




Article

Motivation and Age Revisited: The Impact of Outcome and Process Orientations on Temporal Focus in Older and Younger Adults

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Abstract: When engaging in a task, individuals may prioritize the task's results (i.e., the outcome), or they may focus on the task in and of itself (i.e., the process). Previous conceptualizations of outcome and process orientations have focused on population- and context-specific motives rather than people's general proclivity toward these orientations across diverse tasks. Using a context-generalized outcome and process measure, we examined whether older adults ($M_{\text{age}} = 72.8$) and younger adults ($M_{\text{age}} = 18.0$) varied in their outcome and process orientations, and explored how these differences were related to temporal focus. The results indicated that, compared to their younger counterparts, older adults were more process oriented, and focused more on the present. Meanwhile, younger adults were more outcome oriented and focused more on the past and the future compared to older adults. Mediation analyses further revealed that older adults were more present focused due to their heightened process orientation, while younger adults were more past and future focused due to their outcome orientation. The implications of these findings in applied settings such as the workplace, health promotion, and business are discussed.

Keywords: process; outcome; motivation; ageing; temporal focus



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1. Introduction

“Winning isn't everything, it's the only thing”.

Football Coach Vince Lombardi

“You must immerse yourself in your work. You have to fall in love with your work ...

That's the secret of success”.

Japanese Chef Jiro Ono

The perspectives outlined above illustrate two different task orientations: emphasizing either outcome or process. People oriented toward outcomes tend to focus on identifying and reaching tasks' success conditions. Meanwhile, people oriented toward processes tend to focus on immersing themselves completely in tasks so that they may experience everything that the tasks have to offer irrespective of the results [1]. To be sure, certain circumstances may dictate the degree to which one focuses more on the outcome or process. For instance, most people engaging in a contest with a large monetary prize for winning will likely experience an outcome orientation, while most people getting a massage will likely incline toward the process. However, many situations are conducive to either outcome or process orientations (e.g., eating, exercising, work), and this is where individual differences in the tendency to focus on the outcome or process may manifest.

A variety of past conceptualizations have been created to describe the outcome and process. The present work differs from these approaches in important ways. First, many

past conceptualizations have been limited to specific domains such as nutrition [2], specific behaviors such as quitting smoking [3], or specific actions such as mental simulation [4]. For instance, in the sport and exercise domain, the Task and Ego Orientation in Sport Questionnaire (TEOSQ) measures young athletes' focus on achieving successful outcomes versus making progress and enjoying the athletic task in and of itself [5]. However, along with being limited to athletics, the TEOSQ is also restricted to use with children and adolescents, as reflected by its youth-centric phrasing of items. Indeed, the TEOSQ shows an inferior fit in collegiate athletes versus children [6].

Outcome and process orientations are also distinct from achievement goal theory (AGT), which posits that individuals' perceived competence along with their definition of success determines their approach to varying tasks [7]. Moreover, though AGT theorizes that people may vary in terms of whether they are trying to master a task or simply outperform others, our conceptualization of outcome and process orientations are more concerned with determining whether individuals engage in the task to experience everything that it has to offer, or to achieve *any* successful outcome (i.e., mastery or victory).

The specificity of these past approaches (in terms of context and target population) was useful for these studies, increasing predictive power for the specific domains that these measurements targeted. However, these measures presumably would be limited in generalizability, and thus a context- and population-generalized measure of outcome/process orientations may be beneficial. The present work examines how outcome and process orientations may apply to older and younger adults alike, helping to account for established differences between these age groups.

1.1. Generational Diversity

Researchers have asserted that most psychological work has principally focused on young adult populations, and additional data from diverse populations is required to draw more generalized conclusions [8]. One such understudied group is older adults (i.e., those above the age of 65), who remain largely ignored in much of the psychological knowledge base [9]. This is an important gap in the literature as older individuals often differ strikingly from their younger counterparts. For example, compared to younger adults, older individuals spend more time focusing on the present [10], experience more positive affect [11]; and report greater levels of life satisfaction [12].

