Research Article

Effects of Positive Leadership and Flow on Employee Well-Being through the PERMA Lens

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Abstract

This study explored the relationship between leadership and employee well-being through the theoretical framework of positive organizational psychology. There is a gap of literature related to the impact positive leadership has, both direct and indirect, on employee well-being. Further, few studies identify specific mechanisms by which the relationship is affected. Using novel scales of measurement, the General Inventory for Lasting Leadership [1] the PERMA-Profiler, and the Work-Related Flow inventory [2], the study aimed to address this gap as well as expand the growing peer-reviewed literature base for the novel PERMA-Profiler. This quantitative, survey-based study did not find support for a moderation model of leadership's effect on the relationship between follower well-being and flow (an enhanced state of concentration). Positive leadership did not significantly predict follower well-being, though Vision and Mission was a significant predictor after breaking down the leadership model into sub-scales. Flow significantly predicted well-being. Specifically, intrinsic motivation was the most important flow predictor of extra-role performance. Unexpectedly, post-hoc analysis found a significant, direct relationship between flow and leadership.

Keywords: Positive leadership; PERMA; Employee

Introduction

It is a well-established notion that the majority of employees leave their boss, not their position [3-6]. At the same time, the current job market does not exactly lend itself to leaving a bad position to find one more suited to an individual's skills and preferences. Ergo, the workplace is largely comprised of frustrated employees who are either bored, burned out, or ill-suited to a position. They can't leave, and hate their bosses.

These problems and others have contributed to the rise of "big data", essentially turning people into numbers to detect patterns, predict turnover, and enhance productivity. While practical in theory, applying big data in the workplace often leads to an ambiguous, massive pile of information that lacks a proper definition or use. Feedback surveys measuring job satisfaction, engagement, personality, team-building, and much more are compiled, analyzed, and dumped on a leader's desk. Unfortunately without a proper method of translation, these well-meaning metrics are difficult to utilize in a practical manner.

A recent Gallup poll found that 17% of employees leave due to management or the general work environment. In addition to leaving as a direct result of poor management, the author observed that as much as "75% of the reasons for voluntary turnover can be influenced by managers." [5]. A company must then shift focus to effective leadership development. What if the answer isn't training management to handle every specific situation but rather to equip them with an understanding of guiding principles for the dynamic, constantly changing workforce? What if a company trains its leaders to properly balance organizational demands and individual goals? Positive leadership is rooted in enhancing the well-being of followers while surpassing organizational goals [7]. Recent research explores how authentic and transformational leadership styles affect employee well-being, conceptualized into outcome variables such as job satisfaction, engagement/burnout, turnover intentions, motivation, and more.

It is important to note the difference between "management" and "leadership" as the two concepts are often confused. Management is a function of the organization, granted to a person in a position of power (such as a supervisor or manager). Leadership, in contrast, can be exhibited by anyone in an organization through certain behaviors and when dictated by the circumstance. As cited by Rupprecht, Waldrop, and Grawitch [1]: "Yukl [asserted] that managers usually interact with or initiate *stable* processes, while leaders usually interact with or initiate innovative or *dynamic processes*." (p. 129) This means that persons who are not in positions of formal authority can act with leadership traits such as goal-setting, innovation, inspiration, and motivation.

In addition to the abundance of leadership style literature, focus has branched into an area of industrial-organizational psychology known as *positive organizational psychology*, or POP. Positive organizational psychology is study of the application of positive psychology in an organizational setting [8]. Specifically, it is the study of "positive subjective experiences and traits in the workplace and positive organizations, and its application to improve the effectiveness and quality of life in organizations" [8]. *Positive organizational behavior* focuses on measurable individual strengths and their utilization in the workplace. *Positive organizational scholarship* focuses on organizational success and efficacy as a result of positive interventions.

Consistent with POP, Martin Seligman's [9] theory of well-being, PERMA, re-conceptualizes well-being as a higher-order construct comprised of five "pillars": Positive Emotion, Engagement, Positive Relationships, Meaning, and Accomplishment. While all five pillars are present, each individual is motivated by stronger forces in one or a few areas. The theory supports a dynamic environment that constantly adjusts an employee's underlying motivation to behave or think in a certain way.

Another primary concept in POP is *flow*, introduced by Mihalyi Csikszentmihalyi [10]. Flow is a state of immersion in a given activity that presents an illusion of time standing still. It is an optimal state of functioning where every potential conflict is anticipated and swiftly conquered, all thought is devoted to the task, and motivation is internally rooted. Csikszentmihalyi [11] used rock climbers gripping the side of a mountain as an example, where one momentary lapse of concentration can lead to the climber slipping off the ledge. In contrast, a heightened state of focus will help a climber achieve his or her difficult and strenuous goal.

Problem

There is a gap of research regarding the interaction of specific components of positive leadership styles (transformational, authentic) with well-being. Furthermore, while an abundance of literature identifies various mediating and moderating models of the leader-follower well-being relationship, few identify specific mechanisms by which this relationship is affected.

This study aims to address the research gap regarding the relationship between positive leadership, flow, and employee well-being. In addition, it will support the growing peer-reviewed literature base for the PERMA model by linking it to existing literature in the leadership and positive psychology domains.

Research questions

1. What is the relationship between positive leadership and employee well-being?

2. What is the relationship between flow and well-being?

3. What is the effect of positive leadership on the relationship between employee flow and well-being?

Definition of terms

Flow: A momentary experience that is characterized by a period of intense focus, high enjoyment (either during or after), and a sense of time standing still [11].

