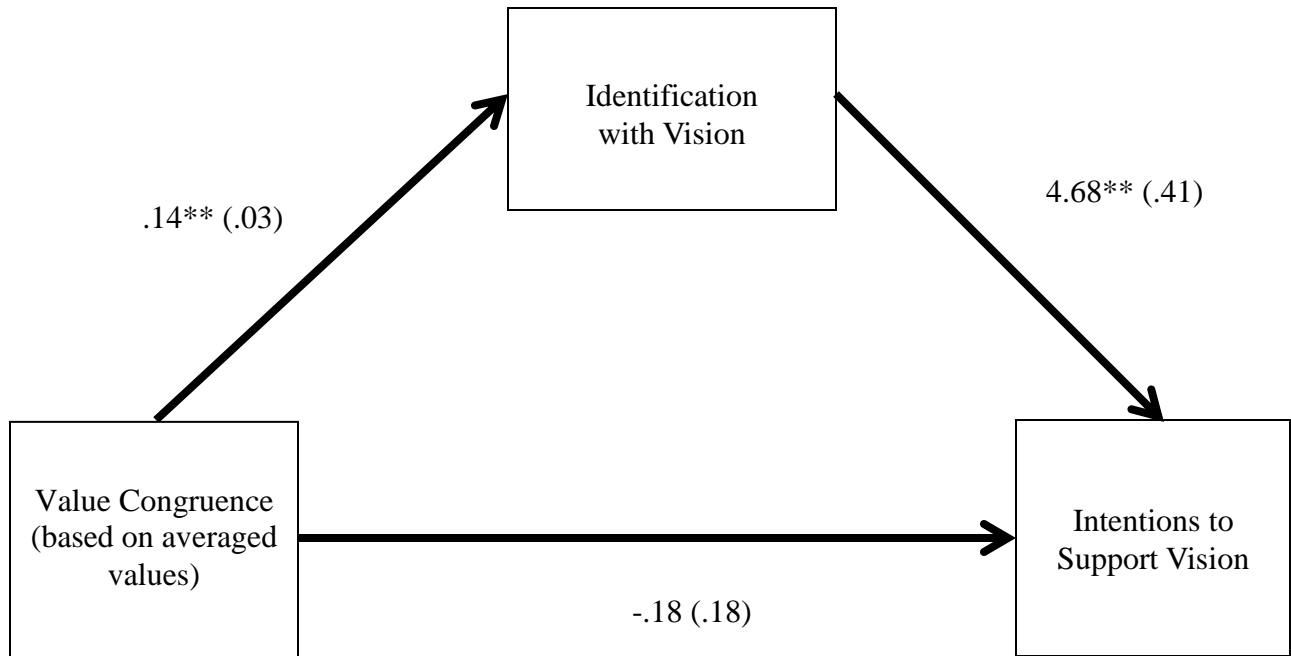Bias corrected 95% C.I. for the indirect effect of the quadratic term of self-enhancing values on intentions to support visions through identification with vision, controlling for the linear terms of personal values and vision's values: [1.20, 7.82]
Figures indicate estimated coefficients with their standard errors in parentheses.
* p<. 05** p< .01

Similarly, Figure 9 shows the indirect effect of congruence of self-transcendent values also did not include zero [2.98, 7.09], hence both indirect effects remained statistically significant. Higher person-vision congruence in self-transcendent values predicted greater identification with the vision, which in turn predicted greater intentions to support the vision.

Figure 9

Modeled Causal Pathway with Congruence of Self-Transcendent Values Predicting Intentions to Support Vision through Identification with Vision, Study 1b
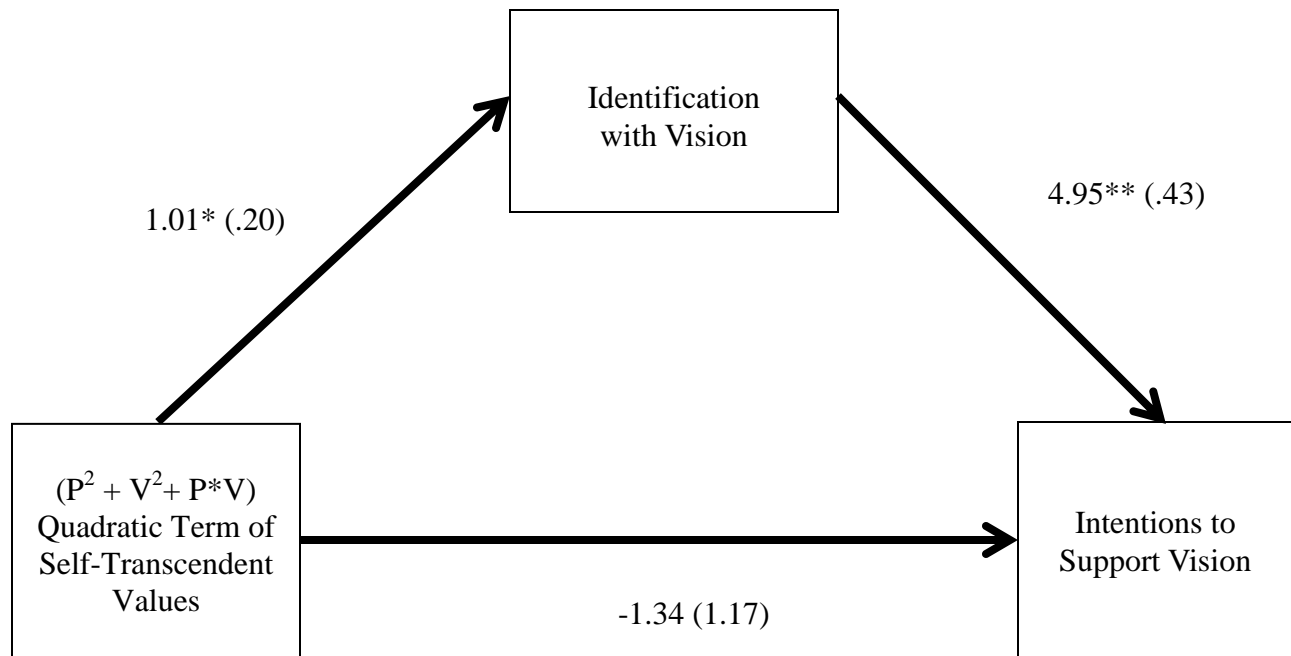
Bias corrected 95% C.I. for the indirect effect of the quadratic term of self-enhancing values on intentions to support visions through identification with vision, controlling for the linear terms of personal values and vision's values: [2.98, 7.09]
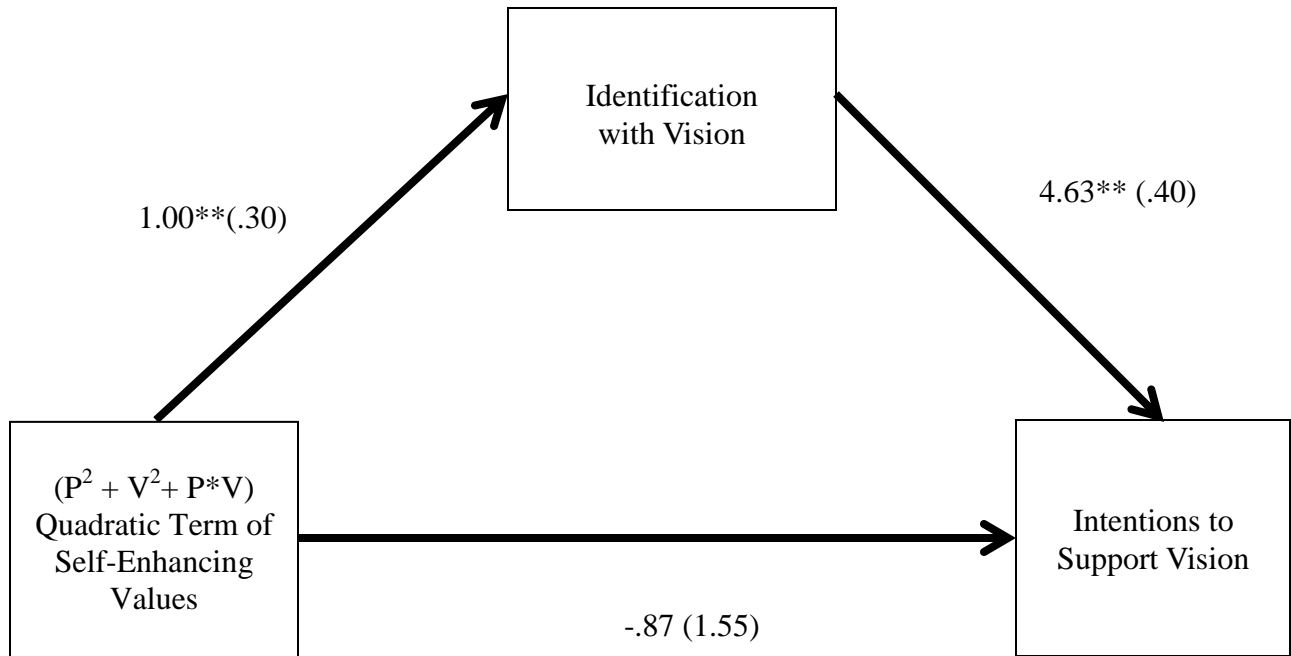Figures indicate estimated coefficients with their standard errors in parentheses.
* *p<. 05** p< .01*

Figure 10 shows the indirect effect of congruence in averaged values, and it also did not include zero [2.98, 7.09], hence both indirect effects remained statistically significant. Thus, higher person-vision congruence in overall values (as an averaged aggregate) predicted greater identification with the vision, which in turn predicted greater intentions to support the vision.

As a third alternative model, the block variable was tested as the exogenous variable with the two linear terms, P and V, serving as control variables to predict the mediator (identification with vision) and the outcome (vision support intentions). The 95% confidence interval was [1.23, 7.83] for the indirect effect of congruence of self-enhancing values and [2.89, 7.06] for the indirect effect of congruence of self-transcendent values. Altogether, the results consistently show an indirect effect of person-vision value congruence (on average and specifically in the self-enhancement and self-transcendent dimensions) on vision support intentions through identification with vision. However, the corresponding indirect effects for openness values and conservation values were not statistically significant.

Figure 10

Modeled Causal Pathway with Congruence of Average Values Predicting Intentions to Support Vision through Identification with Vision, Study 1b

Bias corrected 95% C.I. for the indirect effect of the quadratic term of average values on intentions to support visions through identification with vision, controlling for the linear terms of personal values and vision's values: [.15, 1.03]
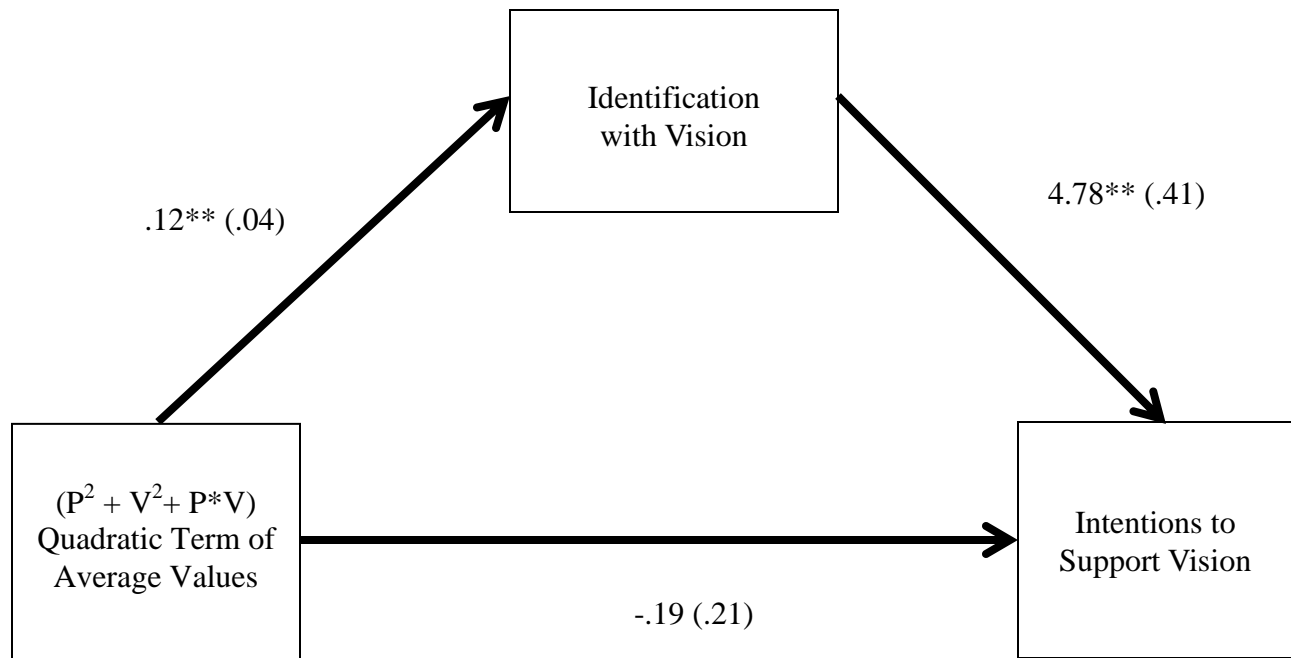Figures indicate estimated coefficients with their standard errors in parentheses.
*p<. 05**p< .01

Although a causal inference could not be drawn from these data, we tested several alternative models to see if the reversed causal direction can also be supported. Using the quadratic congruence term as the exogenous variable, support intentions as the mediator, and identification as the outcome, and the linear P and V terms as controls, the 95% confidence interval for the indirect effect of congruence of self-enhancing values included zero, [-.06, .84], and was therefore not statistically significant. However, the 95% confidence interval for the indirect effect of congruence of self-transcendent values did not include zero, [.09, .76]. Still another alternative model was tested with the congruence block variable as the exogenous variable and similar results emerged: The 95% confidence interval for the indirect effect of congruence of self-enhancing values included zero, [-.06, .79], but the indirect effect of congruence on self-transcendent values did not, [.08, .62]. Thus, there is some support that the intended causal pathway holds for the effects of congruence in self-enhancing values.

The results thus far suggest that greater person-vision value congruence in two broad domains (self-enhancement and self-transcendence) and in overall values are associated with greater identification with vision, which in turn predicts greater intentions to support the vision. Given the correlational data, a causal inference could not be reached, although the alternative causal model was not supported for self-enhancing value domain.

Mediation Analyses with Inclusion of Alternative Mediators

Further analyses were conducted with identification with vision and two alternative mediators—task significance and organizational identification— tested simultaneously. Figures 11 through 13 depict these mediation models with the value congruence block for self-enhancing values, self-transcendent values, and averaged values as the exogenous variable, respectively. As shown in Figure 11, the 95% confidence interval for the indirect effect of congruence of self-enhancing values on vision support intentions included zero for task significance, [-.39, .64], and organizational identification, [-.95, 2.32], but not for identification with vision, [1.39, 7.54]. The same pattern emerged for self-transcendent values and averaged values. As shown in Figure 12, the 95% confidence interval for the indirect effect of value congruence on vision support

intentions included zero for task significance, [-.57, .47], and organizational identification, [-.62, 3.08], but not for identification with vision, [2.89, 6.56]. As shown in Figure 13, the 95% confidence interval for indirect effect included zero for identification with organization, [-.05, .34], and task significance, [-.03, .08], but not for identification with vision [.16, 1.01]. The same pattern of results held when personal values and vision values were controlled for. This result suggests that person-vision congruence effects occur primarily through identification with vision and not because employees perceive a broader purpose of their jobs or develop a greater affinity for their organization as a whole.

Figure 11

Modeled Causal Pathway with Congruence in Self-Enhancing Values Predicting Intention to
Support the Vision through Identification with Vision, Study 1b
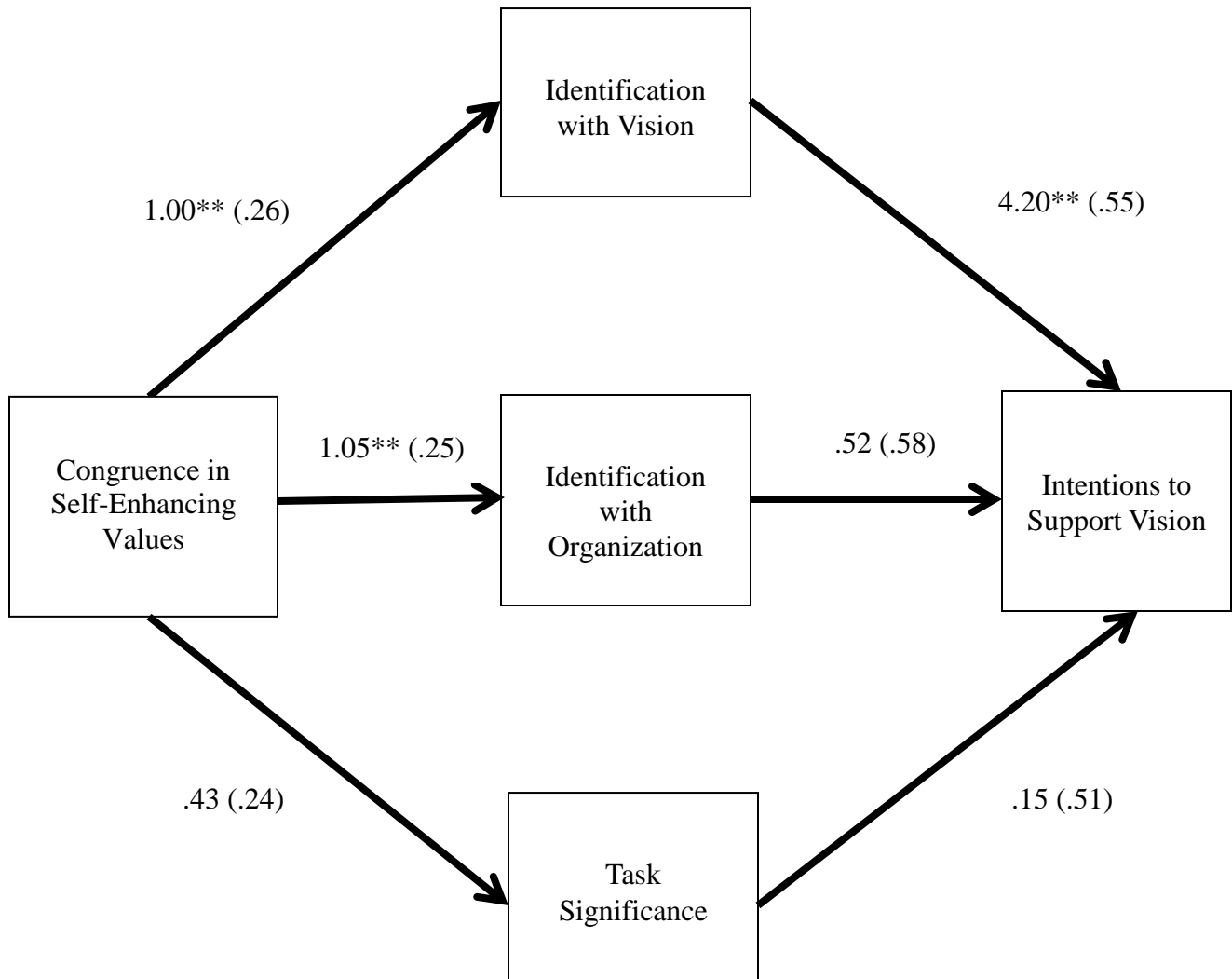
Bias corrected 95% C.I. for the indirect effect of congruence in self-enhancing values on
intentions to support visions through (1) identification with vision: [1.39, 7.54]; (2) identification
with organization: [-.95, 2.32]; (3) task significance: [-.39, .64].
Figures indicate estimated coefficients with their standard errors in parentheses.
* *p*<. 05**p< .01

Figure 12

Modeled Causal Pathway with Congruence in Self-Transcendent Values Predicting Intention to Support the Vision through Identification with Vision, Study 1b

Bias corrected 95% C.I. for the indirect effect of congruence in self-transcendent values on intentions to support visions through (1) identification with vision: [2.89, 6.56]; (2) identification with organization: [-.62, 3.08]; (3) task significance: [-.57, .47].
Figures indicate estimated coefficients with their standard errors in parentheses.
* *p*<. 05**p< .01