The importance of studying older adults is further highlighted by the rapid aging of societies around the world. Indeed, factors such as increasing life expectancies and diminishing fertility rates have accelerated population aging around the world [13]. Emerging research also indicates that although this pattern has been widespread in industrialized economies for decades, developing nations are now beginning to show similar patterns of societal aging [14]. In turn, aging populations have a significant impact on how societies function across a diverse range of domains including the composition of the workforce, supply and demand in healthcare services, how social assistance and pension systems are constituted [13], and the types of leaders that are preferred [15]. Considering that these demographic shifts will change the very fabric of our societies, it is imperative that researchers devote more attention to better understanding older populations. Through a practical lens, agencies such as the European Commission have also advocated for more solidarity and collaboration across generations in order to create societal cultures where lifelong education, training, and development become normative, and people of all ages can thrive and flourish across the adult lifespan [16]. To this end, the present work examines how older and younger adults may differ in their outcome and process orientations, and how this may impact their temporal focus.

1.2. Task Orientation and Temporal Focus

Human beings have the unique ability to focus on the past, present, and/or future [17], and this ability to engage in mental "time travel" is broadly recognized as having important psychological consequences. For instance, ruminating about the past may lead to

maladaptive life outcomes, while focusing on the present may enhance life satisfaction [18]. Despite the benefits of being engaged with the present, research has shown that a perceived time shortage and feelings of busyness have increased steadily over the second half of the 20th century and continue to remain high today [19]. Adding another layer of complexity, researchers have also reported that giving too much attention to the present may sometimes backfire and lead to negative outcomes such as impulsive behaviors [18]. As for future temporal focus, it has been linked to more cognitive processing, which may in turn lead to greater achievements in work and life [18]. In sum, it is clear that temporal focus is a multi-faceted concept that deserves more attention from researchers across the adult lifespan.

In the present work, we consider how outcome and process orientations may intersect with these temporal foci across older and younger adults. More specifically, we argue that an outcome orientation may lead people to greater focus on the past and future, whereas a process orientation may align more strongly with a present temporal focus. Below, we outline some empirical research providing credence for these hypotheses.

An outcome orientation may be associated with focusing on the past and the future as this may help leverage lessons from one's personal or group history as well as anchor future goals. Indeed, Makridakis argued that individuals, organizations, and nations must draw from their past experiences and mistakes in order to set themselves up for success in today's fast-paced business world [20]. Aptly termed "metastrategy", this new approach to strategic planning is based on a thorough examination of past successes and failures both within one's discipline as well as outside of the field of business (e.g., politics, sport).

Along with unpacking the past to ensure successful outcomes, focusing on the future has also been related to securing positive results. For example, Finnie and colleagues examined the efficacy of a guided goal setting exercise on the dropout rates and academic performance of college students [21]. Using techniques from narrative therapy, students are asked to write about the important aspects of their life, and how these aspects could be transformed and improved over the next three to five years if they properly cared for themselves, mitigated negative habits that may lead to undesired outcomes, and developed a plan for implementing and monitoring their goals. Results from the intervention indicated that, overall, student dropout (14.8% in the control group) decreased by 3.3 to 4.3 percentage points in the experimental group.

In related work, Schippers and colleagues instructed participants to reflect upon the major goals in their lives before considering each of them from a personal, familial, and social viewpoint [22]. Participants then deliberated over how these goals may be derailed by obstacles, along with how these undesired outcomes may be avoided. Overall, the intervention enhanced both retention and academic performance in the experimental group compared to the control groups, with ethnic minority and male students experiencing the greatest benefit. More specifically, ethnic minority male students experienced an increase of 54% in their retention rates, while earning 44% more credits. This is particularly noteworthy as both minority and male students tend to struggle more with engagement and performance compared to their counterparts in academic settings. These findings are in line with a plethora of existing research showing a positive association between future goal setting and task performance—a result that has been labelled one of the most robust and replicable findings within the psychological literature [23].

In contrast to outcome orientations, a process orientation may be aided when an individual is immersed in the present instead of focusing on the past and the future. Indeed, if a process orientation involves trying to capture and experience everything that a task has to offer [1], it follows that being fully present and engaged with the task at hand should help with this endeavor. In what she terms "presence in doing", Reid outlines how the psychological states of mindfulness and flow (which are conceptually related to process orientation) may be combined to enhance engagement with a task in workplace settings [24]. Specifically, mindfulness may be used to heighten the five senses to intentionally raise awareness about what is occurring in the present without

any judgement [25]. Relatedly, flow occurs when one loses him- or herself in a task while time and space become temporarily suspended due to an amplified state of “being” in the moment [26]. Together, both states may intensify the individual experience of engaging in a task, and both may encourage an immersion in the present moment.