Authentic Leadership (AL): A leadership style that emphasizes moral and ethical behavior, identified by internalized moral perspective, balanced processing, relational transparency, and self-awareness [12].

Transformational Leadership (TFL): A leadership style that connects leader goals and employee motivation. Components include idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration [13].

Positive leadership: Leadership style that seeks to enhance positive emotions, empowerment, and engagement felt by employees [14,15].

PERMA: Theory of well-being consisting of five "pillars": Positive Emotion, Engagement, Positive Relationships, Meaning, and Accomplishment [16].

PWB: Theory of well-being consisting of six domains: self-acceptance, environmental mastery, positive relations, purpose in life, personal growth, and autonomy [17].

Experience Sampling Method (ESM): A measurement technique developed to measure flow by asking participants to wear a pager and answer questions when prompted at specified intervals [11].

Literature review

This section begins with a brief summary of the historical background of leadership literature, placing particular emphasis on transformational and authentic leadership styles. It then examines the breadth of historical well-being research as it applies to Seligman's [16] PERMA framework and concludes with a summary of flow research, paying particular attention to work-related flow.

Leadership

In a recent meta-analysis [18], examined the body of leadership literature from the past quarter century. The study found transformational, LMX, and strategic leadership styles were among the most-researched styles during the time period examined. They grouped authentic, implicit, and shared leadership into a category labeled "other", noting research in these areas collectively represented less than 20% of all literature studied.

Combining leadership and well-being research with business outcomes, Keyes, Hysom, and Lupo [19] emphasized the cyclical impact of leadership on employee well-being and ultimately an organization's bottom line. The researchers introduced a theory through which leadership positively promotes employee well-being, which in turn affects positive business outcomes that loop back and create a more sustainable enhanced state of employee well-being (p. 150).

Positive leadership: In an introduction to a special issue of The *Psychologist-Manager Journal*, Clifton [20] stated the issue's material was "to our knowledge, the first ever to address positive psychology from a managerial perspective." (p. 125). Positive leadership encompasses a variety of perspectives, all of which stem from the notion that leadership contributes to meeting goals and expectations and improving the overall health of organizations, teams, and individuals [21,22]. Donaldson and Ko [23] grouped transformational, authentic, charismatic, and altruistic leadership styles under the positive leadership umbrella. Consistent with this definition, Smith et al. [22] combined transformational and authentic styles to examine positive leadership's impact on various employee outcomes (Figure 1).

Transformational leadership: Avolio [24] & Bass conceptualize transformational leadership style as four dimensions, collectively known as the "4 I's": Idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration. Avolio and Bass [25] developed the Multi-Factor Leadership Questionnaire, a well-validated measurement tool used to identify levels of each of the four dimensions of transformational leadership. As identified by Hiller et al [26], studies examining transformational leadership style most often measured four or more criterion variables.
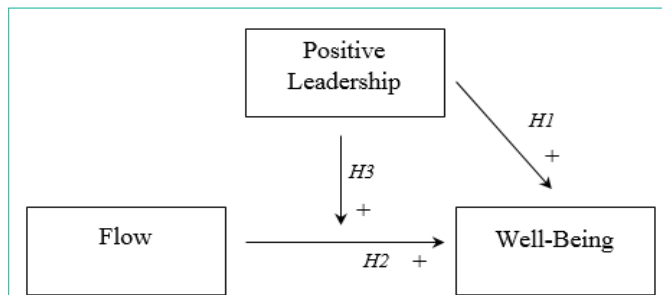
Figure 1: Model of hypotheses (H1): Positive leadership will increase employee well-being; (H2): Work-related flow will increase employee well-being; and (H3): Positive leadership will moderate the relationship between work-related flow and employee well-being.

Arnold, Turner, Barling, Kelloway and McKee [27] found a partial mediation of meaningful work on the relationship between transformational leadership and psychological well-being. The second half of the study controlled for more variables (such as normative beliefs about work-meaning), which prompted a full mediation of the above relationship.

Authentic leadership: Authentic leadership emerged as moral and ethical dilemmas became an increased source of tension in the modern workforce. In their 2008 validation study of the Authentic Leader Questionnaire (ALQ), Walumbwa, Avolio, Gardner, Wernsing, and Peterson identify four common dimensions: internalized moral perspective, balanced processing, relational transparency, and self-awareness (p. 95). These four factors combine to form a higher-order leadership construct that aims to reduce the gap between ethical guidelines and management styles.

Research by Woolley, Caza, and Levy [28] found that the relationship between authentic leadership and follower PsyCap (a measurement of well-being) is partially mediated by positive work climate (as characterized by Avolio and Luthans' [29] 5-item scale).

Management *vs.* leadership. There is a clear distinction to be made between management and leadership. Management behaviors are task-oriented and dependent on position and situation. In contrast, leadership behaviors do not necessarily rely on assumed positions of power in order to prove influential. In their development of the General Inventory for Lasting Leadership (GILL), Rupprecht et al. [30] emphasize crucial pitfalls of leadership conceptualizations that fail to distinguish between management and leadership. The researchers sought to provide a valid and free instrument that would measure leadership, aside from management behaviors, based on the leadership perspective introduced by Roger Gill [31]. Unlike the popular MLQ measure of leadership [13], the GILL separates behaviors typically viewed as managerial (laissez-faire, transactional behaviors), from the transformational behaviors of leadership.