Figure 13

Modeled Causal Pathway with Congruence in Self-Transcendent Values Predicting Intention to Support the Vision through Identification with Vision, Study 1b
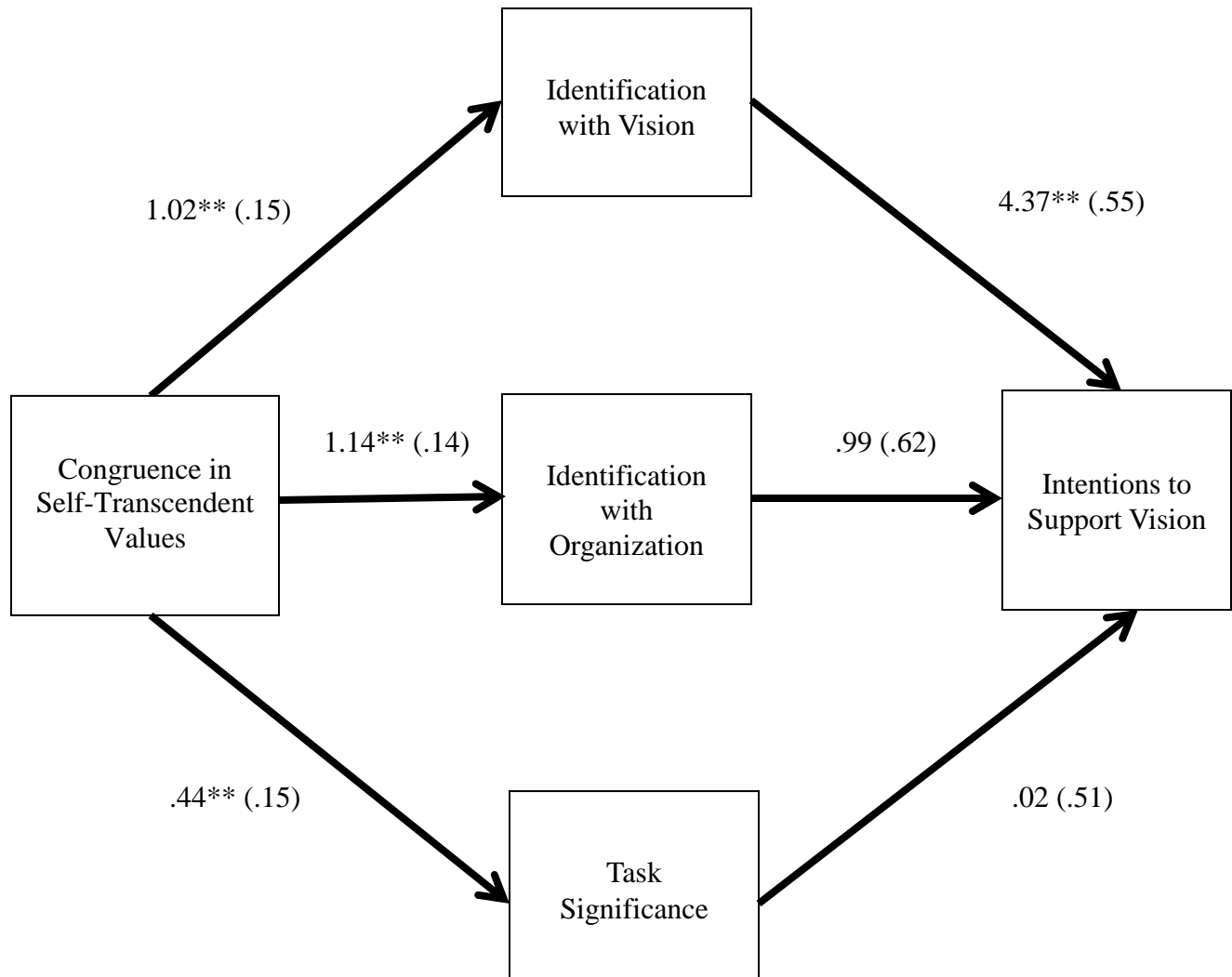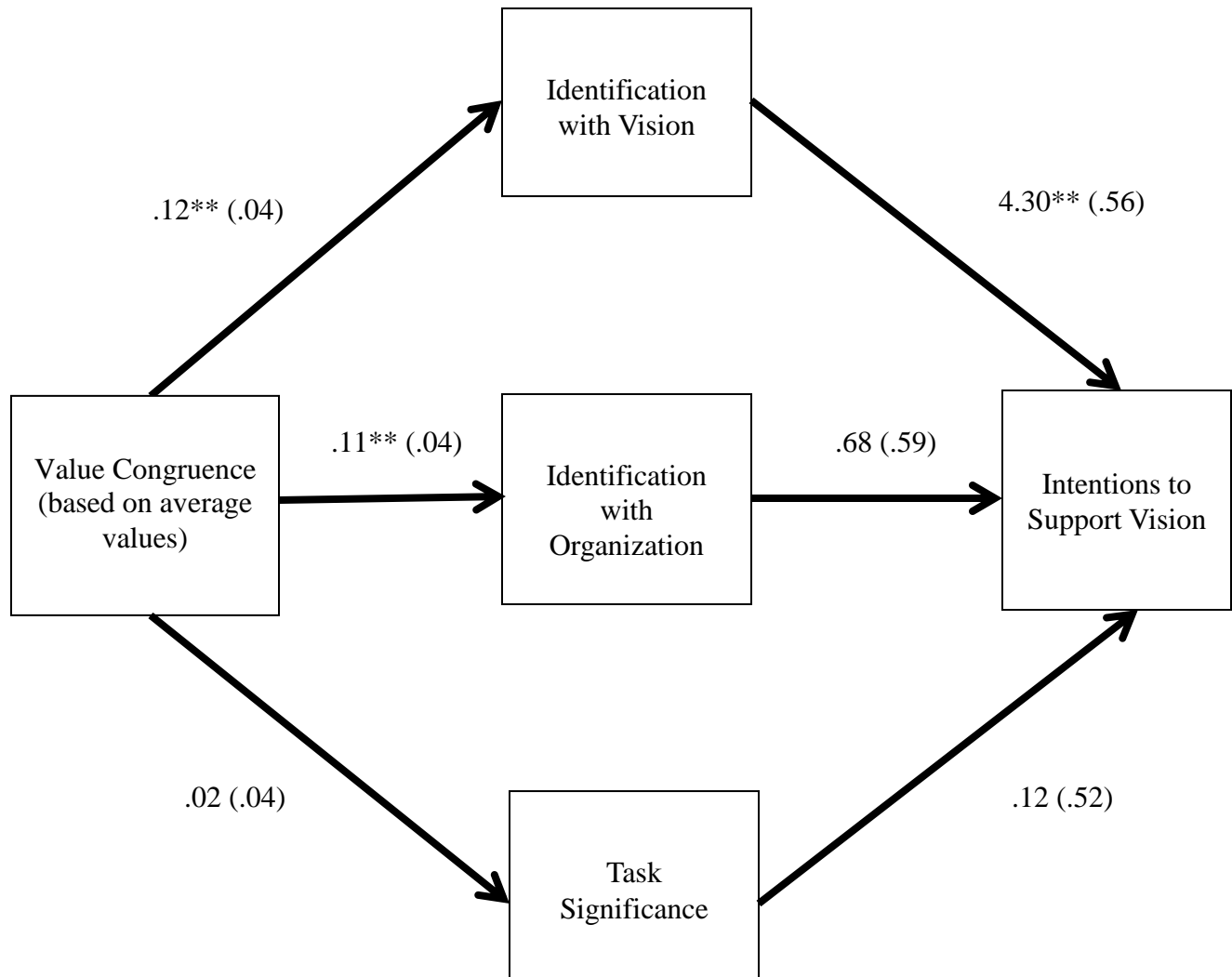

Bias corrected 95% C.I. for the indirect effect of congruence in self-transcendent values on intentions to support visions through (1) identification with vision: [.16, 1.01]; (2) identification with organization: [-.05, .34]; (3) task significance: [-.03, .08].
Figures indicate estimated coefficients with their standard errors in parentheses.
*p<. 05**p< .01

As with previous analyses, an alternative mediation model was tested where the quadratic term for congruence served as the exogenous variable instead of a block variable while personal and vision values served as control variables. Under this condition, the same pattern of results emerged: For self-enhancing values, the 95% confidence interval for the indirect effect of value congruence on vision support intentions included zero for task significance, [-.36, .33], and organizational identification, [-.38 3.79], but not for identification with vision, [2.28, 6.62]. For self-transcendent values, the 95% confidence interval for the indirect effect of value congruence on vision support intentions included zero for task significance, [-.27, .68], and organizational identification, [-.82, 2.03], but not for identification with vision, [1.29, 7.52]. Thus, in this context, identification with vision appears to be a unique operative mediator through which value congruence influences intentions to support a vision.

Discussion

Numerous writings in leadership recommend that leaders formulate visions with shared values as a way of instilling employee commitment or enhancing organizational effectiveness (e.g., Nanus, 1992; Sergiovanni, 1990; Zaccaro & Banks, 2001). The findings of this study furnish evidence for an often-claimed but rarely-tested underlying theoretical claim: perceived congruence between personal values and the values of a vision can motivate support for a vision. For eight of the 10 values of Schwartz's (1992) scheme, the primary indicator of a congruence effect on motivation was present, as it was when the values were aggregated by their respective four categories or by their average. Thus, in general, alignment of personal and vision values is associated with higher levels of vision support intentions than misalignment. This result lends support to the claim that "values of [a] vision compel the motivation and passion of followers who accept the underlying ideological goal." (Zaccaro & Banks, 2001, pg. 193), and gives credence to Burns' (1978) claim about the theoretical importance of articulating a vision's values in which followers have a stake.

Key contributions of the study. There are several strengths worth noting about this study in particular. Many vision studies rely on laboratory studies or qualitative methods such as

coding to derive internally valid conclusions (van Knippenberg & Stam, in press); yet, very few surveys ask how employees perceive their organization's vision (cf. Kohles et al., 2012). Nonetheless, followers do perceive underlying values and create meaning from leadership acts and regulate their actions accordingly (Lord & Brown, 2004). Thus, assessing employees' perceptions of both themselves and their organization's vision contributes to understanding congruence-based motivation from a follower-centric perspective. The present study's data were derived from employees in a wide range of industries and employment organizations (over 40 and 170 different ones, respectively) and corroborates further findings from laboratory studies to support the hypothesized person-vision congruence effects.

Furthermore, the use of a polynomial regression to model value congruence is advantageous given the insufficiency of intuitive approaches such as calculating difference scores between personal and vision values and then correlating it with outcomes (Edwards, 1994). Using the polynomial term $(X-Y)^2$ to algebraically capture congruence is less susceptible to rater biases as when only the linear terms are used. The person-vision congruence effects found here add to a substantive body of research on the relationship between value congruence and work outcomes (e.g., Kristof, 1996; Meglino, Ravlin, & Adkins, 1989; Verquer et al., 2003).

While most of the past research has found positive effects of person-organization value congruence, few have attempted to explain how and why these relationships occur (cf. Edwards & Cable, 2009). In the present study, we found that a theorized psychological mechanism— identification with vision—mediates the relationship between value congruence (in self-enhancing, self-transcendent, and averaged values overall) and vision support motivation. Notably, the indirect effects of the mediation models held up even when the linear terms were controlled for; hence there is additional assurance that the effects were truly attributable to congruence itself. An interpretation of this result is that when employees perceive a match in values between an object (their organization's vision) and themselves, they are more likely to perceive themselves as integrated with that object (the vision) and incorporate it into their identities to meaningfully signal who they are (Asforth et al., 2008; Tajfel & Turner, 1979).

People forge this link to buttress their identities and act on behaviours to continually affirm them (Dutton, Dukerich, & Harquail, 1994). In line with this theorization, identification with a vision was found to predict greater intentions to support that vision, which could be seen as a way to solidify and express one's identity.

However, the mediation model (depicted in Figures 1.3 through 1.7) did not hold for congruence in conservation and openness values. This may be attributable to the fact that fewer vision statements endorse conservation/openness values, or they express them less explicitly, so that participants cannot gauge the extent of endorsement in these domains as well as they do on other value domains. A closer look at the vision statements that participants provided in open textboxes supports this observation. Of all the vision statements provided, only one referred to security values (under the conservation) explicitly: "…[providing] safety and security to all." Other references to conservation values (such as preserving tradition or promoting self-discipline) are very rare. References to stimulation values (under the openness domain) are also far and few in between, with only two instances that mentioned providing customers with "fun" or "exciting" experiences as part of their vision. On the other hand, virtually all other vision statements are embedded with self-enhancing or self-transcendent values. The former is exemplified by statements like, "to become the number one in [our industry]"; the latter is exemplified by statements such as, "to help our own community as well as third world countries through education as well as funding to build communities into a better place." Thus, the vision ratings that participants provided in the conservation/openness value domains may have weaker construct validity given that most do not express endorsement in these domains. Perhaps the use of these conservation/openness value measures may be more appropriate for surveying employees from organizations that endorse those values, such as the military or socially conservative groups (for conservation values like security and tradition) and entertainment companies (for openness values like stimulation). Further research can explore these possibilities.

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Ruling out alternative explanations. Furthermore, in light of possible alternative explanations, we tested two alternative mediating mechanisms in our model: task significance and organizational identification. A basis for this test is a study by Grant and Hofmann (2011) in which leaders' ideological messages enhanced perceptions of task significance and contributed to higher job performance. Another rationale for this test was that insofar as visions represent the purpose and values of an organization, person-vision value congruence may lead to greater identification with the organization itself. As reported, when these alternative variables are tested along with identification with vision in the mediation model, a significant indirect effect emerged only with the identification with the vision. Thus, task significance and organizational identification do not appear to be operative here. That is not surprising given that in our study, we asked about a vision's values rather than how it is tied to or enacted on the job, whereas in the Grant and Hofmann (2011) study, the ideological message was more explicit about how the employees' task (calling alumni to ask for donations) leads to a greater purpose (helping underprivileged students pay tuition) than merely raising money. Moreover, employees are likely to derive organizational identification from other factors that are front and center such as person-organization value congruence (Edwards & Cable, 2009), perceived organizational support (Edwards & Peccei, 2010), and organizational prestige (Bergami & Bagozzi, 2000); thus, person-vision congruence may not be central to that perception, especially given that visions are generally not often discussed between leaders and employees (Kohles et al., 2012).

In spite of its contributions, a limitation of this study is the reliance on a cross-sectional design for data collection. Although the intended causal pathway depicted by Figures 1.3 through 1.7 is anchored in prior research and theory, causality could not be inferred from these correlational data. Furthermore, this study relied on self-report measures of the values of visions which may be contaminated by perception of organizational values or otherwise misconstrued such that it is not faithful to the true spirit of the vision, putting its construct validity at risk. I address these concerns in the following two studies. In Study 2, the vision under study emphasized an identity that varied in endorsement among the audience, and the vision content

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was the same for all participants. Thus the study does not rely on individual perceptions of a vision as one of the bases of congruence. In Study 3, both the value emphasis of the vision and the momentary centrality of the corresponding values were manipulated in an experiment where participants were randomly assigned to one combination of the conditions. This design allowed for vision support motivation to be compared between conditions of value congruence and incongruence whereupon a causal inference could be made.

Study 2

Visions that promote the maintenance or development of an identity are theorized to motivate greater support, especially among those who hold central a corresponding identity and who wish to affirm and develop it. This study experimentally tested whether such person-vision identity congruence can motivate a person's intent to engage in vision-supportive action. The vision in this study concerned the implementation of an enriched educational approach for undergraduate students at a mid-sized Canadian university. This new educational approach proposes a series of additional requirements for obtaining an undergraduate degree that would lead to broad personal development and better preparation for work in the 21st century economy. Details about the vision will be discussed in the Methods section below.

The vision was developed for this experiment primarily because it is conducive to emphasizing an identity—a "self-developer" or "personal development seeker"—that is pertinent to undergraduate participants. Specifically, the vision entailed more challenging coursework and more involved learning processes that lead to a broader scope of personal development. As such, this vision could be framed as particularly fitting for students who would identify themselves as a "self developer" or "personal development seeker." Given this context, the intentions to support the vision could be compared among participants who have relatively high and low identification with being a "personal development seeker." This paradigm is designed to be an organizational analogue insofar as employees can vary on some identity that is being promoted by their organization's vision. In a somewhat simplified example, a non-profit social service agency may have a stated vision that emphasizes helping underprivileged citizens to live better

lives as a result of agency employees' help in obtaining government benefits. The employees of that agency may vary to the extent they see themselves as a "helper," and the stated vision may therefore have different degrees of appeal to them. Similarly, a vision of an enriched education can have different appeal to students who have different degrees of an identity of seeking self-development.

As mentioned in the Introduction, although identity may be operative in motivating vision support, it can also be influenced by situational factors that amplify or constrain the identity-motivated behaviours. Farmer and Van Dyne's (2010) research showed that employees who were high in "industrious" and "helper" identities were respectively more hard-working and helpful at work, but that relationship was moderated by employees' role occupancy (operationalized as tenure and full-vs.-part-time work status) such that the relationship was significantly positive only among employees with higher occupancy (i.e., higher tenure and full-time workers).

While the focus of this study is on identity congruence in vision support, the content of the vision was designed to be as realistic and credible as possible. The proposed approach was framed and justified with providing benefits such as becoming a more competitive graduate for the 21st century job market. The challenging coursework and more involved learning processes in the vision were presented as superior preparation for work in a competitive marketplace. Further, the vision presentation was designed so that it was not transparent in its identity implications, allowing participants to consider it realistically as employees would in an employment setting.

In the study design, the vision emphasized how the educational approach caters to the "personal development-seeking" identity on which participants were measured prior to viewing the vision. It was expected that those who score higher on their identity as a personal development seeker would indicate greater intentions to support the vision, primarily because the vision is framed as conducive to affirming and developing that identity. Nonetheless, as the study by Farmer and Van Dyne (2010) suggested, due consideration should be given to the organizational membership status of the participants because their particular experience can

constrain their identity enactment. In a sample of undergraduate students, those who are in their senior years may be less receptive to new educational approaches because they may be more concerned with fulfilling requirements for graduation, preparing for the job market, or otherwise be more attached to their own way of completing coursework compared to newer students. Hence, students in upper years may have greater situational constraints to identity enactment compared to their junior counterparts. Accordingly, it is expected that the effects of identity congruence on vision support intentions are less pronounced among high-tenure students. Moreover, in line with theorization about identity-based motivation, it was hypothesized that beliefs about the identity consequences of the vision (i.e., identity fulfillment) would mediate the effect of the personal development-seeking identity on vision support intentions. Stated more formally, the hypotheses for Study 2 are as follows:

H1: Participants who score higher on the "personal development seeker" *identity* will express higher vision support intentions than those who score lower on that identity, and this relationship will be moderated by participants' tenure (year of study) such that only those with lower tenure would exhibit this effect.

H2: Beliefs about identity *consequences* of the vision will mediate the effect of identity and vision support intentions, such that those who hold a higher "personal development seeker" identity will be more likely to believe in the identity-relevant consequences (i.e., becoming a better person), which in turn will lead them to express greater intentions to support the vision.

Method

Participants. Eighty-seven undergraduate students (67 women and 20 men) at the University of Waterloo, Ontario, were recruited through the Psychology Department's online research study registration system to participate in the study for bonus credit in a course. Students were screened for participation in the study based on their scores on our measure of their personal development seeking identity. We specifically allowed study enrolment among individuals who scored among the lowest and highest 20% of personal development seeking identity for invitation. This participant selection procedure was done to enhance the efficiency of

the experiment in detecting congruence effects. While it is recognized that there are potential costs to the generalizability of the findings, a comparison between selected and unselected participants found no statistically significant difference on a number of other variables, including age, ethnicity, grades, program of study, and duration in completing the online assessments. In the end, 445 out of 1303 participants in the pool qualified for invitation. The breakdown of participants by their combination of tenure and identity is shown in Table 6.

Table 6

Number of participants in each combination of tenure and personal development seeker identity

	Personal Development Seeker Identity		
Tenure	Low	High	n
Low (Year 1 and 2)	23	22	45
High (Year 3 and up)	13	20	33
n	36	42	N = 78

Note: There were missing data from 9 out of the 87 participants.

Procedure. Prior to participating in the lab session, students received one course credit for completing a set of psychological measures and demographic items in a "mass testing" survey conducted on the internet. The measure of participants' identity was administered through this online survey, prior to the lab session.

The study took place in a large classroom with a large projector screen and rows of chairs set up to face the screen. The study took place in different session with small groups of participants (n= 3 to 10). When participants arrived at the lab in a given session, they were told that they will be viewing a presentation about a proposal of a new educational approach (see Appendix F for the information letter). They were asked to think about whether the proposed approach would be an initiative that they would support, and to report their honest opinions about it on the subsequent survey. The experimenter then delivered the visionary presentation for approximately 10 minutes and then participants spent approximately 15 minutes to complete the survey package. Upon completion, participants were debriefed and assured that vision presented was only a possible approach to education and not an official plan being considered by their university. Then participants were thanked and dismissed. The entire study took approximately 30 minutes to complete.

Materials. A computer-projected slide show presentation of the previously-described vision was developed for this study (see Appendix G). The vision was framed as "a proposal for a new undergraduate educational approach" that would differ from the current practice at universities. In the introductory slides, participants were told that the economy is shifting towards more knowledge-based and service-based activities, thus there is a greater demand for post-secondary education which would prepare students for these types of work. They were further told that the economy and nature of jobs would continue to change rapidly so it is important to develop skills such as higher-order thinking and adaptation to change regardless of what field they will work in. Then, an overview of the vision was presented as providing "a more extensive undergraduate education that prepares you to work in the 21st century economy and develops you to be truly 'educated'." The vision proposed three core components to enrich and

enhance undergraduate education: (1) An increase in the number of required course credits from 20 to 25 credits for an Honours degree and from 15 to 20 for a non-Honours degree, with supplementary tutorials or labs accounting for most of that additional credit requirements; (2) incorporation of more writing assignments and oral presentations for coursework evaluation rather than only having written exams; and (3) an addition of a comprehensive examination on the basic topics of the student's major as a requirement for graduation. Towards the end of the presentation, the three core components were reviewed again. Then, in the final slide, there was an emphasis describing the proposed approach as "a great opportunity for the student who seeks broader personal development [written in bold], is hard-working, and achievement-driven." In every lab session the presentation was delivered personally ("live") by the experimenter according to a standard script. The total length of time was approximately 10 minutes.

Measures. The measure of identity and tenure were administered through the online survey; the measures of beliefs about identity-related consequences and vision support intentions were administered after participants viewed the vision.

Personal development seeker identity. Participants' identity as a "personal development seeker" was measured with a three-item scale ($\alpha = .81$) that was developed by the author in a manner that parallels the measures of identity in Farmer and Van Dyne (2010). Participants indicated their extent of agreement to the items on a 7-point scale (1 = *Strongly Disagree* to 7 = *Strongly Agree*). The three items were, "Being a student who continuously develops myself is an important part of who I am," "It is really important that I develop myself through my university education," and "I pride myself as someone who always finds ways to become a better person." (See Appendix H)

Industrious student identity. Participants' identity as an "industrious student" was measured with a five-item scale ($\alpha = .83$) that was developed by the author in a manner that parallels the measures of identity in Farmer and Van Dyne (2010). Participants indicated their extent of agreement on a 7-point scale (1 = *Strongly Disagree* to 7 = *Strongly Agree*). A sample item is, "Being a hard-working student is an important part of who I am." (See Appendix I)

Beliefs about identity-related consequences. This two-item scale ($\alpha = .86$) was developed by the author to measure the extent to which participants believed that immersion in the vision would affirm and develop their identity as a personal development seeker. The two items were "Going through this educational approach would make me a better person" and "I would feel more complete as a person if I had this university education."(See Appendix J)

Tenure. Participants' year of study in university was converted into a dichotomous (low-high) score as their tenure. Participants who were in their first or second year of study were classified as low tenure (coded as 0) and those in third year or above were classified as high tenure (coded as 1).