Importantly, Jha and colleagues also reported that mindfulness training aimed at helping military personnel stay engaged with the task at hand and avoid mind-wandering during stress-inducing pre-deployment training helped to significantly buffer against attentional lapses and performance errors [27]. Thus, focusing on the present may not only allow individuals to fully immerse themselves in the task at hand, but it may also prevent concentration lapses and unnecessary performance errors. Linking this back to process orientations, avoiding mind-wandering related to potential outcomes or evaluations of a task may help individuals remain engaged with the process of the task that they are engaging. As such, one may expect a positive relationship between process orientations and present temporal focus.

1.3. Aging, Time, and Outcome/Process Orientations

Socioemotional selectivity theory (SST) posits that people become progressively concerned with emotional satisfaction as they age due to a realization that their future is becoming increasingly limited [28]. Consequently, aging predicts an increased desire for more frequent encounters with loved ones [29] and an emphasis on immediate gratification in daily tasks over investing in activities that may be fruitful for the future [30]. SST theorists point out that similar motivational shifts emerge among young adults when they are primed with a limited sense of time remaining in life, such as a potential terminal illness [31]. As such, SST argues that a conscious perception of time being limited, rather than aging per se, drives older adults to prioritize immediate satisfaction in the present over future development.

Recently, Imtiaz and colleagues reported that older adults are indeed more focused on the present relative to the past or future [32]. However, this research also found that, in contrast to what SST would predict, a decreased sense of time remaining in life was associated with less present focus among older adults compared to younger adults. In other words, older adults’ reduced sense of time remaining in life worked against their general tendency to focus on the present. These findings lead to an important, unanswered question: why do older adults focus more on the present, if not because of their reduced sense of time remaining in life? The researchers asserted that future work should examine potential alternative mechanisms driving the present focus often found among older adults. We suggest that older adults may view tasks quite differently compared to younger adults, with a greater tendency to immerse themselves in the task itself (whereas young people are more focused on pursuing success). For the reasons noted above, we surmised that that this increase in process orientation may encourage a corresponding increase in present temporal focus. This led us to propose the following:

Hypothesis 1. *Building upon existing literature, we hypothesize that older adults are more process oriented (i.e., focused on the experience of doing tasks) than younger adults. Additionally, we propose that this difference in process orientation will account for the higher present focus of older versus younger adults. That is, insofar as older adults are more process oriented, they will be more present focused (i.e., as revealed by mediation analysis). We will elucidate the extent of these differences statistically and consider their implications for vocational studies and existential interventions.*

In contrast to their older peers, young adults tend to focus more on developmental goals and progression. For instance, younger adults are most satisfied with their work when there are clear, tangible opportunities for career advancement and growth as opposed to intrinsically enjoying the work itself [33]. Younger individuals also incline more toward growth goals versus maintenance goals in health settings [34], and are more likely to wait

for a greater reward in the future compared to older adults, who incline more toward smaller but immediate rewards [35]. As such, we proposed the following:

Hypothesis 2. *In line with contemporary trends and generational characteristics, we predict that young adults will be more outcome orientated (i.e., focused on the possible results of tasks) compared to older adults. Further, we anticipate that this heightened outcome orientation among young adults will drive a greater focus on comparison and improvement across time, resulting in more past and future focus in young adults compared to older adults. Statistical analysis will provide insights into the statistical significance and practical implications of these differences, expanding our understanding of age-related orientations in the workforce.*

2. Methods

2.1. Participants

Older Adults: We recruited a sample of 157 older adults (above the age of 65; $M_{\text{age}} = 72.8$, $SD_{\text{age}} = 7.18$; 62 men, 81 women, 14 did not answer). This sample size was determined by our limited opportunity to survey this group of older adults from local adult lifestyle communities and senior programs at the local health and wellness club. The three adult lifestyle communities that we recruited from were comprised of small neighborhoods where only individuals above the age of 65 could purchase homes. This allowed us to solicit potential participants by going door-to-door within these neighborhoods where we knew that older adults were the primary residents. As for the local health and wellness club, we met with the director of senior programming and gained permission to voluntarily recruit participants following weekly senior fitness classes at the club. This once again allowed us to target potential participants in a setting where we knew that seniors were the primary audience.