The GILL inventory measures five competencies related to effective leadership "beyond task and relationship behaviors, while also taking the follower and the context of leadership into account" [1]. These five competencies include Vision and Mission, Strategy, Shared Values, Empowerment, and Inspiration, Motivation, and Influence. As noted by Rupprecht et al. [1], Gill's [32] updated definition of leadership re-names "Inspiration, Motivation, and Influence" as "Engagement" and separates "Vision and Mission" into

two difference competencies. The GILL was validated using Gill's earlier [32] conceptualization and will thus be the theory tested in this study.

Flow

The concept of flow was introduced in 1975 by Mihalyi Csikszentmihalyi as a state of enhanced awareness during a given activity during which the outside world becomes irrelevant and time seems to stand still. Csikszentmihalyi [33] originally grouped the flow state into nine dimensions, later supported empirically by Jackson and Marsh [34]. The nine dimensions include challenge-skill balance, action-awareness merging, clear goals, unambiguous feedback, concentration on task at hand, sense of control, loss of self-consciousness, transformation of time, and auto telic experience [34]. Bakker [35] later introduced another model of flow that categorized flow as three dimensions: intrinsic motivation, enjoyment, and absorption. Flow is generally assessed using the Experience Sampling Method (ESM), where participants respond to questions as prompted by an interval pager during any measured period of time.

Flow has been researched in a variety of capacities, notably in the area of sport and physical activity. Jackson and Marsh [34] developed a scale measuring flow in this area called the Flow State Scale (FSS) based on previous research on peak experiences in elite athletes [36]. The researchers cite Csikszentmihalyi's [11] description of the end-result of flow as an auto telic experience, or an intrinsically motivating task that is completed for its own sake. [34]. Jackson and Eklund [37] further refined the flow dimensions measured by the FSS in a new scale, the Flow State Scale-2 (FSS-2).

Work-related flow: Csikszentmihalyi [38] explained the origin of a flow experience (also known as an *optimal experience*) as the result of a balance of challenge and skill in a particular task. The theoretical framework thus assumed a greater likelihood of flow experiences during tasks which demand some form of skill, such as rock climbing or playing chess, as opposed to a dormant activity like watching TV. Since an individual typically spends most of her time at the workplace, the likelihood of a flow experience at work is greater than during leisurely activity [39]. Likewise, work-task demands may prompt more regular skill utilization than leisurely activity dictates. Ullen, Manzano, Almeida, Magnusson, Pedersen, Nakamura, Csikszentmihalyi, and Madison [32] found that flow did not depend on intelligence level, but discovered some relation to the Big 5 personality factors of neuroticism (negative correlation) and conscientiousness (positive correlation). Specific to the workplace, this is important because it suggests the skill/challenge balance at work is more important than intelligence when seeking to stimulate flow experiences.

Bakker [40] developed the WOLF scale to measure work-related flow characterized by intrinsic motivation, enjoyment, and absorption.

Flow as component of work engagement. Linsner [41] characterized flow as a specific, measurable moment that can summate to an overall state of engagement. "Unlike the engagement construct, Csikszentmihalyi's theory [42] on the construct of flow is clearly defined and offers a framework with which to study the work conditions related to employee engagement" [41]. In his 2008

validation study of the WOLF scale, Bakker assessed construct validity by comparing it to the Job Demands-Resources model (JD-R), which has often found that "job resources make a positive contribution to the engagement and performance of individuals." Donaldson and Ko [8] stated that the challenge-skill balance typical of flow enables conditions suitable to work engagement (defined in this study as vigor, dedication, and absorption).

Well-being

Improving an employee's well-being can be linked to higher job satisfaction, psychological well-being, perceptions of meaningful work, and engagement. While its definition fluctuates, conceptualizing well-being as a multi-dimensional construct seems to best capture its broad research application. Two notable multidimensional models of well-being include Ryff and Keyes' [43] six-domain model of Psychological Well-Being (PWB) and Seligman's [44] five-factor PERMA model.

PWB: Introduced by Ryff [17], the theoretical six-domain model of PWB identified key aspects of well-being previously underrepresented in empirical literature. According to Ryff and Keyes [17], PWB is meant to fuse conceptualizations of well-being from various psychological subfields including developmental, clinical, and mental health psychology. The model draws from concepts such as Maslow's self-actualization theory, Erikson's psychosocial stages, and Jung's individuation theory, among others [17]. Its six components include self-acceptance, environmental mastery, positive relations, purpose in life, personal growth, and autonomy.

PERMA: In his 2011 book, *Flourish*, Martin Seligman conceptualizes well-being as a higher-order construct best defined by other tangible, measurable components. Applied at work, each individual's balance of these five "pillars" can be used to explain motivation. This relatively new construct was operationalized into Butler and Kern's PERMA-Profiler and will be the definition of well-being supported in this study, as characterized by the following five dimensions.

Positive emotion: Barbara Frederickson introduced the broaden-and-build theory of positive emotions as a central component of positive psychology. Frederickson suggests that positive emotions enhance an individual's thought-action repertoire and provide support for improved personal resources [45]. Applied to the workforce, Frederickson posits that positive emotions experienced by individual employees will create a ripple effect that benefits organizational functioning [46]. "Positive mood has also been argued to promote creative thinking, leading to creative suggestions that help the organization fulfill its objectives [47]", as referenced in Eisenberger, Jones, Stinglhamber, Shanock, and Randall [47]. Concordantly, in an exploration of stress' influence on executive decision making, Ganster [48] claims that "positive affect, induced by small everyday kinds of events, promotes cognitive flexibility, innovation, problem solving, and creativity." (p. 496) and can enhance problem-solving in negotiation environments by increasing open-minded evaluation of alternative solutions (p. 496).