Behavioural support intentions. Participants were asked whether they would be willing to implement a range of behaviours that would promote the vision using a yes/no format for response. The seven items ($\alpha = .71$) were adapted from a measure of intent to support a vision of employment equity in Hideg, Michela, and Ferris (2011). *Yes* responses were coded as 1 and *no* responses were coded as zero. The total number of *yes* responses was summed as the indicator level of support intention. A sample item is whether participants would be willing to "ask students/friends in your classes to sign a petition to encourage adopting this new educational approach."(See Appendix K)

Results

Means, standard deviations, and intercorrelations of all the variables used in the following multiple regression (MR) analyses are presented in Table 7.

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Table 7

Means, Standard Deviations, and Intercorrelations of Variables in Study 2[a]

Variables	Mean	s.d.	1	2	3	4	5
1. Gender	0.77	0.42					
2. Tenure	0.41	0.50	.22*				
3. Personal Development Seeker Identity	4.95	0.86	.09	.04			
4. Beliefs about Identity-Related Consequences	3.60	1.60	.15	-.07	.42**		
5. Vision Support Intentions	2.68	1.93	.18	-.02	.14	.36**	

[a] n = 87. Tenure was coded as 0 (for newer students who are in first or second year of study) and 1 (for experienced students who are in third year of study or above). Gender was coded as 0 (male) and 1 (female).
* $p < .05$ ** $p < .01$

Hypothesis Testing

In all the MR analyses, participants' gender served as a control variable. The basis of this decision is the finding that females ($M = 2.81$, $SD = 1.88$) tended to have marginally higher intentions to support the vision than males ($M = 2.05$, $SD = 2.01$), t (85) = 1.67, $p = .098$. Hence, gender was controlled to better delineate the effects of identity on supporting an identity-congruent vision. All variables were mean-centered before they were entered into the regression analysis.

Behavioural support intentions. As shown in Table 8 and Figure 14, in the prediction of intentions to support the vision, the interaction of tenure with identity of personal development seeker yielded statistical significance, F (4, 77) = 2.24, $p = .039$. The simple slope for low-tenure students (i.e., those in first or second year of undergraduate studies) was statistically significant, t (78) = 2.10, $p = .039$. Among low-tenure students, those with a higher personal development seeker identity expressed greater intentions to support the vision. The corresponding simple slope for high-tenure students (i.e., those in third year or above in their undergraduate studies) was not statistically significant, t (78) = -1.15, $p = .253$. Among high-tenure students, those who had higher personal development seeker identity expressed the same level of vision support intentions as their low identity counterparts. It should be noted that if students' tenure is entered as a continuous variable in the regression analysis, the interaction of tenure X personal development seeker identity in the prediction of vision support intentions remained statistically significant, F (4,77) = 1.73, $p = .047$. This finding supports the hypothesis that the more central participants held the identity, the more likely they are to support the identity-congruent vision, with this effect occurring only for those who are less constrained by their particular circumstance and experience with the organization (i.e., low tenure students).

Table 8

*Students' Personal Development Seeker Identity and Tenure in Predicting Vision Support Intentions, Study 2 [a]*

	Step		
Variables	**1**	**2**	**3**
Intercept	1.70 (1.01)	1.70 (1.10)	1.65 (1.07)
Gender	.92 (.59)	.93 (.60)	.97 (.58)
Personal Development Seeker Identity		.36 (.28)	.35 (.27)
Tenure		-.20 (.49)	-.20 (.48)
Identity X Tenure			-1.17* (.56)
R^2	.03	.06	.11*

[a]n = 87. Values are unstandardized regression coefficients; standard error estimates are in parentheses.
* $p < .05$

Figure 14

Two-Way Interaction between Students' Tenure in Undergraduate Studies and their Personal Development Seeker Identity in Predicting Intentions to Support the Vision, Study 2
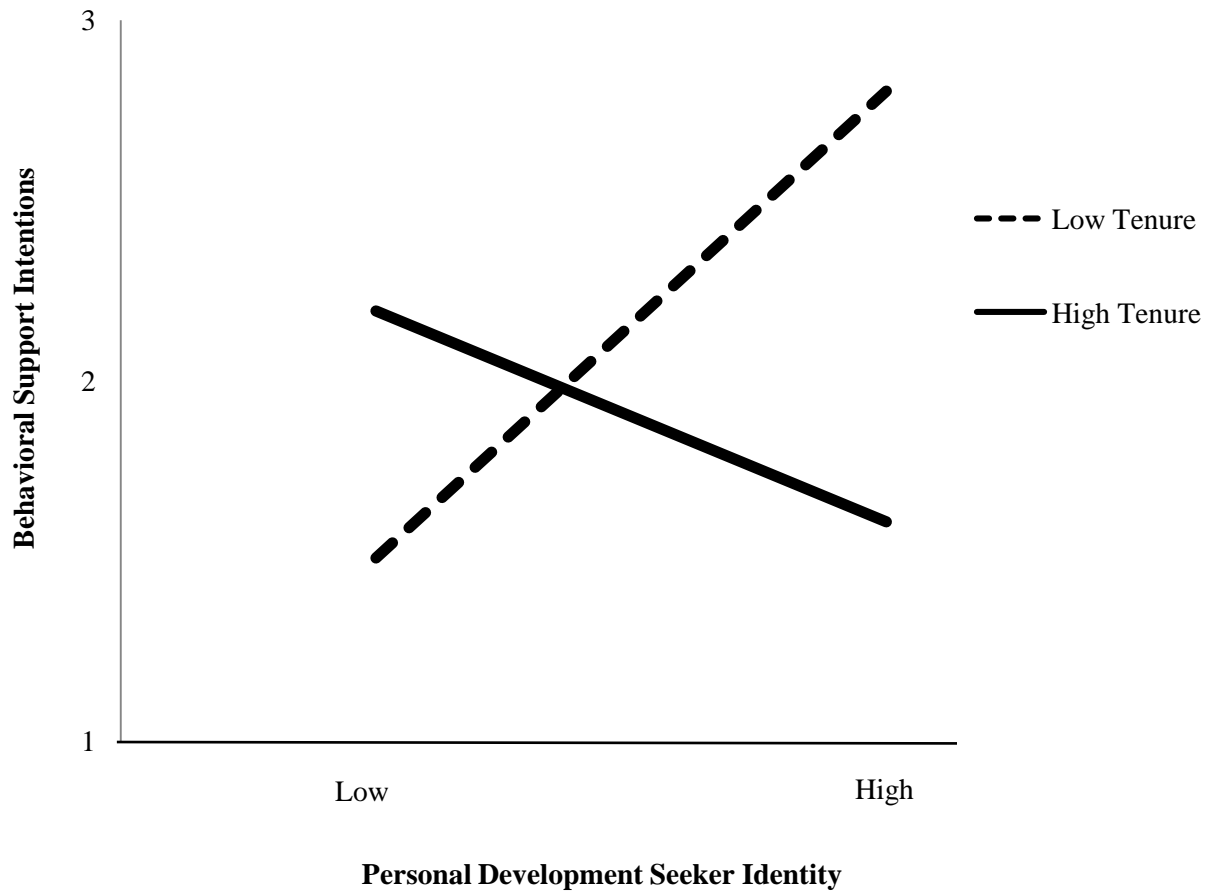
Supplementary analysis. The vision promoted an enriched approach to learning that may have catered to other close-related identities such as being an "industrious student." To delineate the effect of the identity that was being emphasized in the vision (i.e., the identity for personal development seeker) from the alternative industrious student identity (see Appendix I), the interaction of tenure X industrious identity on vision support was also tested. This interaction was found to be not statistically significant, $F (4. 84) = .79$, $p = .469$, suggesting that the effects of identity may be more confined to the one being explicitly endorsed by the vision.

Beliefs about identity-related consequences. As shown in Table 9 and Figure 15, in the prediction of beliefs about identity-related consequences, the interaction of tenure X identity for personal development seeker yielded statistical significance, $F (4, 77) = 5.45$, $p = .038$. The simple slope for low-tenure students was statistically significant, $t (78) = 4.29$, $p< .01$. Among low-tenure students, those with a higher personal development seeker identity had higher beliefs about the identity-related consequences of the vision (e.g., the realization of the vision would allow them to become a better person). The corresponding simple slope for high-tenure students was not statistically significant, $t (78) = 1.20$, $p = .233$. Among high-tenure students, those who had higher personal development seeker identity expressed the same level of beliefs in the vision's identity-related consequences as their low identity counterparts. This finding suggests that high-tenure students were less likely to buy into the vision's stated consequences, even among those who hold the measured identity as central to themselves, which in turn diminished their motivation to support the identity-congruent vision.

Table 9

Students' Personal Development Seeker Identity and Tenure in Predicting Beliefs about Identity-Related Consequences of the Vision, Study 2 [a]

Variables	Step		
	1	2	3
Intercept	3.46** (.81)	4.10** (.82)	4.06** (.80)
Gender	.07 (.44)	-.09 (.41)	.12 (.40)
Personal Development Seeker Identity		.74 (.19)	1.87* (.57)
Tenure		-.48 (.34)	-.47 (.33)
Identity X Tenure			-.81* (.38)
R^2	.00	.18**	.23*

[a]n = 87. Values are unstandardized regression coefficients; standard error estimates are in parentheses.
* $p < .05$ ** $p < .01$

Figure 15

Two-Way Interaction between Students' Tenure in Undergraduate Studies and their Personal Development Seeker Identity in Predicting Beliefs about Identity-Related Consequences, Study 2
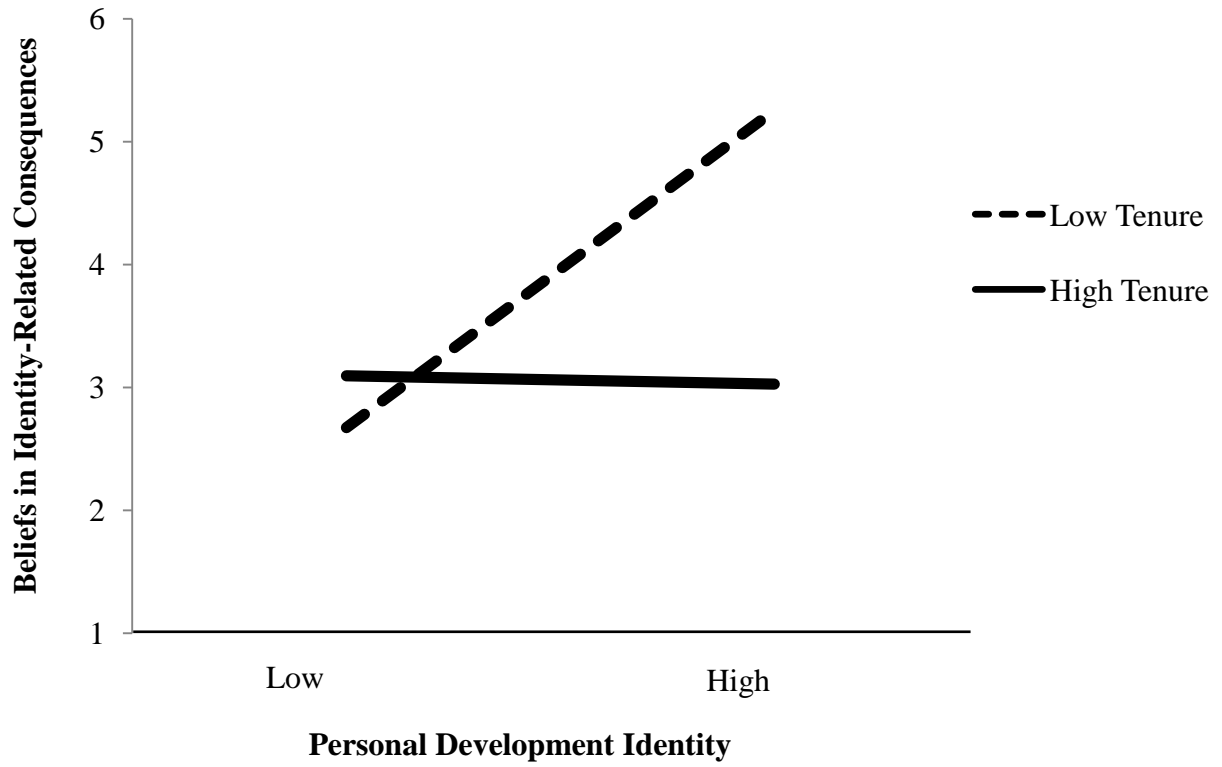
Moderated Mediation Hypothesis Test. A moderated mediation model was tested wherein identity predicted vision support intentions through beliefs about identity consequences, with tenure moderating the relationship between identity and beliefs about identity consequences (see Figure 16). The model was constructed with Hayes' (2013) PROCESS macro for SPSS, which tested the equality of the conditional (moderated) indirect effects among the two groups of the moderator—i.e., low versus high tenure. The indirect effect of identity on support intentions through beliefs in identity consequences was statistically significant for the low-tenure students, with a bias corrected 95% C.I. = [.19, .89], but not for the high-tenure students, which had a bias corrected 95% C.I. of [-.12, .44]. The overall moderated mediation model was supported by the bias corrected 95% C.I. of [-.90, -.03], indicating that the indirect effects among low and high tenure participants were not equal. Low-tenure students who had a higher personal development seeker identity were more likely to believe that the vision would bring about identity-related consequences (such as making them a better person); in turn, those higher beliefs predicted greater intentions to support the vision. On the other hand, high-tenure students who held the same identity as central were not more likely to believe in the vision's consequences and therefore did not express greater support intentions. Overall, this finding lends some support to the second hypothesis of this study but with a slight alteration: The path from the exogenous variable (identity) to the mediator (beliefs about consequences) is moderated by participants' tenure.

Figure 16

Moderated Mediation Model with Students' Tenure Moderating their Personal Development
Seeker Identity's Effect on Beliefs in Identity-Related Consequences that Subsequently Predicts
Intention to Support the Vision, Study 2
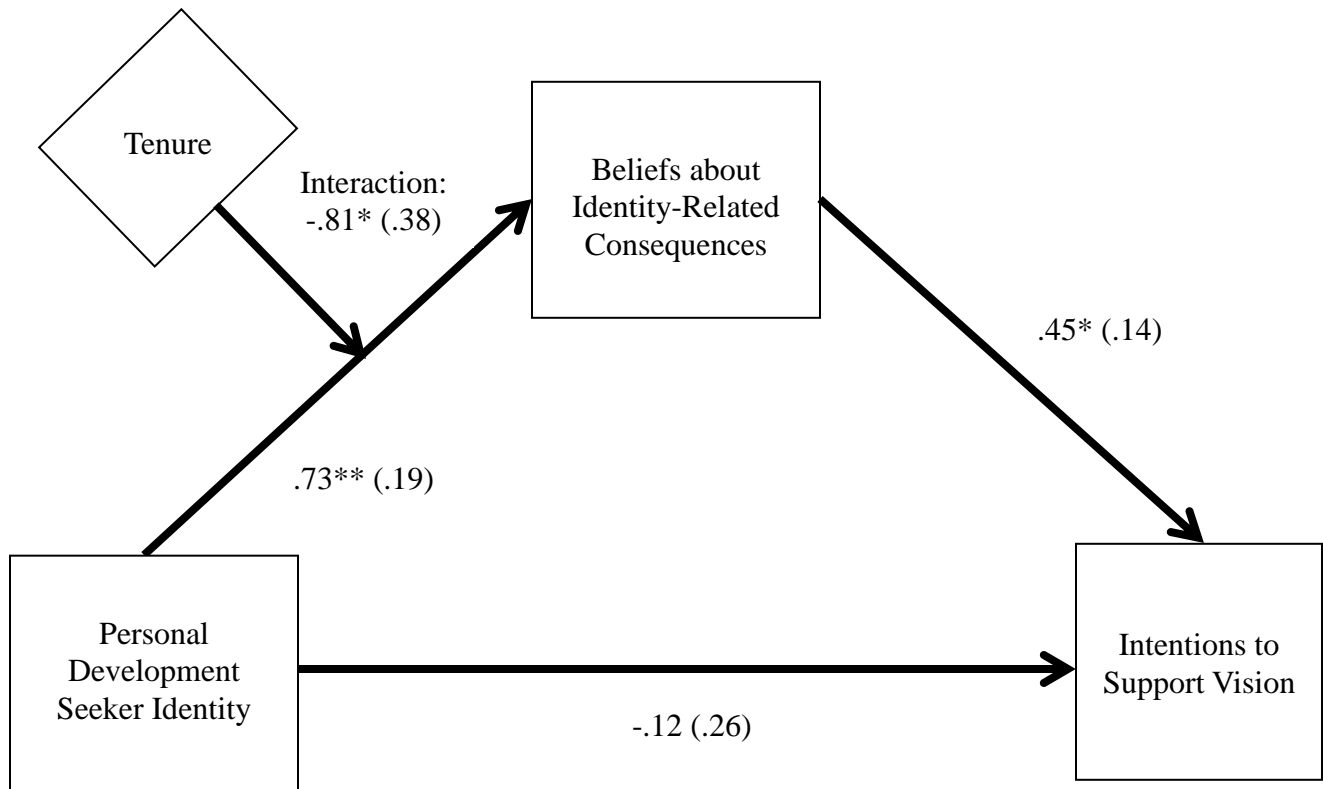
Bias Corrected 95% C.I. for the moderated mediation model: [-.90, -.03].
Bias corrected 95% C.I. for the indirect effect of personal development seeker identity on vision
support intentions through beliefs about identity-related consequences: [.19, .89] for low-tenure
students and [-.12, .44] for high-tenure students.
Figures indicate estimated coefficients with their standard errors in parentheses.
*$p <$. 05**$p <$ .01

Discussion

The definition of vision by Boal and Bryson (1988) includes the articulation of an identity for followers. Identity has profound effects on how we behave and what we aim to achieve (Leary & Tangney, 2003), and scholars have speculated that "if leadership can change the way followers perceive themselves, leadership may have great consequences for organizational, work group, and individual functioning" (van Knippenberg, De Cremer, Hogg, & van Knippenberg, 2004, p. 827). In a similar vein, Lord and Brown (2004) have theorized that leaders' actions can activate their followers' identities and subsequently affect their self-regulation to act in identity-consistent ways. This study's results lend some support to these notions in the context of visionary leadership: A vision that emphasizes an identity held highly by recipients engendered greater support intentions—though the relationship is more complex than theorists have implied as it is moderated by participants' tenure.

The moderating role of tenure. In their study of employee identity and work behaviours, Farmer and Van Dyne (2010) also found that tenure moderated the relationship between identity endorsements and enactments of identity-related behaviours, such that a positive relationship emerged only among high-tenure employees. However, the present study found the opposite form of moderation: higher levels of the espoused identity were related to greater vision support intentions, but only among lower-tenure students. I offer two explanations for this inconsistency. First, in Farmer and Van Dyne's (2010) study, it was argued that being on the job for longer allows employees to develop a greater schema of job behaviours, thereby giving them more ways to enact identity-relevant behaviours. In other words, knowing the job better allowed the employees in their sample to better know *how* to help (to enact their "helper" identity) and *how* be industrious (to enact their "industrious work" identity). There is no such parallel in the present study. The vision-supporting behaviours surveyed on the list of intentions are not contingent on how much a participant knows about being a student or how long they have been in university. In fact, in our case, students' tenure affected their perception of the vision in another way—senior students were less likely to believe in the identity-enactment consequences

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of the vision regardless of their level of identity endorsement, and lower beliefs were associated with less support intentions (see Figure 2.2). Given these results, it seems like senior students who have more experience in university do not think that features of the vision (e.g., additional coursework and a comprehensive exam) are conducive to personal development as the experimenter claimed. In addition, as speculated in the introduction to this study, they may have thought that having extra coursework to their roster would affect their plans or otherwise delay their graduation. To the extent that these are true, leaders should be attentive to the credibility of their claims about the identity or value emphasis of a vision. In fact, claiming that a vision promotes a certain value but presenting contradictory content can backfire and lead to *decreased* vision support intentions among audience members who cherish that value (Leung, 2012).

Extending past research on identity congruence. The results of this study extend the findings by Farmer & Van Dyne (2010) and other congruence research more generally in several ways. First, we identified a mediator—beliefs in the identity-related consequences of the vision—as a mechanism behind the congruence effect. Students who identify highly with being a personal development seeker were more likely to believe that they would become a well-developed person if the vision is implemented and they became students under the new system. In turn, these beliefs were associated with greater intentions to support the vision. This process follows Feather's (1995; 1999) reasoning that central aspects of the self (e.g., values and identity) are used to evaluate the valence of a message or situation, and when an aspect of self is being emphasized and promoted in a message, it would be seen favourably. More generally the results also support various identity theories which hold that individuals enact identity-relevant behaviours in order to self-verify (Swann, 1983) and to pursue their possible selves (Markus & Nurius, 1986). Furthermore, this study complements the value congruence effects in Shipley and Michela (2006) by extending it to the identity domain. Visions that emphasize an identity can motivate support (with certain caveats) just as ones that emphasize a value can. As mentioned in the Introduction, values are closely tied to an individual's identity (e.g., Ashforth et al., 2008; Hitlin & Piliavin, 2004), and a vision could be connected to one's values or identity (Boal &

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Bryson, 1988), so both could be operative motivational components. Our finding suggests that leaders can formulate visions and make salient how it promotes their identity. Returning to the example of a psychology department's vision in the Introduction, the leader who wishes to promote educational innovation and community well-being within that vision could make authentic, credible ties to how faculty members could become "better educators" and clinicians could become "better helpers" or "better community contributors" by supporting the vision, assuming of course that being educators and community contributors are central to members' identities.

As with the previous study, a causal inference could not be made from the correlational data here, although this study's experimental setting with a standardized vision may enhance internal validity compared to Study 1. Also, even though a congruence effect was detected, participants could have been reminded of their identity before the vision presentation, and bringing an identity to centrality can increase its likelihood of influencing behaviour (Markus & Wurf, 1987). To address both of these issues, the following study manipulated the momentarily central values of the participants as well as the corresponding value emphasis of the vision presentation to further examine person-vision congruence effects.

Study 3

This study experimentally tested whether value congruence is operative in determining a person's intent to engage in vision supportive action. The vision in this study concerned the implementation of a modern educational approach called "Blended Learning" for undergraduate students. In essence, Blended Learning is an approach that uses a combination of electronic learning resources and interactive class activities to deliver course content. The electronic resources include multi-media tools (such as podcasts and videos) that students can use to cover basic course materials on their own time. The classroom activities elaborate on the course materials through instructor-led interactive exercises such as group assignments, discussions, debates, etc. The Blended Learning approach intends to engender greater student engagement by

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providing opportunities for self-directed, autonomous learning along with more socially-oriented and collaborative in-class learning.