Engagement: Kahn [49] introduced employee engagement through a grounded theory that assessed how varying degrees of engagement impacted productivity. Among other findings, Kahn found support that trust facilitates engagement in a work setting. Macey and Schneider [50] add to Kahn's assumption that trust facilitates employee engagement by exploring leadership's effect on trust. Engagement has many applied definitions catered to specific circumstances, such as Schaufeli, Bakker, and Salanova's [31] work-engagement model defined as vigor, dedication, and absorption. It can also be explained as the opposite of employee burnout. Bakker, Schaufeli, Leiter, and Taris [31] explored work engagement in the context of occupational health psychology, theorizing that "engaged employees perform better than non-engaged workers" (p. 193).

Positive relationships: Comprised of aspects such as perceived inclusion, social networks, intimacy, and participation in the development of others, the benefits of positive relationships to overall well-being are numerous. Prominent and frequently used in well-being research internationally, positive relationships can help explain job satisfaction among individuals who may not be achievement-oriented. "Low achievement-oriented employees... might be more likely to experience satisfaction from job factors such as …supportiveness of co-workers and supervisors..." [47].

Meaning: "Greater attention is needed to the impact of leaders and leadership on emotional constructs, on motivational states and social identification, and on cognitive constructions of meaning. A focus on such variables may also allow us to better understand the complex ways in which leadership is related to more "ultimate tangible outcomes of performance or effectiveness" [18]. Linsner [41] recognized Kahn's application of contribution, recognition, and challenge to psychological meaningfulness.

Accomplishment: Measuring accomplishment is often determined by an individual's or organization's definition of success, thus the Accomplishment pillar of PERMA is highly varied. As noted by Butler and Kern, "Achievement is often objectively defined." (p. 7). Examples of accomplishment include (but are not limited to) promotion, salary, availability of resources, successful children, and high test scores. While the end-result may or may not be officially recognized, high accomplishment is most often accompanied by a sense of mastery, reaching goals, and self-efficacy. (p. 7). "Engagement in high skill and challenge [flow] promotes task interest because it allows one to hone one's skills. Employees should take an increased interest in challenging, yet manageable activities because they provide: a sense of achievement, the opportunity to sharpen one's skills, and a favorable subjective experience" [11], as referenced in Eisenberger et al [47]. Scoring high in the Accomplishment pillar suggests an individual has an auto telic personality, or is someone that actively seeks out challenging tasks.

Leadership and well-being

Kelloway et al. [51] explored a recent focus on the effect of positive leadership styles on employee well-being. They grouped transformational and authentic behaviors as distinct but related leadership styles whose central aim is to increase the occurrence of positive emotions experienced by followers (p. 108). Mixed model analysis supported the hypothesis that positive leadership will predict positive, but not negative, employee affect (p. 112) Interestingly, positive leadership did not moderate the effect of TFL on employee positive affect, suggesting that "when leaders are already behaving in a transformational manner, positive leadership adds little to the prediction of employee positive affect" (p. 113).

Tuckey et al. [52] assessed the effect of empowering leadership on work engagement as mediated by cognitive demands and cognitive resources. They hypothesized empowering leadership would "shape perceptions of work that in turn foster personal resources or innate needs." (p. 25) In other words, leaders can create an environment that caters to engagement by a given mediating factor. This is consistent with Linsner's [41] finding that transformational leadership affects flow (and thus engagement) through the mediation of Brown & Leigh's [53] psychological climate model. Similarly, in one of the only longitudinal studies assessing the effect of TFLon well-being, Tafvelin, Armelius, and Westerberg [54] found no direct relationship over time except when the relationship was mediated by a positive climate for innovation (p. 487). The researchers identify the tendency for TFL research to create a higher order factor rather than examining which of the four components affects the outcome variable being measured. (p. 487)

Den Hartog and Belschak [55] examined transformational leadership's effect on employee proactive behavior as moderated through role breadth self-efficacy and job autonomy. In conditions of high job autonomy, researchers found a significant relationship between TFL and proactive behavior only for individuals with high self-efficacy and vice-versa for conditions with low job autonomy.

Cerne, Jaklic, and Skerlavaj [56] identified a lack of empirical evidence supporting authentic leadership's effect on creativity and innovation. Their study of team leads and subordinates in a Slovenian manufacturing plant found a significant relationship between perceived AL (as rated by followers) and follower creativity and innovation, but not between self-ascribed AL (as rated by leaders) and follower creativity and innovation. This suggests that leaders who are aware of their goals and values do not help stimulate creativity and innovation unless they model the behaviors consistent with their internal attitude.

Giallonardo, Wong, and Iwasiw [57] examined the relationships between authentic leadership, work engagement, and job satisfaction. In addition to finding positive relationships between follower-rated leader AL and work engagement and follower-rated leader AL and job satisfaction, the researchers found a partial mediation of follower work engagement on the relationship between AL and job satisfaction (p. 998-999). These results demonstrate the impact of the leadership-wellbeing relationship on job satisfaction, emphasizing "authentic leadership has both a direct and indirect effect on job satisfaction" (p. 1001).

Wefald, Reichard and Serrano [58] found strong relationships between engagement measures and personality, engagement measures and work outcomes such as turnover intentions, job satisfaction, and affective commitment. In addition, results found a significant mediation of Schaufeli's [31] engagement scale on transformational leadership and intentions to leave, but found no other significant relationships from other mediation tests. "Results provide only limited support for the hypothesis that leadership's effects of work outcomes are mediated through work engagement".

Flow

Schuler and Nakamura [59] investigated the potential detrimental effects of a flow experience. The researchers found that inexperience impaired perception of risky behavior during a flow activity. Specifically, inexperienced rock climbers perceived themselves as more competent and less at risk during a flow activity than did experienced rock climbers (p. 13). Payne, Jackson, Noh, and Stine-Morrow [60] investigated flow state in elderly adults as it related to cognitive aging. The researchers demonstrated that flow states during intellectually stimulating activities in older adults was higher for subjects with higher cognitive abilities (fluid abilities) than for subjects with lower cognitive abilities. This research suggests that a flow experience is not limited to a particular activity type or the age of the participant.

Work-related flow. While Csikszentmihalyi's flow theory was first introduced in 1975, there has been an influx of research in work-related flow since the mid-2000s. Ceja and Navarro [61] explored a non-linear model of flow, conceptualizing it as a constantly changing, dynamic process. Utilizing ESM, researchers found support for their hypothesis that a cusp catastrophe model of flow accounted for more variance than a linear interpretation. This implies that methodological expansion past linear modeling might help the robustness of flow at work. Furthermore, the researchers suggest "it may be possible to increase employee well-being by creating a more challenging work environment".

Makikangas, Bakker, Aunola, and Demerouti [35] explored the longitudinal effects of flow at work by assessing the association between job resources and work-related flow. They found that job resources and flow were positively, significantly associated, and notably distinguished between flow and engagement by length of time (flow being momentary, engagement being a prolonged state).

Flow and well-being

In a review of the current research of well-being and its connection to flow, Nistor [62] identifies the contradictory nature of the current conceptualization of flow. Research suggests that the increased likelihood of skill/challenge balance at work does not support the general assumption that people believe well-being is a result of happiness during leisure time [21]. The researcher suggests that moderating variables should be examined to explain this inconsistent relationship (p. 64)

Furthermore, studies of Norwegian journalists ($n = 211$) and Turkish nurses ($n = 224$) found that flow significantly accounted for variance in work enjoyment, self-efficacy, engagement, and positive affect [28]. Citing Csikszentmihalyi's introduction of eight organizational contributor's to a flow experience, the researcher suggests that the environment a company creates contributes to flow, which in turn will improve employee outcomes such as autonomy, motivation, and concentration.

Leadership, flow and well-being

Smith et al. [22] found that the relationship between positive leadership and flow is weakened by employee attitudes (p. 188). This can be interpreted to mean that the high levels of involvement by transformational and authentic leaders may interrupt an employee who experiences high levels of flow, thus prompting followers to experience negative employee attitudes. They also found that flow moderated the relationship of transformational leadership on job satisfaction and the relationship of authentic leadership on both job satisfaction and organizational commitment.

Evaluation of existing research literatures

Applying the PERMA framework to empirical literature on leadership and well-being, several commonalities can be found between leadership outcome variables. Specifically, nearly every conceptualization of "well-being" (be it affective well-being, motivation, engagement, job-resources/demands, etc.), fits into the PERMA model in one of the lower-order factors. This suggests that the PERMA model could be the missing link between theoretical concepts and action that leaders have been looking for. That is to say, understanding an individual's unique balance of all five components collectively may be a tangible, trainable predictor of employee well-being. Furthermore, the environment leaders create could enhance follower PERMA by affecting elements such as psychological climate, challenge/skill balance ("flow"), and culture for innovation [41,15,54]. This is also consistent with Nistor's [62] suggestion that there is a moderating variable impacting the relationship between flow and well-being at work, and Burke's [28] hypothesis that organizations can provide contributors to the flow experience, which in turn would increase well-being.

Given the relatively novel emergence of research on well-being and flow, historical background and current research literatures tend to blend together. While transformational leadership has a plethora of empirical research, authentic leadership is by comparison quite recent, as is the higher-order construct of positive leadership. There is little to no research specifically relating positive leadership to the PERMA framework, but interpretations of leadership's effect on several outcome variables can be interpreted as lower-level constructs of PERMA (such as job satisfaction, employee attitudes, engagement, and creativity). Furthermore, the relationship between leadership and well-being seems to be affected by certain other conditions such as psychological climate [41], innovation [54], and flow [22].

Shuler and Nakamura's [59] findings suggest inexperience can reduce the perceived risk of a flow-inducing activity. This prompts evaluation of looking at risky decision-making in the workplace and encourages utilizing strategies such as leadership styles to enhance employee risk awareness and self-efficacy.

As evidenced in research conducted by Makikangas et al. [35], temporal measurement seems to affect leadership's influence on well-being. Further research must explore different lengths of measurement in longitudinal studies.

Arnold et al.'s [27] findings that TFL is positively associated with psychological well-being and fully mediated by meaningful work under certain conditions calls for future reconceptualization of "meaningful work and the construction of measurement scales for this variable." (p. 201). One of the components of flow as conceptualized by Bakker [2] is Arnold et al.'s [27] definition of meaningful work (intrinsic motivation). Furthermore, the researchers' definition of psychological well-being is similar to the positive emotions pillar of Seligman's [16] conceptualization of PERMA.

Den Hartog and Belschak found that the relationship between leadership and proactive behavior is strengthened by autonomy only for those individuals high in role breadth self-efficacy. This suggests that employees who are low in self-efficacy might not respond well to a high-autonomy role. The transformational leadership style

would further hinder those employees by setting high standards of performance expectations. These findings suggest individual differences may influence how an employee values different pillars of PERMA. Furthermore, individual PERMA preferences might react differently to the effects of various leadership styles.