The Blended Learning vision was developed for this experiment because it was particularly suitable in two regards. First, if undergraduate students are conceptualized as "workers" whose main "job" is to acquire knowledge, then a new educational approach like Blended Learning is analogous to a new way of working in an employment organization (for different intended outcomes than the current practice). This setup situated the experiment as an organizational analogue of employees receiving a vision that would alter the way they work to achieve some intended outcomes. To the extent that the situations are analogous, the psychological processes uncovered here could be generalized to employees beyond the student sample. Second, the inherent duality in the key aspects of Blended Learning lends itself to two possible value emphases for experimental manipulation. The electronic learning component is by-and-large an autonomous and self-directed learning process which allowed for placing emphasis, within one vision constructed for this study, upon the promotion of greater *autonomy* in students' learning. On the other hand, the interactive class component is largely a group-based and collaborative learning process, which allowed for emphasis on greater *relatedness* between students in an alternatively constructed vision presentation. Thus, these two domains of emphasis correspond well with two distinct and oppositional values, namely, *autonomy* and *relatedness*. Autonomy is the freedom to be the agent of one's own actions and choosing one's own goals; it is classified under the broader dimension of "self-direction" in Schwartz's (1992) value scheme. Relatedness (or a sense of belonging) refers to the extent to which a person feels connected to people around him or her (Pavey, Greitemeyer, & Sparks, 2011); in Schwartz's (1992) scheme it is placed within the broader dimension of "security," which is in opposition to autonomy. Given the inherent contents of the vision described above, the presentation could emphasize either autonomy or relatedness values.

Corresponding to the vision's possible value emphases, it was necessary to have conditions among the audience that are salient in one or the other value domain so that scenarios

of congruence and incongruence could emerge for comparison. An established way to create such conditions is to activate individual's values within the situation through priming. Values of autonomy and relatedness could be primed by recalling related experiences and it can influence subsequent motivation to engage in value-related behaviours (e.g., Pavey et al., 2011). A further rationale for using primes is to "dial up" the effect of congruence or incongruence between the person and the vision. From Study 2 it was known that particular circumstances of the participants (and more generally, situational forces) can influence enactment of personal identity or values. Thus, in the current study, I sought to take greater control of the situation by experimentally manipulating the priming of autonomy/relatedness values to create conditions of congruence and incongruence with the vision's value emphasis on autonomy/relatedness.

Aside from the situation, it was necessary to assess the particular orientation of participants in terms of their values and identities. For this purpose, participants' individual differences on two pertinent dimensions were measured prior to the laboratory session: One was their ratings of personal values on autonomy and relatedness (which correspond to the vision's value emphasis and the two value primes); the other was their self-construal on dimensions of interdependence and independence. As mentioned in the Introduction, self-construal reflects how a person views himself or herself in relation to others. Those with a strong *interdependent* self-construal see themselves as occupants of social roles and value relationship with others as well as their belongingness to groups (Singelis, 1994). Thus, independent self-construal is congruent with the *relatedness* values that are emphasized in the vision or primed by the procedure. On the other hand, those with a strong *independent* self-construal emphasize internal abilities as well as being unique, self-expressive, autonomous, and direct in communication (Singelis, 1994). It should be noted that independent self-construal does not correspond one-to-one with autonomy values (in the manner that interdependent self-construal corresponds with relatedness) because it covers a broader set of values and attributes, as the list above showed (Singelis, 1994).

In this study, I specifically examined the effects of congruence between the value emphasized in a vision (autonomy or relatedness), the value brought to centrality by priming

(autonomy or relatedness), and personal identity (interdependent self-construal) on intentions to support the vision. Thus, the design was a 2 x 2 x 2 experiment that included a manipulation of the vision's value emphasis, a manipulation of a primed value, and a measure of self-construal, with the outcome variable being intention to support the Blended Learning vision. This experimental design aimed to address the limitations of the prior studies where causal inferences could not be conclusively drawn from correlational data.

Based on the review of theory and past research described in the general Introduction, it is hypothesized that congruence between a vision's emphasized value and a value that is momentarily central (i.e., primed) would engender greater vision support intentions, and additional congruence with individuals' identity (self-construal) could further enhance support intentions. Implicit in this prediction is that priming of a congruent value is expected to bolster the effects of the corresponding identity on motivation to support a value-congruent vision. A similar type of effect has been demonstrated in several experiments. For example, in a series of studies by Holmvall and Bobocel (2008), highly interdependent individuals reacted more positively to an unfavourable outcome following from fair procedures while highly independent individuals reacted more negatively to the same unfavourable outcome. Both effects were stronger when the participants were primed with interdependence and independence, respectively, prior to learning about their negative outcome. Furthermore, interdependence-oriented individuals can become more motivated to perform a task after being reminded of a closely related other during the lab session (Fu & Markus, 2014). Given these results, it is expected that, correspondingly, priming relatedness among interdependence-oriented individuals would bolster motivation to support the value-congruent, relatedness-emphasizing vision. In summary, the hypotheses for this study are:

H1: Autonomy-primed participants will express greater intentions to support an autonomy-emphasizing vision (compared to a relatedness-emphasizing vision) while relatedness-primed participants will express greater intentions to support a relatedness-emphasizing vision (compared to an autonomy-emphasizing vision).

H2: Vision support intentions will be highest among individuals with a high interdependent self-construal who also receive a relatedness prime and view a relatedness-emphasizing vision (i.e., when self-construal, value prime, and vision value emphasis are fully congruent with each other), compared to all other conditions wherein these three variables are not congruent with each other.

Additionally, as mentioned in the Introduction, available theory suggests that value congruence engenders greater motivation through recipient's identification with the vision (Zaccaro & Banks, 2001). Thus we tested the following hypothesis:

H3: Identification with vision will mediate the effect of congruence between a vision's value emphasis, the primed values, and participants' self-construals on vision support intentions.

Method

  Participants. Two hundred and forty undergraduate students (67 men and 173 women) at the University of Waterloo, Ontario, were recruited through the Psychology Department's online research study registration system to participate in this study for course credit. Students were invited to participate in the study based on the extent that they value autonomy and relatedness, as assessed on a paired values ranking scale (detailed below). We specifically sought individuals who placed a relatively high value on either autonomy or relatedness to participate in the experiment. When the measure is scored such that high scores indicate high relatedness values and low scores indicate high autonomy values, we allowed participation by those who scored an average (across questionnaire items) of lower than 2.5 out of 6 (i.e., autonomy-oriented; approximately bottom 19% of scorers) and an average of higher than 4.3 out of 6 (i.e., relatedness-oriented; approximately top 17% of scorers). This participant selection procedure was done to enhance the efficiency of the experiment in detecting congruence effects. The following tests of congruence entail interactions and individuals who score near the middle of the two values cannot contribute to the detection of those interactions. While it is recognized that there are potential costs to the generalizability of the findings, a comparison between selected and unselected participants found no statistically significant difference on a number of other variables, including age, ethnicity, grades, program of study, self-esteem, and duration in completing the online assessments. Overall, 1024 out of 2753 students were eligible for participation. Volunteering participants were randomly assigned to experimental conditions, and the number of participants was distributed approximately equally across conditions (see Table 10).

Table 10

Number of participants in each condition of vision presentation and value priming

| Value Priming | Value Emphasis in Vision Presentation | | |
	Autonomy Condition	Relatedness Condition	n
Autonomy Condition	56	66	122
Relatedness Condition	51	67	118
n	107	133	N = 240

Procedure

Prior to the lab session, participants (who were part of an undergraduate subject pool) completed a set of online surveys in exchange for one course credit. This set of measures included demographic items, students' grades, a measure of self-construal along the independence and interdependence dimensions (Singelis, 1994), as well as a paired values ranking scale to assess the degree to which autonomy and relatedness are valued. As mentioned, participants were invited to take part in the study based on their scores on the paired values ranking scale.

The laboratory component of the study took place with small groups of participants in 28 different sessions. For each session, the condition of the vision presentation was determined by block random assignment. That is, for a set of two sessions, the vision condition was randomly assigned to the first session, and the alternative condition would be assigned to the second session. In a given session, groups of 2 to 10 participants (M = 9) were seated in a conference room on campus and were introduced to the study with an assurance of confidentiality. From this point on the entire study took approximately 45 minutes to complete. The Information Letter provided to participants can be found in Appendix L.

Each study session began with the value priming procedure, which had its true purpose disguised as follows. When participants arrived for the study they were informed that they will be participating in two separate studies in one occasion in order to fulfill the time requirement for a full credit. They were told that in the first study, the experimenter's research assistant will administer a short survey (the prime) for her research project. Then the experimenter left the room and the research assistant told participants that they will be completing a 15-minute survey about their life experiences as an undergraduate student. The participants within a session were

randomly assigned so that half of them received an autonomy value prime while the other half received a relatedness value prime. To optimize the priming effect, participants were told to write as much as they can for the examples to the *yes* responses within the given time period. At this point all participants were seated in the same room but they completed the value priming survey (described in detail later) individually. To minimize experimenter expectancy effects, the research assistant was blind to both the participants' priming condition and the subsequent vision condition. Furthermore, the experimenter was blind to each participant's priming condition.

After 15 minutes, the research assistant collected all the priming surveys and the experimenter returned to the room to conduct the second part of the study. The experimenter began by telling participants that he will be talking to them about a new educational approach and he would like to solicit their opinions about it. They were asked to give their full attention throughout the presentation and to think about whether the approach is something they would or would not support based on their own values and preferences. Then the experimenter delivered the 15-minute visionary presentation to the entire group. After viewing the presentation, participants remained in the room as a group and individually completed the pencil-and-paper survey package that includes the manipulation check, their identification with the vision, and the measure of behavioural support intentions. After all the participants completed the survey, the experimenter debriefed the group on the study. Participants were first probed on whether they found any part of the study suspicious or unusual to them. Then they were asked more specifically whether they perceived any relation between the first and second part of the session. Any participant who indicated suspicion was asked what he or she thought the study was about and whether that affected how they responded on the final survey package. The three participants

who correctly guessed the true purpose of the study were eliminated from subsequent analyses. Finally, participants were thanked and dismissed from the session.

Materials

      Value primes. Participants were primed with either autonomy or relatedness values prior to viewing the visionary presentation. The priming procedure was adapted from Pavey et al. (2011) who used this prime to examine its effects on a value-relevant outcome (pro-social behaviours). On a pen-and-paper survey, participants were asked to answer *yes* or *no* to eight questions about times in the past when they had experienced either autonomy (e.g., "Have you ever felt free to do something your own way?"; see Appendix M for the full list) or relatedness (e.g., "Have you ever felt a strong bond with someone you spend time with?"; see Appendix N for the full list). If participants answered *yes*, they were asked to write a short example about their experience. Because the subsequent visionary presentation emphasized the same value as the prime for some participants, there was a need to reduce the transparency of a recurring theme in the prime. To this end, three filler questions were added to the original survey in both conditions. Two filler questions pertained to justice values (e.g., "Have you ever been in a situation in which you did not get the reward you deserved?"), which, according to Schwartz's value scheme is a separate value dimension from both autonomy and sense of belonging (*vis–à–vis* relatedness), and thus would not conflate with either value in question (Schwartz, 1992). The remaining filler question was about personal competence (i.e., "Have you felt especially competent about something you've done recently?"), which, according to Self-Determination Theory (Deci & Ryan, 1985) is a fundamental psychological need that is distinct from both autonomy and relatedness and thus would not conflate with either value.

      Visionary presentation. A computer-projected slide show presentation of a vision of Blended Learning was developed for this study. As noted earlier, Blended Learning is a contemporary instructional approach that combines the use of electronic learning resources with

interactive class activities for course delivery, in place of traditional stand-up lectures. There were two versions of this Blended Learning presentation: one emphasized autonomy values (autonomy condition) and the other emphasized relatedness values (relatedness condition). Both versions contained the same basic content on the elements of Blended Learning. Both versions listed and described examples of online learning resources such as podcasts, interactive learning media, and online discussion tools; as well as examples of group-based class activities such as team assignments, group discussions, and group activities. Furthermore, both versions used the same design layouts and contained the same number of slides. Both verbal scripts were about equal in length of time (approximately 15 minutes).

The two conditions differed in several important ways: (1) Framing—in the introductory slide of the autonomy condition, participants were told that a drawback of current undergraduate education is having to adhere to fixed class schedules with limited freedom to self-select how and when to learn. In the introductory slide of the relatedness condition, participants were told that a drawback is limited interactions and collaborations with other students in the learning process; (2) Rationale—in the autonomy condition, participants were told that the key rationale of Blended Learning is to encourage more autonomous and self-directed learning among students. In the relatedness condition, participants were told that the key rationale is to encourage more collaborative and socially-engaged learning among students; (3) Overview of Blended Learning—in one of the introductory slides, Blended Learning was presented as a combination of using online learning resources and interactive learning activities in class. In the autonomy condition, this slide's photo depicted a student engaged in self-directed online learning and was positioned beside the phrase "online learning resources." In the relatedness condition, the slide's photo depicted students engaged in a group activity and was positioned beside the phrase

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"interactive learning activities in class."; (4) Order of presentation of components—in the autonomy condition, the slides on online learning resources (i.e., the component that promotes autonomous learning) were discussed first, followed by slides on group-based class activities (i.e., the component that promotes relatedness). In the relatedness condition, this order of presentation was reversed; (5) Emphasis of value-related outcomes—In the concluding slide of the autonomy condition, participants were told about autonomous outcomes such as learning at their own pace, directing their own learning, and setting their own schedules. In the relatedness condition, participants were told about relatedness outcomes such as more interactions with instructors and classmates as well as more collaboration with other students in the learning process. All presentations were delivered in person ("live") according to a standardized script (See Appendices O and P for the autonomy- and relatedness-emphasizing visions, respectively). The same experimenter delivered the presentations for all sessions.

Measures

Paired values ranking scale. This 11-item measure 1L= .89) was administered online prior to the lab session and it assessed the degree to which an individual values autonomy versus relatedness. Each item showed terms of opposite content in relation to autonomy and relatedness at one or the other end of a 6-point scale with anchor terms in mirror image: "describes me much better," "describes me better," and describes me slightly better." An example of an item has "self autonomy—being able to do things your own way" on one end and "social connection—friendship, companionship, collaboration" on the other end (see Appendix Q). Respondents were invited to participate in the study based on their scores on this scale such that the bottom 19% (most autonomy-oriented) and top 17% (most relatedness-oriented) respondents were invited.

Interdependent self-construal. This 12-item measure ($\alpha = .75$) was administered online prior to the lab session and it assessed the extent to which a person perceives himself or herself to be a "flexible, variable self that emphasizes (a) external, public features such as statuses, roles, and relationships, (b) belonging and fitting in, (c) occupying one's proper place and engaging in appropriate action, and (d) being indirect in communication and 'reading others' minds'" (Singelis, 1994). Each item is rated on a 7-point scale from 1 (*strongly disagree*) to 7 (*strongly agree*). A sample item from this scale is, "I often have the feeling that my relationships with others are more important than my own accomplishments." See items 1 to 12 in Appendix R for the full list.

Independent self-construal. This 12-item measure ($\alpha = .78$) was administered online prior to the lab session and it assessed the extent to which a person perceives himself or herself to be unique and autonomous from others (Singelis, 1994). Each item is rated on a 7-point scale from 1 (*strongly disagree*) to 7 (*strongly agree*). A sample item from this scale is, "My personal identity independent of others, is very important to me." See items 13 to 24 in Appendix R for the full list.

Manipulation check of the value prime. This 3-item manipulation check was derived from Pavey et al. (2011), the developers of the priming procedure. After the priming survey in the lab session, participants were asked to what extent did the answers they gave [on the priming survey] remind them of times when they felt "free and autonomous" (for autonomy), "close and connected to other people" (for relatedness), and "competent" (for competence). Each item was assessed on a 1 (*Not at all*) to 7 (*Very much*) scale. To minimize the transparency between the prime and the manipulation check that may lead to response biases, the target manipulation check item was always placed second; that is, participants in the relatedness (autonomy) prime

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condition always saw the relatedness (autonomy) manipulation check item second in the set of three. The competence item was always placed third in the set. See Appendix S for the version in the autonomy priming condition and Appendix T for the version in the relatedness priming condition.

Manipulation check of the value emphasis in the vision. This four-item measure was administered after the vision presentation and it assessed participants' perception of the intended value outcomes of Blended Learning. Each item is rated on a 7-point scale from 1 (*strongly disagree*) to 7 (*strongly agree*). The two items that assessed perception of autonomy values ($\alpha =$ .86) within the presentation were, "A key goal of the Blended Learning approach is to support more autonomous and self-directed learning" and "A key goal of the Blended Learning approach is to promote greater personal control over one's learning." The two items that assessed perception of relatedness values ($\alpha = .90$) within the presentation were, "A key goal of the Blended Learning approach is to support more interaction between students" and "A key goal of the Blended Learning approach is to promote more collaboration between students." (See Appendix U)

Identification with vision. Participants' identification with the Blended Learning vision was measured after the vision presentation using an eight-item scale ($\alpha = .93$) from the previous studies. Each item is rated on a 7-point scale from 1 (*strongly disagree*) to 7 (*strongly agree*). This measure was primarily based on writings on identification by Ashforth and Mael (1989), Pratt (1998), and the Mael scale of organizational identification (Mael & Tetrick, 1992). According to these sources, the central concept of identification includes recognizing similarities in important underlying ideals, feeling a sense of pride, and desiring public awareness of one's connection with the object of identification (the Blended Learning vision). Example items

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targeting these concepts are, respectively, "The ideals in the vision match up well with my own ideals," "I would be proud if the university made this vision a reality," and "I would be happy to have other people know that I support this vision." (See Appendix V)

Behavioural support intentions. After the vision presentation, participants were asked whether they would be willing to implement 10 different behaviours to promote the Blended Learning vision with the measure used in Study 2 ($\alpha = .81$). In light of recent developments in supporting initiatives through social media, I added an item to ask whether participants would be willing to "'like' and 'share' the webpage about [the] educational approach via [their] Facebook account." See Appendix W for the full list of items.

Control variables. In our analyses we controlled for two variables that may affect participants' intent to support the vision: academic performance and attention to the vision presentation. Participants' academic performance was operationalized as their average grade, which was self-reported as a range of 5% increment between the 60-65% range to the 95-100% range. Each grade range was recoded into a numeric variable such that 60-65% = 1, 65-70% = 2, and so forth. Academic performance served as a control because it held a significant negative correlation with vision support intentions (r = -.16, p = .018). Speculatively, participants with higher grades tended to be less favourable toward Blended Learning because it involves a group work component wherein other students may "drag down" their grades. Therefore, participants' grades were controlled so the effects of value congruence on vision support could be isolated.

Furthermore, the context of the experiment involves listening to the vision presentation with other students inside a classroom where each session occurs at different times of the day and participants are seated at different positions inside the room. Although every effort has been made to ensure that participants do not engage in distracting behaviours (such as attending to

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their phones or speaking to each other), attention may nonetheless still be compromised by possible distractions or situational factors like a poor seating position. In fact, past studies with visionary presentations to groups have included attention as a covariate because of this possible issue (Leung, 2012). Given that participants' attention influences their focus and comprehension of the value emphasis in the presentation, it seemed warranted to create an index of engagement applicable to all participants for use as a control variable. As will be discussed in the results section, we calculated an attention variable (based on the manipulation check items) that served as a control variable.

In this study, gender did not serve as a control variable because it was not significantly related to vision support intentions (as in previous studies). Inclusion of gender in the regression analyses did not affect any of the results.

Results

Means, standard deviations, and intercorrelations of all the variables used in multiple regression (MR) analyses are presented in Table 11. Note that on the paired-values ranking scale, the scores are coded such that higher scores indicate greater relatedness values. For the priming and vision value emphasis manipulations, the autonomy condition is coded as 0 and the relatedness condition is coded as 1.

Table 11

Means, Standard Deviations, and Intercorrelations of Variables in Study 3[a]

Variables	Mean	s.d.	1	2	3	4	5	6	7	8
1. Grade	3.65	1.46								
2. Attention	5.44	.90	.07							
3. Personal value[b]	3.42	1.54	-.18**	.07						
4. Self-construal	5.06	.74	-.11	.03	.35**					
5. Prime condition	.49	.50	.00	.00	-.03	-.06				
6. Vision condition	.55	.50	.00	.42**	.11	.04	.03			
7. Identification with vision	3.77	1.34	-.05	-.09	.10	.12	-.09	.10		
8. Support intentions	5.73	3.54	-.16*	-.06	.13*	.13*	-.08	.13	.79**	

[a] n = 240. For the prime and vision manipulations, "Autonomy" = 0 and "Relatedness" = 1. Higher scores on Personal Value indicate greater endorsement of relatedness values.
[b] Personal value on the paired value ranking scale was coded such that higher scores indicate higher endorsement of relatedness values and lower scores indicate higher endorsement for autonomy values.
* *p* <. 05 ** *p* < .01

Manipulation Checks

      Value priming manipulation. As expected, participants who were primed with relatedness ($M = 5.98$, $SD = 1.24$) felt that they were reminded of being close and connected with others to a greater extent than those who were primed with autonomy ($M = 4.55$, $SD = 1.70$), $t(236) = 7.41$, $p < .001$. Conversely, participants who were primed with autonomy ($M = 5.14$, $SD = 1.50$) felt that they were reminded of feeling free and autonomous more so than those who were primed with relatedness ($M = 4.51$, $SD = 1.63$), $t(236) = -3.12$, $p = .002$. Finally, participants who were primed with autonomy ($M = 4.63$, $SD = 1.52$) and relatedness ($M = 4.70$, $SD = 1.55$) were both reminded about feeling competent to the same extent, $t(235) = -.339$, $p = .735$. Altogether, the results indicate that the intended priming manipulation was successful.