As emphasized by Woolley et al. [63], "Authentic leadership has been linked to outcomes including job performance, organizational commitment, and citizenship behavior, but there is a lack of empirical research investigating the specific mechanisms that produce these effects." (p. 439). PERMA may serve as a vehicle that produces desired outcome variables.

This literature review explored the empirical research surrounding leadership and its effect on well-being. Though the PERMA framework is a novel interpretation of well-being, it is evident that its lower-order factors have an abundance of literature to support it. Flow, authentic leadership, and transformational leadership provide ample evidence supporting the exploration of workplace well-being and its benefits to both individual and organizational goals.

Method

Problem statement

There is a gap of research regarding the interaction of specific components of positive leadership styles (transformational, authentic) with well-being. Furthermore, while an abundance of literature identifies various mediating and moderating models of the leader-follower well-being relationship, few identify specific mechanisms by which this relationship is affected.

This study addresses the research gap regarding the relationship between positive leadership, flow, and employee well-being. In addition, it will support the growing peer-reviewed literature base for the PERMA model by linking it to existing literature in the leadership and positive psychology domains.

Hypotheses and rational

Many studies have demonstrated a link between positive leadership behaviors and positive employee outcomes such as positive emotions [31], work engagement [15], flow [41], and self-efficacy. Conceptually, these and other outcome variables feasibly fit into Seligman's PERMA conceptualization of well-being. Much of the leadership literature supports the notion that positive leadership behaviors (including transformational and authentic) promote enhanced follower well-being.

Thus, the first hypothesis is as follows

Hypothesis 1: Positive leadership as measured by the General Inventory for Lasting Leadership (GILL) will be positively correlated with employee well-being as measured by the PERMA well-being scale.

As cited by Eisenberger et al., 2005, "Csikszentmihalyi maintained that the favorable subjective experience associated with repeated instances of flow in a particular context should influence general subjective well-being."Linsner [41] and Makikangas et al. [35] distinguished flow from engagement by the length of time an experience takes. This suggests that increasing the frequency of the flow experience would contribute to a more sustained overall state

of engagement. Since engagement is a component of PERMA, this inference offers support for the second hypothesis:

Hypothesis 2: Work- related flow as measured by the Work-Related Flow (WOLF) scale will be positively correlated with employee well-being as measured by the PERMA well-being scale.

As previously noted, much research has been conducted linking leadership to well-being. In particular, it has been demonstrated that leadership creates conditions (through mediation and moderation) conducive to an increase in follower well-being [27,30,47,54].

Further, Linsner [41] found that psychological climate fully mediated the relationship between transformational leadership and work-related flow. Ceja and Navarro [61] posit that employee well-being may be increased in a challenging environment that promotes more flow experiences. Thus a moderating effect of organizational conditions such as positive leadership styles may enhance the relationship between work-related flow and employee well-being.

Hypothesis 3: High scores on positive leadership as measured by the General Inventory for Lasting Leadership (GILL) will moderate the relationship between work related flow as measured by the Work-Related Flow (WOLF) and employee well-being as measured by the PERMA well-being scale. Under conditions of high positive leadership, the effect of work-related flow on well-being will be stronger than under conditions of low positive leadership, when the effect of flow on well-being will be weaker. These hypotheses collectively fit into the following model:

Research design

This co relational research design using quantitative measures employed a survey to measure the effect of leadership and flow on well-being. The survey measured subordinate perspectives of leadership rather than a leader's self-reported style. Subordinates self-reported flow and well-being.

Operational definitions of all research variables and levels of measurement

Work-related flow: Predictor variable (IV) in Hypotheses 1 and 3, measured at the interval level.

Leadership: Predictor variable (IV) in Hypothesis 2; Moderator variable in Hypothesis 3; measured at the interval level.

Well-being: Outcome variable (DV) in Hypotheses 1, 2, and 3; measured at the interval level. This measure may be reactive, in that the measure may change the attitudes of the participants when asked to reflect on the quality of their lives. Questions measuring this construct were presented last in the survey.

Procedure

The survey was designed using Survey Gizmo and was comprised of a total of 77 research items, across three scales, one per variable measured. A link to the survey was emailed to participants. The first page of the survey was an informed consent sheet (Appendix A). The consent sheet assured the participant that no one would be able to identify him or link him to his supervisor. Only the researcher had access to the information provided, and the information was stored in a locked file cabinet when not in use. The participant was not able to progress to the next page of the survey without indicating his

understanding of the informed consent page by checking a box next to the words "I accept".

The participant then completed a preliminary screening page designed to filter out non-eligible participants. Screening questions asked how long a participant had held his current position, if he was considered full-time, and how long he had worked for his current supervisor (for a full list of screening questions, refer to Appendix B). Participants who had not worked for their current supervisor in the same full-time position for a period of six months or longer were removed from the study.

Each participant then indicated his approval to participate by agreeing to an informed consent sheet (see Appendix B).

Participants were then asked to rate their supervisor's leadership style, followed by their own work-related flow and overall well-being. Questions were presented in the same order for each participant; the researcher did not see a reason to counterbalance. Questions within each scale were randomized prior to survey distribution as recommended by the developers.

A series of demographic questions followed the scales, including age, gender, supervisor gender, industry, and job function. Finally, participants were asked to indicate if they work from home (virtually) or in a physical office location. Refer to Appendix C for a list of demographic considerations.

The survey concluded with an option to be entered into a drawing for one of five $20 Amazon gift cards. Participants were asked to email the researcher directly if they wanted to be entered into the drawing since the researcher had no way of identifying participants from the information provided (see Appendix D).

Participants: The survey was open to any member of the public who received the link (conveniently selected). The researcher distributed the link among her classmates, institution, and online social networks. Participants were expected to have held their current position for a period of six months or longer and hold "full-time" status according to company policy.

Effect size: An a priori power analysis calculation in G Power 3.1 estimated that to achieve a moderate effect size f^2 of 0.15, the total sample size must be $n = 68$. Estimating an approximate 15% attrition rate (in which participant responses are not eligible for inclusion in the study), the goal number of participants was $n = 80$.

Instrumentation

Positive leadership: (Predictor (Hyp 1); Moderator (Hyp 3). Measured with Rupprecht et al.'s General Inventory for Lasting Leadership (GILL). (See Appendix E) The GILL measures leadership behaviors separate from attributes typically associated with management. Based on Gill's theory of leadership, the scale contains the following five subscales: Vision and Mission, Strategy, Shared Values, Empowerment, and Influencing, Motivating, and Inspiring followers. Each subscale contains ten questions (except Shared Values, which has eight) with a Like rt Scale response choice format ranging from 1-7 (where 1 is "Strongly Disagree", 4 is "Neutral", and 7 is "Strongly Agree"). The subscales were individually averaged to create subscale-level means, which were then averaged to create the scale-level mean indicating overall leadership effectiveness. Higher

Table 1: Regression Statistics for Hypotheses 1 (Leadership) and 2 (Flow).

	Variable	Hyp 1[a]:	Hyp 2[b]:
Model Summary	R	.242	.575
	R Square	.059	.331
	Adjusted R Square	.031	.313
	Std. Error of the Estimate	1.11383	1.13359
ANOVA	Sum of Squares (Total)	44.811	71.043
	Df (Total)	35	38
	F	2.120	18.285
	Sig	.155	.000
Coefficients	B (Constant)	6.553	4.540
	t	10.184	6.738
	Sig	.155	.000

a. Predictors: (Constant), Mean overall leadership score.
b. Predictors: (Constant), Mean overall flow score.

averages indicated higher levels of positive leadership behaviors.

Confirmatory factor analysis was conducted to assess reliability with the MLQ Transformational Leadership Scale; the results of which demonstrated a high level of fit (overall Cronbach's alpha was .99). The GILL and MLQ, Transformational Leadership scales were strongly correlated ($r = .91$), indicating high criterion validity. The GILL predicted variance in employee outcomes only slightly less effectively than the MLQ Transformational Leadership scale.

Work-related flow: (Predictor, Hyp 2 and 3) Work-related flow was measured with Bakker's WOLF scale (see Appendix F). The WOLF (or the "Work-related Flow inventory") is a series of thirteen statements grouped into three subscales: Absorption (four questions); Work Enjoyment (four questions); and Intrinsic Work Motivation (five questions). Participants were asked to rate the statements based on how often the tasks were experienced at work in the two weeks prior to taking the survey. The statements were rated on a scale from 1 (never) to 7 (always) and then averaged across subscales. Higher averages indicated more frequent experiences of flow at work.

The scale developer conducted reliability tests for each subscale: intrinsic work motivation ($\alpha = .75$), work enjoyment ($\alpha = .90$), and absorption ($\alpha = .80$). Among seven samples, acceptable internal consistency was found among the three subscales "between .75 and .86 for absorption, .88 and .96 for work enjoyment, and .63 and .82 for intrinsic work motivation". Test-retest reliability demonstrated stability coefficients of around .75, indicating employee responses were relatively consistent across time (p. 409). Smith et al. (2012) reported a Cronbach's alpha of .91 for the WOLF scale in their study.

Well-being: (Criterion) Butler and Kern's (in press) PERMA-Profiler measured well-being for this study (see Appendix G). The measure contains 15 items divided into five subscales: positive emotions, engagement, relationships, meaning, and accomplishment (with three questions per subscale). In addition, there is one question assessing overall well-being, for a total of 16 items. Participants rated the 16 well-being items on a scale from 0 to 10, with higher scores indicating greater overall well-being.

Acceptable internal reliability was demonstrated across samples ($\alpha = .94$ for all four samples) as well as with cross-time correlations

($\alpha = .87$). Convergent validity was demonstrated with other scales, with high correlations throughout all four samples with r ranging from .75 to .87 for positive measures and -.76 to -.59 for the negative (depression) measure.

Data processing

Conditional process modeling was used to measure research questions. Descriptive statistics will identify characteristics of the survey sample for demographics such as gender, job tenure, industry, age, and length of time working under current supervisor. Additional exploratory analysis of a mediation effect of positive leadership on the relationship between flow and well-being was conducted. The software program SPSS v. 20 was used to assemble and analyze data.

Limitations in method

Limitations: There were several limitations to this study. First of all, there was limited prior empirical research for the given topic. The research focused on employees in the United States, but the majority of existing flow literature is conducted in Europe. It is difficult to assess leadership effectiveness without examining multiple perspectives, thus the follower-perspective of the current design may have skewed results. Similarly, only one organizational level was measured in the current research design (individual). The convenience sample may have lowered power and generalizability may have been limited as well.

Ethical assurances

To reduce tension about providing interpretation of supervisor performance, participants were assured their answers would remain entirely confidential. Results were not communicated to specific leaders in order to maintain anonymity. As mentioned previously, each participant agreed to an informed consent sheet assuring them of the confidentiality and anonymity of their answers. Data was stored on a password-protected computer and any hard copies in a locked filing cabinet. Per APA guidelines, files will be retained for a period of five years.