      Manipulation of value emphasis in vision presentation. As expected, participants who viewed the relatedness-emphasizing vision ($M = 6.61$, $SD = .66$) scored higher than those who viewed the autonomy-emphasizing vision ($M = 4.53$, $SD = 1.55$) on the relatedness manipulation check items, $t(237) = 13.96$, $p < .001$. As well, participants who viewed the autonomy-emphasizing vision ($M = 6.57$, $SD = .61$) scored higher than those who viewed the relatedness-emphasizing vision ($M = 3.05$, $SD = 1.46$) on the autonomy manipulation check items, $t(238) = -23.42$, $p < .001$. Both results indicate that the intended manipulation of value emphasis in the vision presentation was successful.

Calculation of an Attention Variable

      A variable was calculated to measure attentiveness to the vision presentation, based on the four manipulation check items. This variable was calculated as the average of (1) the two manipulation check items pertinent to the participant's vision condition and (2) the reverse score of the two manipulation check items about the alternate vision condition. For example, if a participant viewed the relatedness-emphasizing vision, her attention score would be (1) the average of the two items about the relatedness content and (2) the reverse score of the two manipulation check items on the not-emphasized autonomy content of the vision. The rationale for this calculation is that attention should be reflected in recognition of the emphasized value

content *as well as* disagreement (or lower agreement) with having seen the non-emphasized value content.

Value Congruence Hypotheses Test

Value congruence was operationalized within multiple regression (MR) analysis to test our hypotheses. First, the congruence between the prime (autonomy or relatedness) and the vision's value emphasis (autonomy or relatedness) was operationalized as the two-way interaction term (product term) of prime X vision. Second, the congruence between the prime, the vision's value emphasis, and participants' standing on a corresponding individual difference variable was operationalized as the product term, prime X vision X interdependent self-construal. As an alternative test with personal values as the individual difference variable, a similar product term was obtained for prime X vision X personal value on the paired-value ranking scale. In all the MR analyses, the participants' grades and attention to the presentation served as control variables, along with all lower-order interaction and linear terms corresponding to higher-order interactions. All variables were mean-centered before being entered into the regression.

Behavioural support intentions. As shown in Table 12, there was a strong main effect of vision condition on support intentions. Although every attempt was made to "equate" the two conditions of the vision presentations, the relatedness-emphasizing presentation seemed to have painted a more appealing picture, which could account for the higher support intentions overall. Because of this inherent non-equivalence, it is not relevant whether one line or the other in Figure 17 is higher or lower than the other (i.e., corresponding to the main effect).The focal test is whether the slopes of the lines differ (as they do according to the two way interaction test) and in what direction (i.e., in agreement or disagreement with the congruence prediction).As shown in Figure 17, in the prediction of behavioural support intentions, the interaction of prime X vision yielded statistical significance, $F (6, 212) = 104.89$, $p = .002$. The simple slope for support intentions among those who viewed the autonomy-emphasizing vision (i.e., the dashed line within the figure) was statistically significant, $t (211) = -2.88$, $p = .004$. The corresponding simple slope for support intentions among those who viewed the relatedness-emphasizing vision

(i.e., the non-dashed black line within the figure) was not statistically significant, t (211) = 1.44, p = .152. The results suggest that a congruence effect was evident among those who viewed the autonomy-emphasizing vision. Specifically, those who were primed with autonomy values expressed greater vision support intentions than those who were primed with relatedness. This finding supports the hypothesized importance of value congruence, in that those who were reminded of the importance of autonomy as a value in their lives were subsequently more motivated to realize a vision that promoted autonomy, compared to those who were reminded of relatedness (a distinctly different value). However, among those who viewed the relatedness-emphasizing vision, the level of support intentions was the same between the two priming conditions. Detailed figures for this regression analysis are displayed in Table 12. This latter result raises a question of whether the congruence effect is restricted to a particular value domain. The next set of results addresses this by taking into account a pertinent individual difference in the relatedness value domain.

Table 12

Value Priming and Vision Value Emphasis Predicting Vision Support Intentions, Study 3[a]

	Step		
Variables	**1**	**2**	**3**
Intercept	5.71** (.24)	5.72** (.24)	5.73** (.23)
Grade	-.39* (.27)	-.38* (.16)	-.43** (.16)
Attention	-.07 (.17)	-.46 (.30)	-.54 (.29)
Prime Condition		-.41 (.47)	-.39 (.46)
Vision Condition		1.54** (.53)	1.64** (.52)
Prime X Vision			2.91** (.94)
R^2	.73**	.74*	.75**

[a]n = 240. Values are unstandardized regression coefficients; standard error estimates are in parentheses.
* $p < .05$ ** $p < .01$

Figure 17

Two-Way Interaction between Value Priming and Vision Value Emphasis in Predicting
Intentions to Support the Vision, Study 3
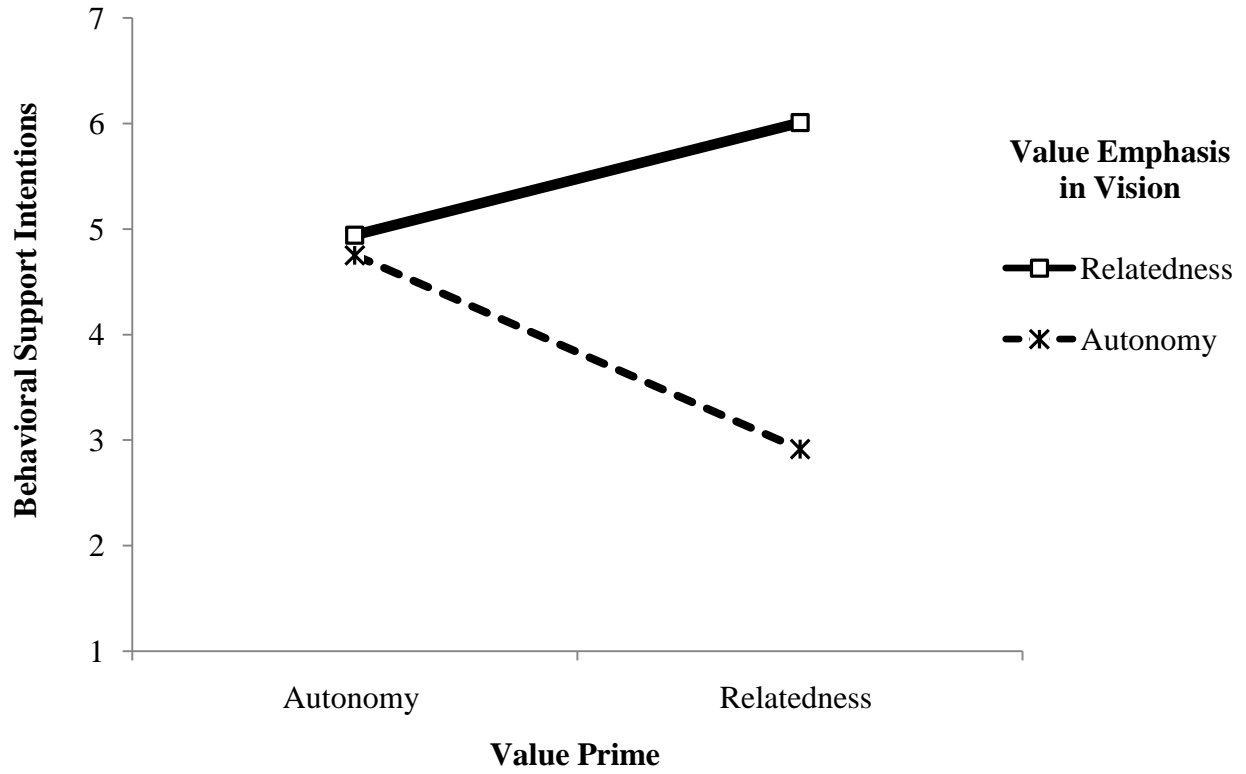
As shown in Figure 18, the interaction of prime X vision X interdependent self-construal also yielded statistical significance, $F(9, 208) = 3.98$, $p = .044$. The simple slope for support intentions among those who were primed with relatedness values and subsequently viewed a relatedness-emphasizing vision (i.e., relatedness prime/relatedness vision) was statistically significant, $t(209) = 2.79$, $p = .006$. None of the remaining three simple slopes were statistically significant, $t(209) = .22$, $p = .825$ (for the relatedness prime/autonomy vision slope); $t(209) = .17$, $p = .868$ (for the autonomy prime/relatedness vision slope); $t(209) = .85$, $p = .399$ (for the autonomy prime/autonomy vision slope). Among all participants, those who are highly interdependent *and* received the relatedness prime along with the relatedness-emphasizing vision expressed the most intent to support the vision. Detailed figures of the regression analysis are displayed in Table 13. This finding suggests that when a pertinent individual difference is taken into account, value congruence effects become evident in the relatedness domain. It also supports the hypothesis that vision support intentions are the highest when all three conditions of identity (self-construal), value priming, and value emphasis of a vision are fully congruent with each other.

Table 13

Value Priming, Vision Value Emphasis, and Interdependent Self-Construal Predicting Vision Support Intentions, Study 3[a]

	Step			
Variable	**1**	**2**	**3**	**4**
Intercept	5.71** (.24)	5.70**(.24)	5.71** (.23)	5.68**(.23)
Grade	-0.38* (.17)	-.34* (.16)	-.39* (.16)	-.38* (.16)
Attention	-0.02 (.27)	-.45 (.30)	-.54 (.30)	-.64* (.30)
Prime		-.39 (.48)	-.42 (.47)	-.48 (.47)
Vision		1.60**(.53)	1.65** (.52)	1.77* (.52)
Interdependent Self Construal		.58 (.33)	.60 (.33)	.72* (.33)
Prime X Vision			2.95** (.95)	2.84**(.94)
Prime X Interdependent Self Construal			.80 (.65)	1.12 (.67)
Vision X Interdependent Self Construal			.49 (.64)	.70 (.65)
Prime X Vision X Interdependent Self Construal				2.67* (1.32)
R^2	.03	.08**	.14*	.15*

[a]n = 240. Values are unstandardized regression coefficients; standard error estimates are in parentheses. *p<. 05**p< .01

Figure 18

Three-Way Interaction of Value Priming, Vision Value Emphasis, and Interdependent Self-Construal in Predicting Intentions to Support the Vision, Study 3
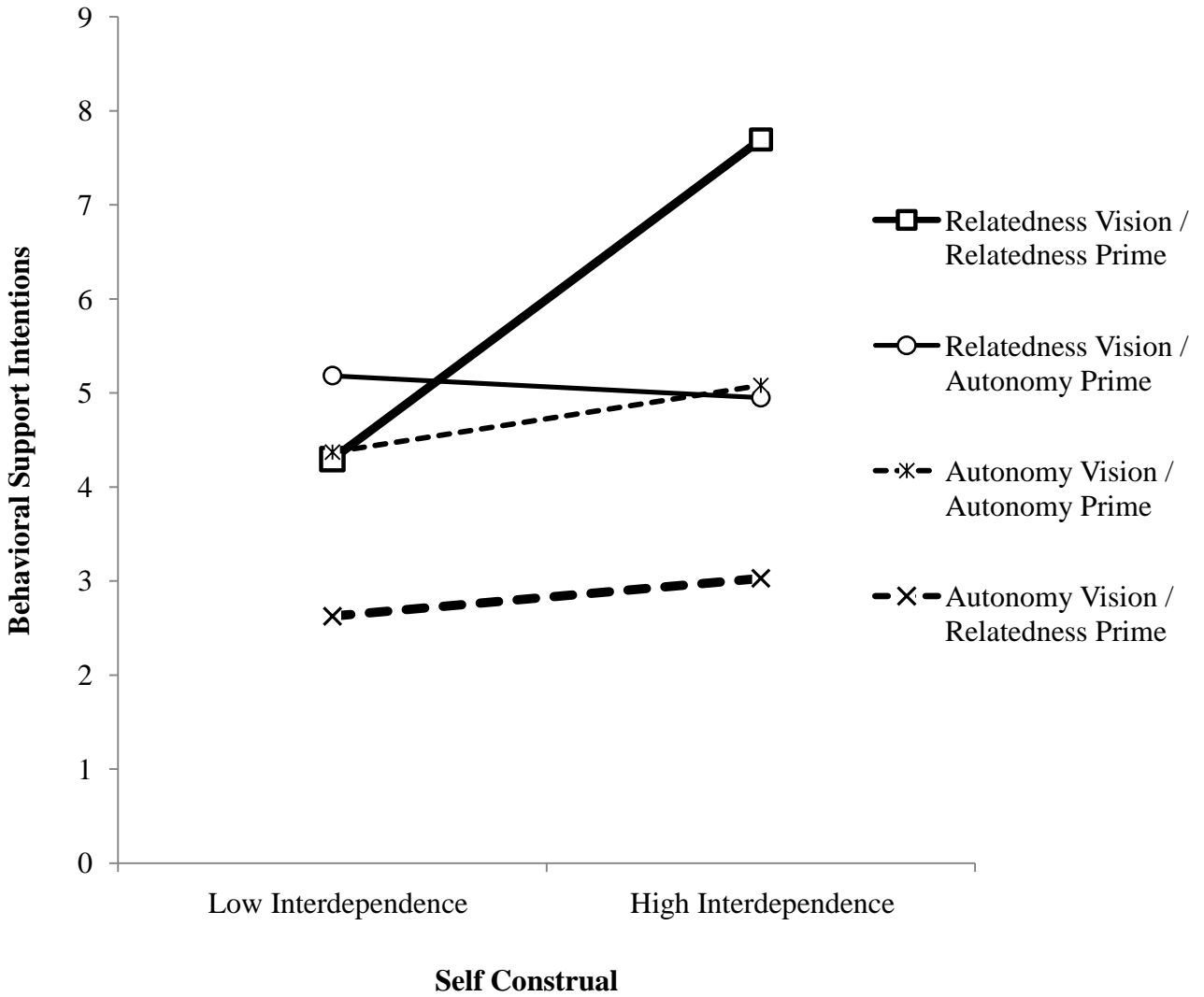
As shown in Figure 19, the corresponding interaction of prime X vision X personal value did not yield statistical significance, $F(9, 211) = 3.21$, $p = .320$. Within this MR analysis, only the prime X vision interaction was statistically significant ($p = .003$), suggesting that personal values on the paired values ranking scale failed to predict support intentions as the individual difference variable within the three-way interaction term.

Figure 19

*The Joint Effects of Value Priming, Vision Value Emphasis, and Personal Values in Predicting
Intentions to Support the Vision, Study 3*
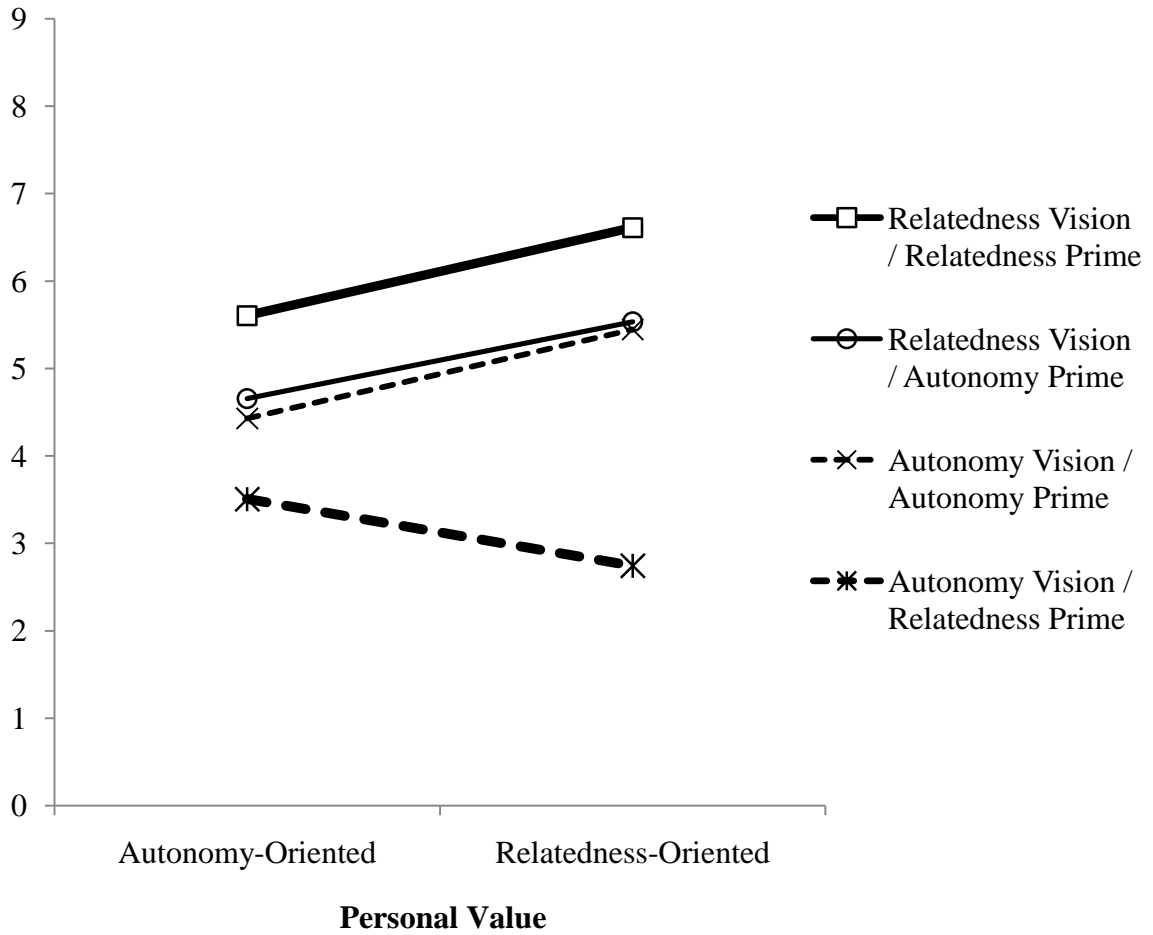
Moderated Mediation Hypothesis Test

Mediation of identification with vision was tested with interdependent self-construal as the exogenous variable along with the prime and vision conditions as the two moderators of the path from self-construal to identification. As before, the outcome variable was intentions to support the vision. This moderated mediation test was conducted with Preacher's (2013) PROCESS macro for SPSS which used bootstrapping with 5000 samples to estimate the indirect effect. The resulting 95% bias corrected confidence interval did not include zero, [.38, 2.48], indicating that this moderated indirect effect of interdependent self-construal was statistically significant. As depicted in the Figure20, both priming condition and vision condition moderated self-construal's effect on vision support intentions through identification with vision. Specifically, those with high interdependent self-construal who were primed with relatedness and presented with a relatedness-emphasizing vision showed higher identification with the vision, which in turn induced greater vision support intentions. This finding supports the hypothesis that congruence between a person's values (as indexed by their identity and activated by the situation) and those of a vision can engender perceptions of similarity and a willingness to associate the self with a vision, ultimately leading to greater motivation to support that vision.

Figure 20

Modeled Causal Pathway with Value Priming and Vision's Value Emphasis Moderating Self-Construal's Effect on Vision Support Intentions through Identification with Vision, Study 3
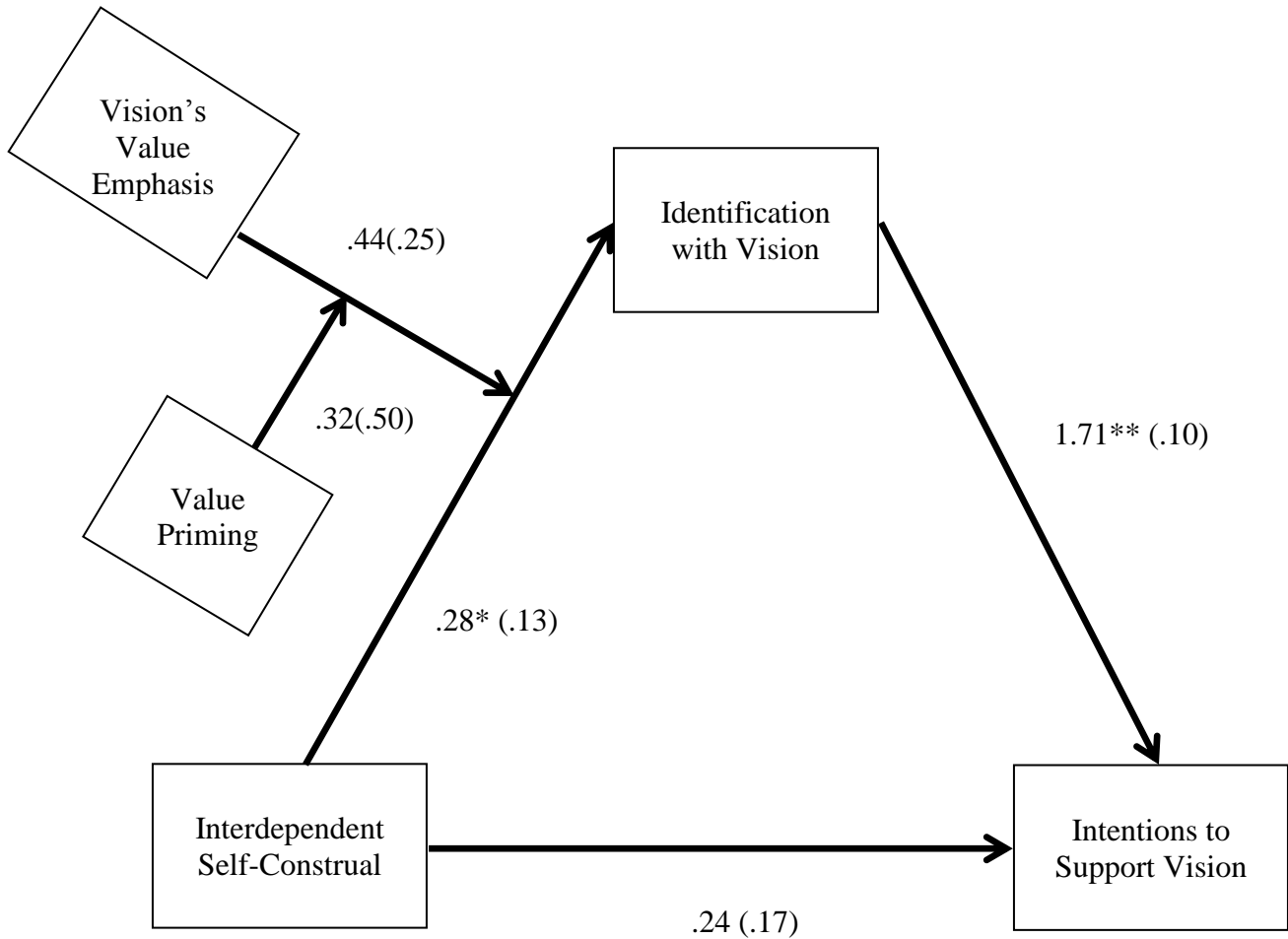
Bias Corrected and Accelerated 95% C.I. of the indirect effect of Interdependent Self-Construal to Intentions to Support Vision through Identification with Vision, moderated by Value Priming Condition and the Vision's Value Emphasis: [.38, 2.48]
Figures indicate estimated coefficients with their standard errors in parentheses.
*p<. 05**p< .01

As shown in Table 14, in the other combinations of the prime and vision conditions (where it is not fully congruent with the interdependent self-construal), the confidence intervals of the same indirect effect from self-construal to support intentions all included zero. This result furnished complementary evidence that congruence between self-construal, value priming, and the vision's value emphasis engender identification with the vision, which in turn led to greater support intentions.