Results

Descriptive statistics

Demographics: In total, there were 40 participants in the study, which was not sufficient to achieve a moderate effect size f^2 of 0.15 (where $n = 68$). All screening and demographic questions received 40 responses except Participant Gender, which received 39 responses. (Table 1) lists the demographic characteristics of participants as reported below.

Work setting: Per the screening guidelines, all participants indicated that they were paid, full-time employees with a supervisor to whom they reported directly. Of the sample, 12.5% ($n = 5$) had worked in their current position for more than 6 months and less than 1 year. The remaining 87.5% ($n = 35$) had worked in their current position for 1 year or longer.

Age and gender: The majority of participants fell in the 35-54 age range (57.5%; $n = 23$). The second-most represented age group was ages 25-34 (27.5%; $n = 11$); followed by the 18-24 and 55+ age groups, each with 7.5% ($n = 3$) representation. Of the 39 recorded responses for gender, females comprised 53.9% ($n = 21$); men comprised the remaining 46.2% ($n = 18$). Of the 40 responses for supervisor's

gender, males comprised 55.0% ($n = 22$) and females the remaining 45.0% $n = 18$).

Industry: Participants worked in a range of industries. The most-represented industry was Finance/Banking/Insurance (27.5%; $n = 11$); followed by other (17.5%; $n = 7$); and then Business/Professional Services (12.5%; $n = 5$).

Job function: The most-represented job function category was Management (Senior/Corporate) with 18.0% ($n = 7$) participants; followed by the Customer Service and Other job functions, each with 15.4%, ($n = 6$). Operations/Logistics and Science/Technology/Programming followed, each with 10.3% ($n = 4$) participants. Accounting/Finance/Banking; Human resources management, and Sales/Marketing each had 5.1% ($n = 2$) participants.

Regression analysis

Hypothesis 1: The first hypothesis was that positive leadership as measured by the General Inventory for Lasting Leadership (GILL) will be positively correlated with employee well-being as measured by the PERMA well-being scale. As shown in (Table 1), a simple linear regression did not support the hypothesis. Leadership did not significantly predict well-being scores, $b = 6.55$, t (34) = 10.18, $p = .16$. Leadership also did not explain a significant proportion of variance in well-being scores, $R^2 = .06$, F (1, 34) = 2.12, $p = .16$.

Hypothesis 2: The second hypothesis was that work-related flow as measured by the Work-Related Flow (WOLF) scale will be positively correlated with employee well-being as measured by the PERMA well-being scale. As shown in (Table 1), a simple linear regression supported this hypothesis. Work-related flow significantly predicted well-being scores, $b = 4.54$, $t (37) = 6.74$, $p = .000$. In addition, flow explained a significant proportion of variance in well-being scores, $R^2 = .33$, F (1, 37) = 18.29, $p = .000$. Using the model outlined in (Table 1), our final regression equation is Wb_overall = 4.54 + .77 (flow_overall).

Hypothesis 3: The third hypothesis was that high scores on positive leadership as measured by the General Inventory for Lasting Leadership (GILL) will moderate the relationship between work related flow as measured by the Work-Related Flow (WOLF) and employee well-being as measured by the PERMA well-being scale such that under conditions of high positive leadership, the effect of work-related flow on well-being will be stronger than under conditions of low positive leadership, when the effect of flow on well-being will be weaker. To analyze this hypothesis, a conditional PROCESS Model 1 was run. The computed interaction variable was not significant, meaning the moderation model was not supported ($b = .20$, 95% CI [-0.047, 0.445], $t = 1.65$, $p = .11$). Leadership does not moderate the relationship between work-related flow and employee well-being.

Analysis of design

Flow was a significant predictor of well-being, while leadership was not. Leadership also did not significantly moderate the relationship between flow and well-being. The small sample size ($n = 40$) reduced the power of the results, thus limiting its generalizability. In addition, the strong skews and high variability of the distributions impacted the assumptions of normality for parametric testing.

Discussion

The purpose of this study was to address the research gap regarding the interaction of leadership, flow, and overall well-being. It also sought to contribute to the reliability and validity of two relatively novel scales of measurement for well-being (PERMA) and leadership (GILL). In general, the outcomes of this study did not support the theoretical rationale behind the research design, but several avenues of further research are opened.

Based on the outcomes of this study, it is apparent that characteristics of positive leadership do not predict follower well-being. This might be the result of a number of factors, including the scales selected to represent the constructs. Additional multiple regression analyses showed that a sub-scale of leadership (Vision and Mission), was a significant predictor of well-being, suggesting that the subscales themselves may be better predictors of well-being than a higher-order construct. This is supported by previous studies that found significance for lower-order factors of the PERMA model such as positive emotions, work engagement, and self-efficacy.

The second hypothesis, that flow predicts well-being, was supported by the outcomes of the data. There are several reasons this may have occurred. The fact that both flow and well-being were self-report measures might have strengthened the relationship between variables compared to the leadership-well-being comparison. The finding is consistent with previous research that found flow to be a significant predictor of various well-beings constructs such as work enjoyment, self-efficacy, engagement, and positive affect. The finding by Makikangas et al that repeated flow experiences leads to a higher sustained state of engagement could have led to a multicollinearity effect of flow and the Engagement component of the PERMA model (a highly significant correlation, r = .44; $p < .01$).

Conclusion

Hypothesis 1 did not support the relationship between positive leadership and employee well-being. Positive leadership was not a significant predictor of employee well-being.

Hypothesis 2 was supported by a significant relationship between flow and well-being.

Hypothesis 3considered the effect of positive leadership on the relationship between employee flow and well-being was explored through Hypothesis 3. Positive leadership did not moderate the relationship between employee flow and well-being.

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