Table 14

Conditional Indirect Effects of Interdependent Self-Construal on Intentions to Support the Vision at Different Values of the Moderators, Study 3

Moderator 1: Vision Condition	Moderator 2: Priming Condition	Congruence with Interdependent Self-Construal	Effect (S.E.)	Lower Limit of 95% C.I.	Upper Limit of 95% C.I.
Autonomy	Autonomy	No	-.21 (.40)	-1.00	.56
Autonomy	Relatedness	No	.33 (.38)	-.53	.99
Relatedness	Autonomy	No	.28 (.34)	-.11	.64
Relatedness	Relatedness	Yes	1.36 (.54)	.38	2.45

Discussion

Much of the literature on visions have claimed that values or identity is an essential component for motivation (e.g., Boal & Bryson, 1988; Collins, 2001; Nanus, 1992; Shamir et al., 1993; Zaccaro & Banks, 2001), but empirical studies have rarely tested how and why such a motivational process occurs. Among the available studies on vision-based motivation, some have been subject to criticism in methodology (van Knippenberg & Stam, in press) while others presented value emphases that may not have much variance in endorsement among the audience (e.g., Grant & Hofmann, 2011; Shipley & Michela, 2006). This study attempted to address these limitations and contribute to a better understanding of the effects of person-vision value congruence, as detailed below.

When participants were reminded of their autonomy values through priming, they expressed greater support intentions when the vision emphasized the corresponding autonomy values. This finding is consistent with Feather's (1995) theory that when personal values are activated, they guide the valence of an event or message, such that a match leads to a favourable evaluation and a mismatch can lead to rejection. In the social psychology literature, similar results have been found when priming relatedness led to more value-congruent, prosocial behaviours such as volunteering and giving to charity (Pavey et al., 2011). This finding suggests that while individuals' values influence attitudes and behaviours, bolstering their momentary centrality before a value-laden vision can influence the reception and support of that vision. While past research suggests that visions can influence follower actions by having its values become embedded within organizational norms and structures (Jacobsen & House, 2001), the present result suggest that the opposite flow of influence could also occur. Organizational norms, structures, systems, and culture could signal what values are important to employees (Edwards & Cable, 2009), and to the extent that the workplace "primes" these values, it can influence employees' intent to support a vision. Therefore, leaders who wish to promote a new vision may want to consider "setting the stage" by scrutinizing whether their current organizational culture and norms endorse values that are consistent with what is embedded in their vision. To the extent

that employees' values can be activated by various aspects of their organization, they are likely to influence the reception and evaluation of their leader's vision.

Analysis of simple slopes raises a question of whether a congruence effect was limited to the autonomy value domain. Although the corresponding simple slope for the relatedness-emphasizing vision took the expected form and was in a different direction from the other slope, it was not statistically significant. Therefore, those who were primed with relatedness did not express greater support for the corresponding relatedness-emphasizing vision than autonomy-primed participants. This result may have been due to an overall more appealing presentation of the relatedness-emphasis as the relatedness vision was associated with greater support intentions overall. In fact, participants who viewed the relatedness-emphasizing vision were willing to engage in an average of over 5 behaviours (half the list) on the survey. As undergraduate students already have a fair degree of autonomy in their current choice and scheduling of courses, perhaps the relatedness emphasis represented a more credible and attractive outcome than their current experience. In any case, one cannot be sure what features of the two presentations drove the main effect, and the relevant elevations of the simple slopes are quite dependent on the operationalization of values. Accordingly, it is quite possible that a different operationalization of the relatedness-emphasizing vision may yield a different result. Therefore the most meaningful interpretation comes back to the prime X vision interaction indicating that the two lines differ in the expected direction. Nonetheless, as the three-way interaction demonstrated, the expected effect of congruence in the relatedness domain became more evident when individual differences in identity are taken into account.

Following the prime by vision interaction, the results also showed that a pertinent identity—participants' self-construal—influenced vision support intentions jointly with primed values prior to the vision presentation. In terms of the three-way interaction between priming, self-construal, and value emphasis, the highest support intentions emerged when there was congruence between all three variables in the relatedness domain. This result furnished the most compelling evidence for the theorized effects of value congruence on motivation. However, the

corresponding three-way between *independent* self-construal, autonomy priming, and value emphasis on autonomy did not engender especially high support intentions compared to the other conditions. Even so, this finding should not be taken to indicate an absence of a congruence effect. As mentioned in the introduction, independent self-construal is not singly tied to autonomy values; it is also associated with values of uniqueness, self-expression, and being forthright (Singelis, 1994). Empirically, my data support the aforementioned difference in correspondence between self-construal and personal values: the correlation between participants' relatedness value orientation (on the paired values scale) and interdependent self-construal was .37, with autonomy-oriented participants and relatedness-oriented participants differing significantly on their interdependent self-construal scores. However, autonomy-oriented and relatedness-oriented participants did not differ significantly on their scores on independent self-construal. This is not surprising given that independent self-construal is tied to a broader set of values than just autonomy.

A true parallel test of congruence in the autonomy domain would require measuring an identity (or personal value) that is solely tied to values of being the agent of one's own actions and pursuing one's own goals. Alternatively, future studies could include visions with an emphasis on independence-related values (i.e., uniqueness, self-expression, and autonomy) and use corresponding priming of independent self-construal to detect a congruence effect.

Despite its use as the initial participant selection variable, the alternative paired-values ranking measure also did not produce a significant joint effect with priming and value emphasis on support intentions. One reason might have to do with the ipsative nature of the scale which forces a choice between autonomy and relatedness in a way that assumes their opposition to each other. (That is unlike the empirically-derived opposition between values of power and universalism or between stimulation and security on Schwartz's value scheme). This response option may have detracted from the construct validity of the measure. Another reason may be that the measure of self-construal is a more sensitive instrument for capturing value orientations based on self-definitions. For example, the self-construal items refer specifically to behaviours

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(e.g., for interdependence, "giving up your seat on the bus for your professor") rather than the more abstract terms in the paired rankings measure (e.g., "social belongingness"). Future research in person-vision value congruence could consider using values measures that are less abstract and more behavioural based, such as the work values survey used by Cable and Edwards (2004) where autonomy values are assessed by the extent of endorsement to items such as "Doing my work in my own way," "determining the way my work is done," and "making my own decisions."

In addition to detecting person-vision congruence effects, a key contribution of this study is replicating the effects of the mediating mechanism found in Study 1—identification with vision—and providing evidence for the intended causal pathway. Specifically, congruence in relatedness values (indicated by alignment of high interdependent self-construal, relatedness priming, and viewing a relatedness-emphasizing vision) engendered greater identification with the vision that in turn led to higher support intentions. As mentioned in the Introduction and previous discussions, when a vision emphasizes a value that is congruent with the participants' identity and brought to centrality by the situation, the vision's recipients would see the alignment and view the vision as part of their value schematic system, thus they would evaluate the vision more favourably (Feather, 1995). More generally, the findings are consistent with many that show that people choose behaviours that align with their values (Homer & Kahle, 1988; Kristiansen & Matheson, 1990; Rokeach, 1973; Schwartz, 1992), or values brought to centrality by the situation (e.g., Ball-Rokeach, Rokeach, & Grube, 1984).

Overall, the findings in this study suggest that leaders who wish to seek support for a vision can bolster value congruence by both selecting employees who endorse their vision's values and otherwise "prime" values in their organizations by means such as exemplifying the values to activate them among followers (Lord & Brown, 2001), managing the values transmitted through organizational culture and norms (O'Reilly, Chatman, & Caldwell, 1991), and aligning rewards and other human resources strategies with those values.

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CHAPTER 4

GENERAL DISCUSSION

This research sought to address whether congruence between an organizational vision and organizational members' values or identity can influence their support for the vision, as it is often claimed or implied in writings on visionary leadership. In doing so, an additional goal was to identify a mediating psychological mechanism that underscores this process and explains why it occurs.

Given the results of the three studies, there are reasons to think that these goals were met. Drawing upon the social psychology literature on self congruency-based motivation of behaviour, the studies applied and extended the phenomenon to the visionary leadership context. Across the studies, we consistently found that person-vision congruence (in values for Studies 1 and 3; in identity for Study 2) led to greater intentions to support the vision. Relatedly, one's identification with a value-congruent vision (in Studies 1 and 3) and beliefs about the identity-related consequences of an identity-congruent vision (in Study 2) mediated the relationship between congruence and vision support intentions.

These results are important in several ways. First, we furnished support for the claims that values and/or identity are the components of vision that could be operative for employee motivation (e.g., Nanus 1992; Senge, 1990; Shamir et al., 1993; Zaccaro & Banks, 2001). This phenomenon was demonstrated using multiple methods (i.e., survey, laboratory, and experimental studies), multiple sources and versions of organization visions (i.e., self-reported and experimenter-ascribed visions), and multiple samples (i.e., full-time employees and undergraduate students). Second, whereas many visionary leadership theories imply that values in visions provide the bases of passion and persuasiveness for leaders (e.g., Senge, 1990), our research suggests that the process is not as straightforward as it may have been suggested. Notably, a distinction should be made between *nomothetic* and *idiographic* phenomena of person-object value congruence. In some past research of value congruence in social psychology (e.g., Ball-Rokeach et al., 1984) and visionary leadership (e.g., Baum et al., 1998; Shipley &

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Michela, 2006), the studies demonstrated the nomothetic: Promoting a set of values in a message or initiative, or even simply reminding people of certain values beforehand, can induce support for that message or initiative. An implicit assumption of that process is that recipients of the message would more or less uniformly find the endorsed values to be desirable. However, that may not always be the case as when Grant and Hofmann (2011) found that a company's ideological message motivated higher performance when it emphasized prosocial but not achievement values. Our research suggests that there is an *idiographic* phenomenon of congruence where the emphasized values or identity cater better to those who hold that value highly, and promoting desirable values in a vision among those who hold opposing (but perhaps equally desirable) values may not be as effective motivationally. That is not to say, though, that the values employees bring to the table is entirely determinant of their reception to a vision. As the results in Studies 2 and 3 suggest, other manageable organizational factors can come into play. In Study 2, students with higher tenure may have had experiences with the organization that detracted their buy-in to the espoused identity consequences of the vision; in Study 3, values that are activated by situation were potent in engendering support for a value-congruent vision. Therefore, in general, leaders can consider "setting the stage" in their organizations before pronouncing a new vision. This may involve initiatives like conducting an organizational culture audit to assess what values or beliefs are being held, and whether they are in conflict with what a leader is about to propose.

Furthermore, to the extent that priming of values in the lab is analogous to situational activation of values in an organizational setting, leaders can implement "management by values" by means of communicating, rewarding adherence to, and personally exemplifying desired values to signal their importance to employees (Daft, 1992). Scholars of organizational culture management have also suggested actions to signal organizational identity (*vis-à-vis* values) such as management of artifacts (e.g., architecture or design aspects of an organization) and repetition of "legends" or stories that bear on the espoused values (Michela & Burke, 2000). By permeating values throughout an organization with such means, employees may be more likely to support a

leader's vision that promotes those values. Moreover, when formulating new visions of organizational change, leaders should also consider the credibility of their visions for different sectors of organizational members. As Study 2 showed, the particular status of participants (senior students) constrained their identity enactment because they did not buy in to the stated consequences of the vision. A potential way to address this issue may be to involve employees in the formulation of visions so they can provide feedback and communicate their concerns. Past research has shown that when nonbeneficiaries of a vision are given *instrumental voice* on its formulation (i.e., having a certain degree of influence over the outcomes of decision-making regarding vision formulation), it can confer greater psychological ownership of the vision and lead to greater support intentions despite consequences against their self-interest (Hideg et al., 2011).

Although this research demonstrated the potency of person-vision congruence on vision support motivation, it is still only one component of vision content and its communication process. Other aspects of vision content, articulation, and implementation can also influence recipients' responses. Returning to theories on charismatic and transformational leadership (e.g., Bass, 1985; Shamir et al., 1993), leadership scholars have suggested that setting high expectations and instilling confidence in followers about attaining the vision can heighten their self-efficacy and self-worth, leading to higher identification with the leader and high levels of performance. Leaders can also capitalize on other elements in their vision communications, such as using inspirational imagery (Zaccaro & Banks, 2001), speaking with enthusiasm and charisma (Shamir et al., 1993), and using their emotional expressions (Venus, Stam, & van Knippenberg, 2013) to leverage followers' support. Further still, leaders can "outsource" their inspiration and invite their organization's stakeholders (such as beneficiaries of their products and services) to communicate and exemplify a vision to enhance employee performance (e.g., Grant, 2008(a), Grant, 2008(b), Grant & Hofmann, 2011). Following vision communication, leaders can also discuss with their employees about how employees work can contribute to realizing the vision as

a way of enhancing their performance, job satisfaction, and organizational commitment (Kohles et al., 2012).

That leaders need to set a vision and garner followers' support is fundamental to their role; indeed, it is a key way in which they add value to organizations (Zaccaro, 1996). While leaders may be engrossed with strategic analyses based on market conditions or technological changes to derive their visions (Kouzes & Posner, 1987), this research suggests that attention to followers' values and identity may also be warranted for effective vision formulation and communication. As Burns (1978: 461) wrote in *Leadership*: "The function of leadership is to engage followers…to commingle needs and aspirations and goals in a common enterprise, and in the process to make better citizens of both leaders and followers."

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APPENDIX A: Information Letter (Study 1)

Title of Study: Vision, Goals, and Performance Standards in Your Workplace

Student Investigator:
Kevin Leung (kevin.leung@uwaterloo.ca)
Department of Psychology,
University of Waterloo, Canada.

Principal Investigator:
Dr. John Michela (jmichela@uwaterloo.ca)
519-888-4567 x32164
Department of Psychology,
University of Waterloo, Canada.

Study Overview

This study examines employees' perception and understanding of their organization's vision/mission, goals, and performance standards, as well as general opinions about their work and their organization.

Participation

This is a single session, on-line study in which you will be asked to respond to questions about the mission/vision, goals, and performance standards on your job. You will also be asked about general opinions about your work and your organization as well as several demographic questions (e.g., age, gender, etc.). Your answers will help us understand how employee perception and understanding of vision/mission, goals, and performance standards are related to various aspects of work.

To participate in this study, you must be at least 18 years of age and working full time. Participation in this study will take approximately 30 minutes of your time. In appreciation of your participation, an amount of $0.60 will be deposited to your Crowdflower account. To receive remuneration please proceed to the end of the questionnaire, obtain the unique code for this HIT, and submit it. Please note that your participation in this study is entirely voluntary.

You may decline to answer any questions if you so wish by leaving them blank. Furthermore, you may decide to withdraw from this study at any time by not submitting your responses. The web site is programmed to collect responses alone and will not collect any information that could potentially identify you (such as machine identifiers). This study uses Qualtrics^{TM} which is a United States of America company. Consequently, USA authorities under provisions of the Patriot Act may access this survey data. If you do not want to submit your responses using Qualtrics^{TM}, do not accept this HIT. The risks associated with this study are no greater than what you might experience in your day-to-day life.

Confidentiality

Any information that you provide is confidential and will be password protected on secure computers in the Department of Psychology. The electronic data will be retained indefinitely in a locked lab and on a secure server in the University of Waterloo's Department of Psychology. Because the interest of this study is in the average responses of the entire group of participants, you will not be identified individually in any way in any written reports of this research. There will be no data on paper.

Questions and Research Ethics Clearance

If you have any questions about this study, or would like additional information to assist you in reaching a decision about participation, please feel free to email one of the study investigators listed at the bottom of this sheet.

I would like to assure you that this study has been reviewed and received ethics clearance through a University of Waterloo Research Ethics Committee. However, the final decision about participation is yours. If you have any comments or concerns resulting from your participation in this study, please contact Dr. Maureen Nummelin, the Director of the Office of Research Ethics, at 1-519-888-4567, Ext. 36005 or maureen.nummelin@uwaterloo.ca.

Thank you for your interest in our research and for your assistance with this project.

Sincerely,

Kevin Leung
Ph.D. Student
Department of Psychology
University of Waterloo, Canada
kevin.leung@uwaterloo.ca

Dr. John Michela
Associate Professor
Department of Psychology
University of Waterloo, Canada
jmichela@uwaterloo.ca

For this page, please think about your organization's vision/mission and the values that it is endorsing or promoting in explicit statements.

Then, please rate the extent to which each of the following values is important as a **guiding principle of the vision/mission of your organization**, ranging from -1 (opposed to the vision/mission's values) to 0 (not at all important to the vision/mission) to 7 (of supreme importance to the vision/mission):

Opposed to my values	Not important to me							Of supreme importance to me
-1	0	1	2	3	4	5	6	7

1. **Power** (social power, authority, wealth)

   Examples: Market domination, making lots of money

2. **Achievement** (success, capability, ambition, influence on people and events)

   Examples: Becoming a larger, more competitive company; to be the best in the industry

3. **Hedonism** (gratification of desires, enjoyment in life, self-indulgence)

   Examples: Providing entertainment and fun; making others happy

4. **Stimulation** (daring, a varied and challenging life, an exciting life)

   Examples: Tackling challenges, taking risks, providing exciting experiences

5. **Self-Direction** creativity, freedom, curiosity, independence, choosing one's own goals)

   Examples: Promoting self-reliance and freedom; being unique; leading instead of following

6. **Universalism** (broadmindedness, beauty of nature and arts, social justice, a world at peace, equality, wisdom, unity with nature, environmental protection)

   Examples: Promoting environmental sustainability, equality, and social justice; promoting appreciation of art or nature

7. **Benevolence** (helpfulness, honesty, forgiveness, loyalty, responsibility)

   Examples: Working for the welfare of others; exhibiting organizational ethics and integrity; being genuine and sincere to others

8. **Tradition** (respect for tradition, humbleness, accepting one's portion in life, devotion, modesty)

   Examples: To preserve traditional practices, beliefs, or customs; to produce products that maintain traditional styles; being modest

9. **Conformity** (obedience, honoring parents and elders, self-discipline, politeness)

   Examples: Promoting self-discipline, courtesy, or manners; meeting obligations dutifully

10. **Security** (national security, family security, social order, cleanliness, reciprocation of favors)

    Examples: Bettering personal health; protecting families or the nation; providing insurance against risks

APPENDIX C: Schwartz's Measure of Personal Values (Study 1)

This page of the survey concerns your personal values. Personal values describe what people want to get out of life or how they want to live their lives.

In the following, please rate the importance of each value as a **guiding principle in YOUR life**, ranging from -1 (opposed to my values) to 0 (not important to me) to 7 (of supreme importance to me):

Opposed to my values	Not important to me							Of supreme importance to me
-1	0	1	2	3	4	5	6	7

1. **Power** (social power, authority, wealth)

2. **Achievement** (success, capability, ambition, influence on people and events)

3. **Hedonism** (gratification of desires, enjoyment in life, self-indulgence)

4. **Stimulation** (daring, a varied and challenging life, an exciting life)

5. **Self-Direction**(creativity, freedom, curiosity, independence, choosing one's own goals)

6. **Universalism** (broadmindedness, beauty of nature and arts, social justice, a world at peace, equality, wisdom, unity with nature, environmental protection)

7. **Benevolence** (helpfulness, honesty, forgiveness, loyalty, responsibility)

8. **Tradition** (respect for tradition, humbleness, accepting one's portion in life, devotion, modesty)

9. **Conformity** (obedience, honoring parents and elders, self-discipline, politeness)

10. **Security** (national security, family security, social order, cleanliness, reciprocation of favors)

APPENDIX D: Identification with Vision (Study 1)

Please think about your organization's vision/mission and rate your extent of agreement or disagreement with the following statements.

1. I buy into my organization's vision/mission.

Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strong Agree

2. My organization's vision/mission is very meaningful to me.

Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strong Agree

3. The ideals in my organization's vision/mission match up well with my own ideals.

Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strong Agree

4. My organization's vision/mission reflects what I deeply care about.

Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strong Agree

5. I would be proud if my organization made its vision/mission a reality.

Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strong Agree

6. I would be happy to have others know that I'm working towards my organization's vision/mission.

Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strong Agree

7. I would become who I want to be if I contributed to realizing my organization's vision/mission.

Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strong Agree

8. I would be the person I want to be if I contributed to my organization's vision/mission.

Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strong Agree

APPENDIX E: Intentions to Support Vision (Study 1)

Please think about the vision/mission of your organization. If there were opportunities for your organization to promote its vision/mission or otherwise find ways to work towards it within your work unit, do you think you would be willing to…

1. Participate in an employee focus group interview session to make suggestions about how employees in your work unit or at your rank level could contribute to accomplishing the vision/mission?

Definitely not willing	Most likely not willing	Likely not willing	Neutral	Likely willing	Most likely willing	Definitely willing

2. Write a short (3-5 sentence) statement about what you think are the benefits of your organization's vision/mission for use in marketing or employee recruiting materials?

Definitely not willing	Most likely not willing	Likely not willing	Neutral	Likely willing	Most likely willing	Definitely willing

3. Encourage your fellow employees to support your organization's vision/mission.

Definitely not willing	Most likely not willing	Likely not willing	Neutral	Likely willing	Most likely willing	Definitely willing

4. Share the webpage about your organization's vision/mission on your social media account such as LinkedIn, Facebook, or Twitter?

Definitely not willing	Most likely not willing	Likely not willing	Neutral	Likely willing	Most likely willing	Definitely willing

5. Attend a job fair or other recruitment event for your organization and tell prospective job applicants about the positive impact of your organization's vision/mission?

Definitely not willing	Most likely not willing	Likely not willing	Neutral	Likely willing	Most likely willing	Definitely willing

6. Participate in an additional survey sent by your organization so that you can make suggestions about how employees in your work unit could contribute to accomplishing the vision/mission?

Definitely not willing	Most likely not willing	Likely not willing	Neutral	Likely willing	Most likely willing	Definitely willing

7. Attend an employee orientation event and tell new employees about the positive impact of your organization's vision/mission?

Definitely not willing	Most likely not willing	Likely not willing	Neutral	Likely willing	Most likely willing	Definitely willing

Title of Study: Student Opinions about Potential Changes to the University Education

Faculty Supervisor:
Dr. John Michela (jmichela@uwaterloo.ca)
(519)-888-4567 ext. 32164
Dept. of Psychology, University of Waterloo

Student Investigator:
Kevin Leung (kevin.leung@uwaterloo.ca)
Dept. of Psychology, University of Waterloo

Study Overview
Thank you for your interest in our study. In the following time, you will be asked to view a PowerPoint presentation (approximately 15 minutes in duration) with other study participants about a potential change to undergraduate education. Then, you will individually complete several paper-and-pencil surveys about how you view university education in general as well as your views on the proposed educational approach.

Participation and Remuneration
Participation in this study is voluntary and will take approximately 30 minutes of your time. In appreciation of your time, you will receive 0.5 participation credit towards your psychology course.

You may decline to answer any questions presented during the study if you so wish by leaving them blank. Furthermore, you may decide to withdraw from this study at any time by advising the researcher, and may do so without any penalty or loss of participation credit.

Personal Benefits of the Study
The benefits of participation in this study include learning about research in psychology in general and the topic of this study in particular. You will receive additional background information about the study at the end of the session. There are no other personal benefits to participation.

Risks to Participation
There are no known or anticipated risks in this study.

Confidentiality
All information you provide is considered completely confidential; indeed, your name will not be included or in any other way associated, with the data collected in the study. Furthermore, because the interest of this study is in the average responses of the entire group of participants, you will not be identified individually in any way in any written reports of this research. All data will be securely stored in PAS 4282 to which only researchers associated with this study have access. All electronic as well as written data will be deleted 7 years following the publication of the research. If the results of this study are published, your name will not be used.

Questions and Research Ethics Clearance
If after receiving this letter, you have any questions about this study, or would like additional information to assist you in reaching a decision about participation, please feel free to ask the student investigator or the faculty supervisor listed at the top of this letter.
I would like to assure you that this study has been reviewed and received ethics clearance through the Office of Research Ethics at the University of Waterloo. However, the final decision about participation is yours. If you have any comments or concerns resulting from your participation in this study, please contact Dr. Maureen Nummelin, the Director, Office of Research Ethics, at (519) 888-4567, ext. 36005 or maureen.nummelin@uwaterloo.ca.

Thank you for your interest in our research and for your assistance with this project.

Sincerely,

Dr. John Michela
Associate Professor
Department of Psychology
University of Waterloo

Kevin Leung
Ph.D. Student
Department of Psychology
University of Waterloo

Information Consent Form

I have read the information presented in the information letter about a study being conducted by Kevin Leung under the supervision of Dr. John Michela of the Department of Psychology at the University of Waterloo. I have had the opportunity to ask any questions related to this study and to receive satisfactory answers to my questions as well as any additional details I wanted. I am aware that I may withdraw from the study without loss of participation credit at any time by advising the researchers of this decision.

This project has been reviewed by, and received ethics clearance through, the Office of Research Ethics at the University of Waterloo. I was informed that if I have any comments or concerns resulting from my participation in this study, I may contact Susan Sykes, the Director of the Office of Research Ethics at (519) 888-4567 ext. 36005 or ssykes@uwaterloo.ca .

With full knowledge of all foregoing, I agree, of my own free will, to participate in this study.

_____

Print Full Name

_____

Signature of Participant

_____

Dated at Waterloo, Ontario

_____

Witness Name

_____

Signature of Witness

_____

Dated at Waterloo, Ontario

Slide 1 of 15

Verbal Script: Good morning/afternoon and welcome to this study session! The way this study works is that I'll give a presentation on some possible changes to university education for about 10 minutes, and afterwards you'll fill out some questionnaires on your reactions to the proposal. And I'll ask that you hold any questions until after the presentation.

Verbal Script: Before I talk about a new approach to university education, let me give you a bit of background information. As you know, today's economy is changing. It used to be that most of our jobs were in the primary and secondary sectors like agriculture, manufacturing, labour work, and so on. But with today's globalization and technological developments, many of those jobs have been off-shored to developing countries. That void has been filled with new jobs in the 21st century economy that are increasingly knowledge-based, such as research and development of pharmaceuticals or hi-tech products, financial management, IT, and so on. These jobs are essential to sustain our economy and most of them require higher education.

Verbal Script: In fact, the Government of Ontario has been recognizing this change. Dwight Duncan, the Ontario Finance Minister, recently said that the Ontario economy "depends on a well-educated work force…" Earlier this year, the government has announced an initiative to enrol an additional 60,000 students per year into the province's universities and colleges. There's a high demand for university education, but there's still a gap between the education system that's being offered now and what's needed for our future.

Verbal Script: The world is changing quickly and the way jobs are when you graduate will probably not be the same in 30 years when you're about to retire. Many jobs didn't even exist 5 to 10 years ago. Just think of app developers and social media marketers, for example. Or think of someone who joined the workforce in the 80s when there wasn't a single computer in the office—and look what we have now!

In addition to that, more organizational leaders are trying to bring out the best from their employees, rather than acting as the single great guru. In fact, the Head of Intel has said that the microchip industry is so multi-faceted and fast-paced that there needs to be a push for decision-making to happen at lower-levels—and this is a trend in other industries as well.

Education empowers people to do the type of higher-level thinking to make those types of decisions. The better educated a person is, the more able he or she is able to adapt and prosper in the face of change.

Now as university students, imagine yourself working and how things might change in your future. How do you see yourself working and living through it? As undergraduates, now is your time to learn and your opportunity to develop yourself broadly.

Verbal Script: Now we have an opportunity for students like you to develop broadly. We have a vision for a more extensive undergraduate education at university that will (1) prepare you to work in the 21st century economy, and (2) develop you to be truly "educated." I'll tell you more about how this approach would work.

Verbal Script: Here is an overview of the new vision.

First, there would be increased requirements for getting a Bachelor's degree so that you can have a deeper immersion in your discipline, covering a broader basis to develop your analytic abilities. Second, it would incorporate more writing assignments and presentations into courses. This is aimed at getting you into a multi-faceted engagement in the course material so you can develop yourself with deeper learning and better communications. Third, the program would implement a comprehensive undergraduate exam as a requirement for graduation to certify and reward your participation. We'll look into each of these elements in more detail.

Verbal Script: The first proposal is to increase the required number of credits from 20 to 25 for an Honours Bachelor's degree and from 15 to 20 for a non-Honours degree. These extra credits would be earned with more lab and tutorial hours, which would allow for more in-depth coverage of course contents as well as more interaction with your professors and peers.

Verbal Script: Ultimately we hope that the extra hours would allow you to gain a broader knowledge base in your major. With more lab and tutorial hours, there would be more opportunities for discussions and hands-on experiences with the curriculum, such as field studies, clinical practicum, experiments, and case studies.

All of this is aimed to increase your capacity for analysis. Just think about this for a moment: How else could someone truly be immersed in a discipline besides learning like this in university? Sure, you can read a lot of books and learn a lot of facts, but what would all of that mean? Developing your capacity to analyze and integrate information is the key to learning and that's why we're including this as part of our plan.

Verbal Script: The second part of the plan is to incorporate more writing assignments and group presentations into courses, in addition to just having exams. Essentially, essays and oral presentations would comprise a larger portion of student evaluation in many courses that currently only have exams. For example, in a history course, rather than just having an exam on a historical period and the key happenings and political figures then, you may be asked to write a critical analysis of how the revolutions then shaped the society afterwards.

Verbal Script: The purpose of this plan is to have you become more engaged in the course materials. Rather than just sitting in lectures and regurgitating information on an exam, there would be more ways for you to work with the content and learn more out of it. Besides that, the additional course activities would develop yourself to better prepare for the job market I described earlier. You can develop better communication skills through the presentations, learn teamwork and leadership skills in group work, and hone your analytical thinking through the writing assignments. The key is to develop you as a student more broadly and in more ways than just learning facts from books and lectures.

Verbal Script: The last component of this plan is having a comprehensive undergraduate exam as a requirement for graduation. This would be a mandatory 3 to 4 hour exit exam in the final year of your study and it would cover the foundational content of your major. Passing this exam would be required for graduation, and outstanding performance would be rewarded with a designation on your degree.

Verbal Script: Having this exam would be a benchmark for employers to be assured that graduates are well-qualified in their area of study. As a student in this system, you would know that employers can feel confident to hire you when you graduate. Another outcome is that it's a milestone for you to know that you are truly "learned" and "well-educated." It's an additional opportunity to consolidate your learning and get certified for it.

Verbal Script: In review, this new approach proposed an increasing the requirements for a Bachelor's degree, incorporating more writing assignments and presentations into courses, and implementing a comprehensive undergraduate exam for graduation.

Verbal Script: Just to go back to the big picture. This vision is to have a more extensive undergraduate education at this university that will (1) prepare you to work in the 21st century economy and (2) develops you to be truly "educated." Based on what you've seen, this is truly a great opportunity for the student who seeks broader personal development—someone who likes to stretch themselves and become a better student—and is willing to work hard and driven to achieve it.
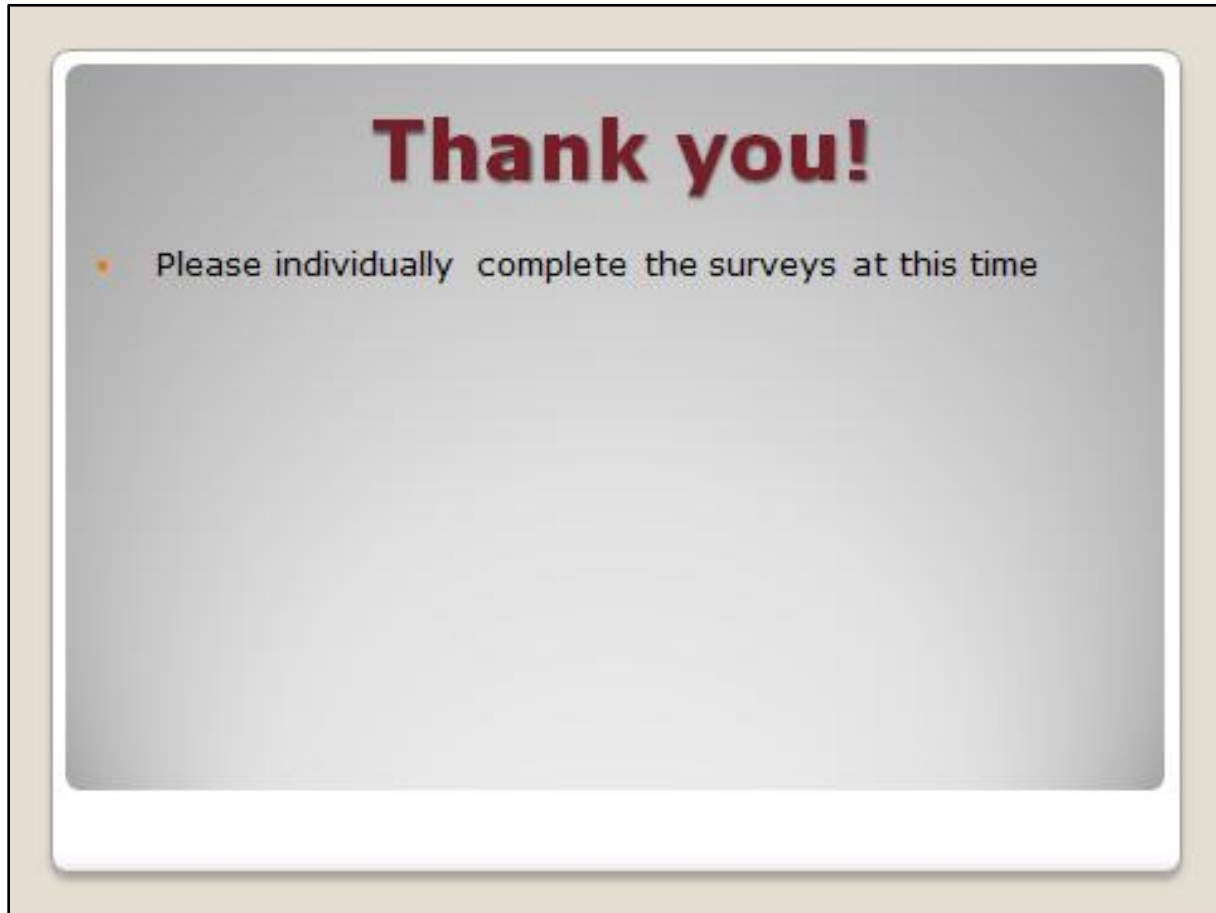
Verbal Script: That brings us to the end of the presentation—thanks for listening! Now I would like to ask you to reflect on your thoughts about this educational approach and complete the surveys that I'm about to hand out.

Appendix H: Personal Development Seeker Identity Scale (Study 2)

1. Being a student who continuously develops myself is an important part of who I am.

Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree

2. It is really important that I develop myself through my university education.

Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree

3. I pride myself as someone who always finds ways to become a better person.

Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree

Appendix I: Industrious Student Identity Scale (Study 2)

1. Being a hard-working student is an important part of who I am.

Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree

2. I see myself as a student who "goes the extra mile" in my studies.

Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree

3. Giving effort to exceed expectations in my studies is really important to me.

Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree

4. I pride myself as a student who learns beyond what is required.

Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree

5. I have strong positive feelings about being a hard-working student.

Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree

Appendix J: Beliefs about Identity-Related Consequences of the Vision (Study 2)

Please consider the educational approach that was just presented and answer the following questions:

1. Going through this educational approach would make me a better person.

Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree

2. I would feel more complete as a person if I had this university education.

Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree

Appendix K: Behavioural Support Intentions (Study 2)

Please think about the new educational approach that was presented in this session. If there were opportunities for the University of Waterloo students to help promote this new educational approach to other students, do you think you would be willing to…

1. Join a student-faculty council on education that would meet at least once per month?

   YES   NO

2. Distribute and/or post flyers on the UW campus advertising the new approach to education?

   YES   NO

3. Return to a one-hour focus group session at the PAS building in which students' suggestions for a new educational approach would be discussed and recorded?

   YES   NO

4. Ask students/friends in your residence or classes to sign a petition to encourage adopting this new educational approach?

   YES   NO

5. Tell your friends about the benefits of this new approach?

   YES   NO

6. Sign up for an email mailing list to receive updates about developments of this new approach at UW?

   YES   NO

7. Sign a petition to encourage adopting this educational approach at UW?

   YES   NO

Title of Study: Student Life Experiences and Opinions about Different Educational Approaches

Faculty Supervisor:
Dr. John Michela (jmichela@uwaterloo.ca)
(519)-888-4567 ext. 32164
Dept. of Psychology, University of Waterloo

Student Investigator:
Kevin Leung (kevin.leung@uwaterloo.ca)
Dept. of Psychology, University of Waterloo

Study Overview
Thank you for your interest in our research. In the following time, you will be asked to do two different studies. In the first, you will complete a paper-and-pencil questionnaire about your life experiences as an undergraduate student. In the second part of the study, you will be asked to view a PowerPoint presentation (approximately 15 minutes in duration) with other study participations about different approaches to university education. Afterwards, you will individually complete several paper-and-pencil surveys about the educational approaches that were introduced in the presentation.

Participation and Remuneration
Participation in this study is voluntary and will take approximately 60 minutes of your time. In appreciation of your time, you will receive 1.0 participation credit towards your psychology course.

You may decline to answer any questions presented during the study if you so wish by leaving them blank. Furthermore, you may decide to withdraw from this study at any time by advising the researcher, and may do so without any penalty or loss of participation credit.

Personal Benefits of the Study
The benefits of participation in this study include learning about research in psychology in general and the topic of this study in particular. You will receive additional background information about the study at the end of the session. There are no other personal benefits to participation.

Risks to Participation
There are no known or anticipated risks in this study. Participants will experience no greater risk than they would in everyday life.

Confidentiality
All information you provide is considered completely confidential; indeed, your name will not be included or in any other way associated, with the data collected in the study. Furthermore, because the interest of this study is in the average responses of the entire group of participants, you will not be identified individually in any way in any written reports of this research. All data will be securely stored in PAS 4282 to which only researchers associated with this study have access. All electronic as well as written data will be deleted 7 years following the publication of the research. If the results of this study are published, your name will not be used.

Questions and Research Ethics Clearance
If after receiving this letter, you have any questions about this study, or would like additional information to assist you in reaching a decision about participation, please feel free to ask the student investigator or the faculty supervisor listed at the top of this letter.
I would like to assure you that this study has been reviewed and received ethics clearance through the Office of Research Ethics at the University of Waterloo. However, the final decision about participation is yours. If you have any comments or concerns resulting from your participation in this study, please contact Dr. Maureen Nummelin, the Director, Office of Research Ethics, at (519) 888-4567, ext. 36005 or maureen.nummelin@uwaterloo.ca.

Thank you for your interest in our research and for your assistance with this project.

Sincerely,

Dr. John Michela
Associate Professor
Department of Psychology
University of Waterloo

Kevin Leung
Ph.D. Student
Department of Psychology
University of Waterloo

Information Consent Form

I have read the information presented in the information letter about a study being conducted by Kevin Leung under the supervision of Dr. John Michela of the Department of Psychology at the University of Waterloo. I have had the opportunity to ask any questions related to this study and to receive satisfactory answers to my questions as well as any additional details I wanted. I am aware that I may withdraw from the study without loss of participation credit at any time by advising the researchers of this decision.

This project has been reviewed by, and received ethics clearance through, the Office of Research Ethics at the University of Waterloo. I was informed that if I have any comments or concerns resulting from my participation in this study, I may contact Susan Sykes, the Director of the Office of Research Ethics at (519) 888-4567 ext. 36005 or ssykes@uwaterloo.ca .

With full knowledge of all foregoing, I agree, of my own free will, to participate in this study.

_____
Print Full Name

_____
Signature of Participant

_____
Dated at Waterloo, Ontario

_____
Witness Name

_____
Signature of Witness

_____
Dated at Waterloo, Ontario

Appendix M: Value Prime—Autonomy Condition (Study 3)

Please answer yes or no to the following 11 questions about times in the past when you have experienced the following. (If yes, provide a short example)

The following questions are designed to find out about times you have acted in a certain way. These questions refer to things that YOU have done. As you read each question, please try to recall a time when you have experienced each event. There are no right or wrong answers, so please be as honest as possible. Place circle the answer that best describes your behaviour. If you answer YES to a question, please provide a short example of the last time you performed this action.

1. Have you ever felt that a choice you have made has been based on your true interests and values?

    Yes   No

    If 'YES', example:

2. Have you ever done something that has been personally important to you?

    Yes   No

    If 'YES', example:

3. Have you ever been concerned about whether a particular social or cultural group has been treated fairly?

    Yes   No

    If 'YES', example:

4. Have you ever done something because you strongly believed it was the right thing to do?

<div align="center">Yes   No</div>

If 'YES', example:

5. Have you ever felt free to do something your own way?

<div align="center">Yes   No</div>

If 'YES', example:

6. Have you ever felt especially competent about something you've done recently?

<div align="center">Yes   No</div>

If 'YES', example:

7. Have you ever felt free to decide for yourself how to live an important part of your life?

<div align="center">Yes   No</div>

If 'YES', example:

8. Have you ever been in a situation in which you did not get the reward you deserved?

Yes   No

If 'YES', example:

9. Have you ever been in a situation where you have felt free to express your ideas and opinions?

Yes   No

If 'YES', example:

10. Have you ever done something for no other reason than because you enjoy it?

Yes   No

If 'YES', example:

11. Have you ever done something that you felt expressed who you really are?

Yes   No

If 'YES', example:

Please answer yes or no to the following 11 questions about times in the past when you have experienced the following. (If yes, provide a short example)

The following questions are designed to find out about times you have acted in a certain way. These questions refer to things that YOU have done. As you read each question, please try to recall a time when you have experienced each event. There are no right or wrong answers, so please be as honest as possible. Place circle the answer that best describes your behaviour. If you answer YES to a question, please provide a short example of the last time you performed this action.

1. Have you ever felt that you have made a close connection with another person?

Yes   No

If 'YES', example:

2. Have you ever felt good about the way you have interacted with other people?

Yes   No

If 'YES', example:

3. Have you ever been concerned about whether a particular social or cultural group has been treated fairly?

Yes   No

If 'YES', example:

4. Have you ever felt a strong bond with someone you spend time with?

Yes   No

If 'YES', example:

5. Have you ever felt close and connected to the people you spend time with?

Yes   No

If 'YES', example:

6. Have you ever felt especially competent about something you've done recently?

Yes   No

If 'YES', example:

7. Have you ever felt happy to be part of a group or community?

Yes   No

If 'YES', example

8. Have you ever been in a situation in which you did not get the reward you deserved?

Yes   No

If 'YES', example:

9. Have you ever felt that another person has appreciated your efforts to be considerate towards them?

Yes   No

If 'YES', example:

10. Have you ever enjoyed having a close relationship or friendship with another person?

Yes   No

If 'YES', example:

11. Have you ever felt good when you have shared things with other people?

Yes   No

If 'YES', example:

Slide 1 of 14

Verbal Script: Good morning/afternoon and thanks for coming in today! In the following time I'll be describing some possible changes to university education and afterwards I'll ask you to give us your honest opinions about it. So as you listen you can think about what your reactions are and whether or not you like the new approach based on your own values.

Today I'll be talking to you about an educational approach called Blended Learning, and it's a new vision for UWaterloo students on how you can learn and study.

Verbal Script: If you think about your undergraduate education today, you actually have much less control over your learning than what is possible with today's technology. In most courses now, you attend classes on fixed schedules, and you learn a fixed amount of material in every class. In most instances, the instructor takes the curriculum and disperses among the number of classes there are in a term. There are a few drawbacks with this approach. For one, there is really limited freedom to choose how much and when you want to learn in a given week – because all that is dictated by the university's schedule and by the instructor's lesson plan. And within this scheme, your learning is being directed by the curriculum's timeline, not by you.

Verbal Script: Fortunately, with the application of new technology and smart use of class time, there is an opportunity to enhance control over your own learning—and it's through the use of a "Blended Learning" approach. Essentially, Blended Learning is a combination of online course delivery and "interactive learning" activities in class, and as you'll see, it's quite different from having strictly lecture-based courses today.

Verbal Script: So why use blended learning? It's an approach that's as effective as traditional teaching, however, with the re-configured use of technology and class time it can afford students with more autonomy—that is to say, students like you can have more control over your own learning.   As you'll see you get to learn at your own pace, choose different ways of how you want to engage the course materials, and have more opportunities to voice your opinions and questions throughout a course.

Verbal Script: As I mentioned earlier there are two components to the Blended Learning Approach: The first is the use of online learning resources in course delivery, and the other is the re-designed use of class time. In the following slides I will give more details about each of these components.

Verbal Script: The online resources provide some of the basic content delivery to complement class times. I'm going to present different types of resources that could be available, and of course, for each course it will depend on availability and relevance to the content. The first example is podcast lectures. This could be delivered as videos or voice-over-PowerPoint podcasts. Here is an example from an actual course at UW that demonstrates a lecture that's delivered on a voice-over-PowerPoint podcast. As you can see, the content is presented with animation. You can pause, play or skip any part of the class at any time, and on the side bar you can select or repeat a sub-topic whenever you want.

Verbal Script: In addition, there could be interactive learning tools where you can explore course materials through text, games, animations, or videos. For a given topic, you can choose to watch whatever media suits your learning style. Here is an example of a lab demonstration video along with an animation that depicts a chemical reaction, taken from a UW pharmacy class. After watching these, you would go to the lab during class time and perform the experiments yourself. Of course, the use of these interactive learning tools could apply to other courses as well.

Verbal Script: In large lectures it's often hard to raise questions or answer the instructor's questions. With Blended Learning, we could afford a greater use of online discussions linked to the course materials. These could be in a live video-chat format or a discussion forum as shown on the slide here. These chats or forums are linked directly to the multi-media course materials that you would have just gone through. That way, you can have your own say and be able to ask your questions whenever you want.

Verbal Script: There are lots of advantages to using online learning resources I've described. Most obviously you get the freedom to learn wherever you are, whenever you want, as long as you have a computer and access to the course module. You can also direct your own learning by pausing, playing, or rewinding a lecture whenever you want. If you want to learn more or seek more understanding on a topic, you can access additional interactive tools to supplement your learning. If you feel like you want to move ahead, you can skip to the next set of learning tools on a new topic.

Advantages of Using Online Learning Resources: An Example

- Traditional schedules pre-determine your class/study times

Mon	Tues	Wed	Thurs	Fri
	Class Meeting 9:00am-11:00am		Class Meeting 9:00am-11:00pm	
Do Readings		Do Readings	Work on Assignments or Study	

Verbal Script: Here's an example to illustrate the advantage of using online learning resources to supplement lectures during class time. As you can see, with traditional schedules, you are pre-determined to go to class at set times, and so your preparations and reading times must precede that. As a result, your pace of learning is much more restricted and there isn't a lot of flexibility in deciding when you want to read, study, or work on assignments.

Advantages of Using Online Learning Resources: An Example

- With Blended Learning, you choose when you want to cover the basic course content

Mon	Tues	Wed	Thurs	Fri
	View Lecture Podcast	View Lecture Podcast		
	Do Readings	Prep for Class Meeting	Class Meeting 9:00am-11:00am	
	Do Readings			Work on Assignment and Study
Work on Assignment and Study		Prep for Class Meeting		

Verbal Script: With a blended learning approach, you can choose when to cover the basic content delivery: It can be spread throughout the week, or done all at once. The rest of class preparation can be flexible with when you view the podcasts. You can also change up your schedule when you have exams or big projects from other classes.

Verbal Script: The second component of Blended Learning involves the re-designed use of class time. Traditionally every class is spent on lectures or tutorials where students listen to the instructor the entire time, but with some of the basic content coverage is moved online, class time can be spent on interactive learning activities like team assignments, discussions, interaction with the professor, and other learning activities. These activities are designed to apply what you've learned from online learning and to have more active engagement in learning. Also, you'll have more opportunities to voice your opinions and questions during discussions or other group activities. All that helps you direct more of your own learning in the process.

Blended Learning in Review

- Combined use of technology and re-designed class time to deliver courses

- Students engage in more **autonomous and self-directed learning**

  ➤ Learn at your own pace

  ➤ Have more control over how you engage course materials

  ➤ Voice your own opinions and questions whenever you want

Verbal Script: In the beginning I asked you to think about whether this is an approach that you'd like based on your values. So before we end off, I just want to review what I've covered: Overall, Blended Learning calls for a combined use of technology and re-designed class time to deliver courses. The key outcome we're after is for students like you to engage in more autonomous and self-directed learning than what's being done now. That's all supported by having more flexibility to learn at your own pace, having more control over how you want to engage course materials, and having more ways to voice your own opinions and questions whenever you want. This could be a very exciting new direction for the future of education here at UW!

Thank you

Please open the package and complete the surveys individually.

Verbal Script: That brings us to the end of the presentation; thanks for listening! Now I'd like to ask you to open the package in front of you and complete the surveys individually based on your reactions to the presentation.

Slide 1 of 14

Verbal Script: Good morning/afternoon and thanks for coming in today! In the following time I'll be describing some possible changes to university education and afterwards I'll ask you to give us your honest opinions about it. So as you listen you can think about what your reactions are and whether or not you like the new approach based on your own values.

Today I'll be talking to you about an educational approach called Blended Learning, and it's a new vision for UWaterloo students on how you can learn and study.

Verbal Script: If you think about your undergraduate education today, you actually attend a lot of classes with very little interaction in lectures. And when you study for an exam, it's done mostly in isolation from your friends and classmates. You write the test alone, and you study for it alone. There are a few drawbacks with this approach. For one, it really limits the interactions you can have with other people, since most of the learning occurs when you're just sitting in lecture and listening to the instructor. It also limits the opportunities for collaboration with other students in the process, so learning happens as a one-way street between instructor and student, rather than also between students in a class.
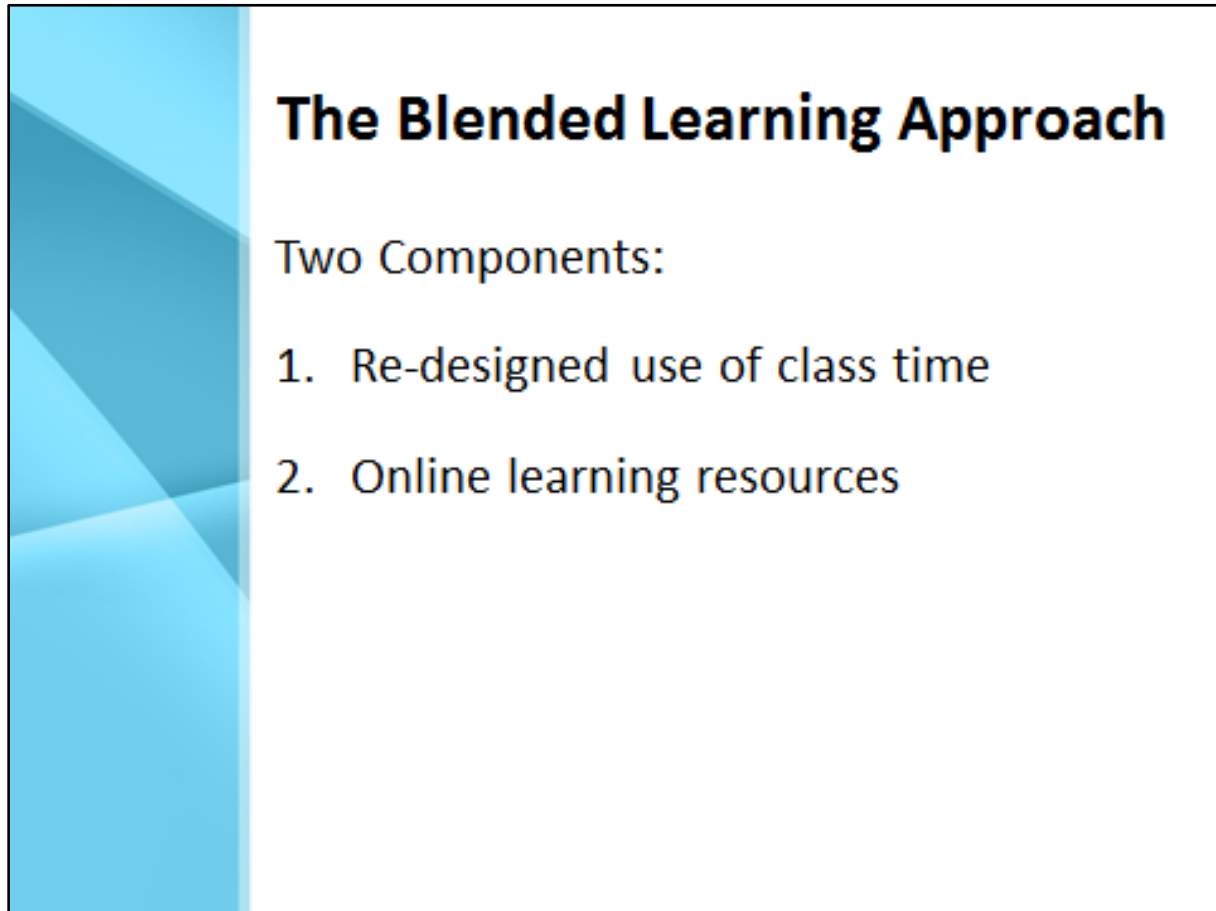
Verbal Script: Fortunately, with the smart use of class time and application of new technology, there is an opportunity to generate more interactions between you and your students – and it's the use of a "Blended Learning" approach. Essentially, Blended Learning is a combination of "interactive learning" activities in class and online course delivery, and as you'll see, it's quite different from the lecture-based courses today.

Verbal Script: So why use blended learning? It's an approach that's as effective as traditional teaching, however, with the re-configured use of class time and technology it can afford students with more social interactions with others. And as you'll see you get to collaborate with other students and work in teams on coursework, interact and learn from each other through discussions and other group activities, and connect with professors to clarify course content through many different channels.

Verbal Script: As I mentioned earlier there are two components to the Blended Learning Approach: The first is a re-designed use of class time, and the other is the use of online learning resources in course delivery. In the following slides I will give more details about each of these components.

Verbal Script: The first component of Blended Learning is the re-designed use of class time. Traditionally, every class is spent on lectures or tutorials where students listen to the instructor talk the entire time. However, with Blended Learning, some of the basic content coverage is moved online, so class time can be spent instead on interactive learning activities like team assignments, discussions, interaction with professors, and other group activities, as you can see in the pictures here.

Verbal Script: There are lots of advantages from this re-designed use of class time. As you're working in groups or engaging in discussions, there are more opportunities to interact with other students and professors to clarify course content, and this would be much harder to do in large lectures.

Verbal Script: As well, working in teams enables students to exchange ideas and learn from each other. What we see a lot of times is—especially in elective or multi-disciplinary courses—that students come from different years and different majors, and so you have different expertise within the group. As you work together on an assignment, you can rely on each other for new ideas and learn from others' perspectives. And by engaging in active group work, you can remember the information and be able to apply it much better later on.

Verbal Script: Other than that, Blended Learning can offer more connections and collaborations with other students. Through the teamwork and discussions in class, you can actively engage in the course materials with others. Along the way you can make more friends and form learning groups—and these are not always easy in very large lectures.

Verbal Script: To gain the class time needed for interactions, some of the basic content delivery has to be provided by online resources. I'm going to show you a few different types of resources that could be available, and of course, for any particular course it will depend on the availability and relevance to the content. Here's an example of a podcast lecture. This could be delivered by video or voice-over-PowerPoint podcasts. Here is an example that demonstrates a lecture delivered over a video format.

Verbal Script: In addition, there could be interactive learning tools where you explore the course material through text, games, animations, or videos. Here is an example of a lab demonstration video along with an animation that depicts a chemical reaction, taken from a UW pharmacy class. In the left, you can see a lab technician giving a live demonstration of how a lab procedure works. Of course, the use of these interactive learning tools could apply to other courses as well.

Verbal Script: Another online learning resource is discussion forums linked to the course material. These could be in a live video-chat format, as you can see in the picturehere, or a discussion thread where everyone can send messages to each other. These chats or forums are linked directly to the multi-media course materials that you have just gone through. In some cases, you can have a live, moderated video discussion with the instructor, TA, or other students right afterwards—much like a Skype or Google Hangout system.

Verbal Script: In the beginning I asked you to think about whether this is an approach that you'd like based on your values. So before we end off, I just want to review what I've covered: Overall, Blended Learning calls for a combined use of technology and re-designed class time to deliver courses. The key outcome we're after is for students like you to engage in more collaborative and socially-engaged learning. That's all supported by getting you to collaborate with other students in teams, having you connect with interact with others through group activities (both live and online!), and giving more opportunities for you to exchange ideas and learn from one another. This could be a very exciting new direction for the future of education here at UW!

Thank you

Please open the package and complete the surveys individually.

Verbal Script: That brings us to the end of the presentation; thanks for listening! Now I'd like to ask you to open the package in front of you and complete the surveys individually based on your reactions to the presentation.

Appendix Q: Paired Values Ranking Scale (Study 3)

Instructions: A number of pairs of phrases are presented below. For each pair, consider which phrase best describes values that are important to you. On the scale below the pair of phrases, select the option that indicates the degree to which one phrase describes you better than the other. *Example: Looking at phrase A and phrase B of the pair below, which one relates to you more? Then choose to what extend does the selected phrase relate to you (e.g. "describes me slightly better" to "describes me much better")*

Self-Reliance   *Social Connection*

(Pursuing goals independently)   *(Friendship, companionship, collaboration)*

describes me **much better**	describes me **better**	describes me **slightly better**	describes me **slightly better**	describes me **better**	describes me **much better**

Self-Autonomy   *Social Connection*

(Being able to do things your own way)   *(Friendship, companionship, collaboration)*

describes me **much better**	describes me **better**	describes me **slightly better**	describes me **slightly better**	describes me **better**	describes me **much better**

Social Connection   *Social Recognition*

(Friendship, companionship, collaboration)(Gaining respect and admiration)

describes me **much better**	describes me **better**	describes me **slightly better**	describes me **slightly better**	describes me **better**	describes me **much better**

Self-Direction   ***Self-Autonomy***

(Choosing your own goals)(Being able to do things your own way)

describes me	describes me	describes me	describes me	describes me	describes me
much better	**better**	**slightly** **better**	**slightly** **better**	**better**	**much better**

Social Connection   ***Sense of Belonging***

(Friendship, companionship, collaboration)   *(To be included, to feel connected,*

to feel part of a group)

describes me	describes me	describes me	describes me	describes me	describes me
much better	**better**	**slightly** **better**	**slightly** **better**	**better**	**much better**

Self-Reliance   ***Social Recognition***

(Pursuing goals independently)   *(Gaining respect and admiration)*

describes me	describes me	describes me	describes me	describes me	describes me
much better	**better**	**slightly** **better**	**slightly** **better**	**better**	**much better**

Self-Direction   ***Social Recognition***

(Choosing your own goals)   *(Gaining respect and admiration)*

describes me	describes me	describes me	describes me	describes me	describes me
much better	**better**	**slightly** **better**	**slightly** **better**	**better**	**much better**

Self-Direction   ***Social Connection***

(Choosing your own goals)   *(Friendship, companionship, collaboration)*

describes me	describes me	describes me	describes me	describes me	describes me
much better	**better**	**slightly** **better**	**slightly** **better**	**better**	**much better**

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Self-Reliance

(Pursuing goals independently)

Sense of Belonging

(To be included, to feel connected,

to feel part of a group)

describes me **much better**	describes me **better**	describes me **slightly better**	describes me **slightly better**	describes me **better**	describes me **much better**

Self-Direction

(Choosing your own goals)

Sense of Belonging

(To be included, to feel connected,

to feel part of a group)

describes me **much better**	describes me **better**	describes me **slightly better**	describes me **slightly better**	describes me **better**	describes me **much better**

Self-Autonomy

(Being able to do things your own way)

Sense of Belonging

(To be included, to feel connected,

to feel part of a group)

describes me **much better**	describes me **better**	describes me **slightly better**	describes me **slightly better**	describes me **better**	describes me **much better**

Appendix R: Interdependent and Independent Construal (Study 3)

Please rate the extent to which you agree or disagree with the following statements by providing the appropriate number.

1	2	3	4	5	6	7
Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree

1. I have respect for the authority figures with whom I interact. _____
2. It is important for me to maintain harmony within my group. _____
3. My happiness depends on the happiness of those around me. _____
4. I would offer my seat in a bus to my professor. _____
5. I respect people who are modest about themselves. _____
6. I will sacrifice my self-interest for the benefit of the group I am in. _____
7. I often have the feeling that my relationships with others are more important than my own accomplishments. _____
8. I should take into consideration my parents' advice when making education/career plans. _____
9. It is important to me to respect decisions made by the group. _____
10. I will stay in a group if they need me even when I'm not happy with the group. _____
11. If my brother or sister fails, I feel responsible. _____
12. Even when I strongly disagree with group members, I avoid an argument. _____
13. I'd rather say "No" directly, than risk being misunderstood. _____
14. Speaking up during a class is not a problem for me. _____
15. Having a lively imagination is important to me. _____
16. I am comfortable with being singled out for praise or rewards. _____
17. I am the same person at home that I am at school. _____
18. Being able to take care of myself is a primary concern for me. _____
19. I act the same way no matter who I am with. _____
20. I feel comfortable using someone's first name soon after I meet them, even when they are much older than I am. _____
21. I prefer to be direct and forthright when dealing with people I've just met. _____
22. I enjoy being unique and different from others in many respects. _____
23. My personal identity independent of others, is very important to me. _____
24. I value being in good health above everything. _____

Appendix S: Manipulation Check for Value Priming—Autonomy Condition (Study 3)

Please circle your response to each of the following questions:

1. To what extent did the answers you gave remind you of times when you had felt close and connected to other people?

1 Not at all	2	3	4	5	6	7 Very much

2. To what extent did the answers you gave remind you of times when you had felt free and autonomous?

1 Not at all	2	3	4	5	6	7 Very much

3. To what extent did the answers you gave remind you of times when you had felt competent?

1 Not at all	2	3	4	5	6	7 Very much

Appendix T: Manipulation Check for Value Priming—Relatedness Condition (Study 3)

Please circle your response to each of the following questions:

1. To what extent did the answers you gave remind you of times when you had felt free and autonomous?

1 Not at all	2	3	4	5	6	7 Very much

2. To what extent did the answers you gave remind you of times when you had felt close and connected to other people?

1 Not at all	2	3	4	5	6	7 Very much

3. To what extent did the answers you gave remind you of times when you had felt competent?

1 Not at all	2	3	4	5	6	7 Very much

Appendix U: Manipulation Check for Value Emphasis in Vision (Study 3)

Please indicate **your understanding of how Blended Learning was described** in the presentation that you just heard. Rate the extent to which each of the following aspects of Blended Learning was emphasized in the presentation.

1. A key goal of the Blended Learning approach is to support more autonomous and self-directed learning.

1 Not at all	2	3	4	5	6	7 Very much

2. A key goal of the Blended Learning approach is to support more interaction between students.

1 Not at all	2	3	4	5	6	7 Very much

3. A key goal of the Blended Learning approach intended to promote greater personal control over one's learning.

1 Not at all	2	3	4	5	6	7 Very much

4. A key goal of the Blended Learning approach is to promote more collaboration between students.

1 Not at all	2	3	4	5	6	7 Very much

Appendix V: Identification with Vision (Study 3)

Please consider the educational approach that was just presented to you and indicate the extent to which you agree or disagree with each of the following statements.

1. This initiative reflects what I deeply care about.

1	2	3	4	5	6	7
Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strong Agree

2. I would be proud if the University made this vision a reality.

1	2	3	4	5	6	7
Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strong Agree

3. I would think less of myself if I failed to support this initiative.

1	2	3	4	5	6	7
Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strong Agree

4. I would be happy to have other people know that I support this vision.

1	2	3	4	5	6	7
Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strong Agree

5. The goals of this initiative are very meaningful to me.

1	2	3	4	5	6	7
Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strong Agree

6. I would feel embarrassed if the university did *not* support this initiative.

1	2	3	4	5	6	7
Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strong Agree

7. If this vision was realized, I would tell some of my friends about my support for it.

1	2	3	4	5	6	7
Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strong Agree

8. The ideals in the vision match up well with my own ideals.

1	2	3	4	5	6	7
Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strong Agree

Appendix W: Behavioural Support Intentions (Study 3)

Please think about the new educational approach that was presented in this session. If there were opportunities for the University of Waterloo students to help promote this new educational approach to other students, do you think you would be willing to…

1. Join a student-faculty council on education that would meet at least once per month?

    YES   NO

2. Distribute and/or post flyers on the UW campus advertising the new approach to education?

    YES   NO

3. Return to a one-hour focus group session at the PAS building in which students' suggestions for a new educational approach would be discussed and recorded?

    YES   NO

4. Ask students/friends in your residence or classes to sign a petition to encourage adopting this new educational approach?

    YES   NO

5. Tell your friends about the benefits of this new approach?

    YES   NO

6. Sign up for an email mailing list to receive updates about developments of this new approach at UW?

    YES   NO

7. Sign a petition to encourage adopting this educational approach at UW?

    YES   NO

8. Complete an additional online survey (approx. 10 minutes) about this new educational approach at UW?

<div align="center">YES   NO</div>

9. "Like" and "share" the webpage about this educational approach via your Facebook account?

<div align="center">YES   NO</div>

10. Write a short (3-5 sentence) testimonial about what you think are the benefits of this new educational approach for use in promotional materials?

<div align="center">YES   NO</div>