Young adults: A total of 156 young adults (under the age of 25) from a Canadian university took part in this study. Of these, 13 were removed for inattention. This study included five inattention items from Huang et al. [36], e.g., “I do not possess the skills to teleport across time and space” (No/Yes). Participants who answered more than one of these items incorrectly were excluded from the analysis, leaving 143 in the final sample ($M_{\text{age}} = 18.0$, $SD_{\text{age}} = 0.72$; 26 men, 107 women, 10 did not answer). The young adult sample was recruited by going to in-person classes on campus and asking students to voluntarily complete the study, and by posting an advertisement for the study on the university’s psychology department research website.

All participants were put in a draw for a cash prize of \$50 CAD as compensation. This was performed in order to maintain consistency across the older and younger adult samples, as the typical course credit that university students receive for partaking in research studies was not applicable to the older adults. Though the potential compensation may have influenced the participant behavior and responses, we determined that this was the best option in order to maintain consistency across the diverse sample.

2.2. Procedure

The experimental procedure was approved by the Queen’s University general research ethics board prior to data collection. All participants were given a description of the study and informed consent was obtained from all individuals before they completed the measures outlined below using Qualtrics or through paper and pencil surveys. It took an average of 10–15 min for the participants to complete the survey. After completing the study questionnaires, participants reported their demographics and were debriefed by a member from the research team to complete the study.

2.3. Measures

Outcome and process scale [1]: This nine-item scale assesses respondents’ tendencies to focus on the *outcome* (six items, e.g., “My strongest memories are of my victories and my defeats”; “The first thing to do when trying something new, is to figure out what counts as succeeding or winning”; $\alpha = 0.80$), and *process* (three items, e.g., “Experiences

are important just for themselves"; $\alpha = 0.52$) while completing tasks (we assessed two additional process items, but they loaded <0.30 for the older adults' factor analysis and were therefore removed). Final items with descriptive statistics are provided in Appendix A.

Participants indicated their agreement with each item on a scale from 1 (Strongly disagree) to 7 (Strongly agree). Items in each subscale were averaged to compute scores for outcome and process orientations, respectively.

Temporal focus scale [17]: This 12-item scale is comprised of four items for each of three temporal foci: past (e.g., "I replay memories of the past in my mind"; $\alpha = 0.89$), present (e.g., "My mind is on the here and now"; $\alpha = 0.80$), and future (e.g., "I imagine what tomorrow will bring for me"; $\alpha = 0.84$). Each item is scored from 1 (never) to 7 (constantly), and items from each of the subscales are averaged to represent a relative amount of engagement in thinking about that aspect of time, with higher scores showing increased focus. The scale assessed the three temporal foci independently, allowing the same individual to score high (or low) on all three of the subscales simultaneously.

3. Results

3.1. Outcome and Process Orientations

Recall that we predicted more outcome orientation among young adults and more process orientation among older adults. To test this, we conducted a 2 (Age: young vs. old) \times 2 (Task orientation: outcome vs. process) mixed-model ANOVA, with task orientation captured within-participants. This revealed a significant interaction, $F(1, 291) = 20.77$, $p < 0.001$, $\eta_p^2 = 0.07$. As expected, outcome orientation scores were higher in young adults, $M = 4.07$, $SD = 1.22$, than in older adults, $M = 3.47$, $SD = 1.15$; $t(291) = -4.35$, $p < 0.001$, Hedge's $g = -0.51$, $CI_{95} [-0.74, -0.27]$. Process scores were descriptively higher among older adults ($M = 5.57$, $SD = 1.04$) than among young adults ($M = 5.34$, $SD = 0.98$), although this difference was modest in magnitude and only marginally significant, $t(292) = 1.90$, $p = 0.058$, $g = 0.22$, $CI_{95} [-0.01, 0.45]$ (differences in degrees of freedom across tests are due to some participants skipping some items).

These effects are tracked in Figure 1. These box-and-whisker plots show levels of outcome (left bars) and process orientation (right bars) by older (blue bars) and young (red bars) adults. The central line of each boxplot indicates the median. As the plots reveal, outcome orientation was higher among younger versus older adults. Process scores appeared slightly higher among older than younger adults, mirroring the marginal difference in means noted above. The boxplots also illustrate the normal distributions that emerged for each age group/measure combination, as shown by relatively symmetrical boxes and whiskers around each median. Given that this is the first time the outcome/process orientations were used with older adults, this was useful to establish as a baseline.

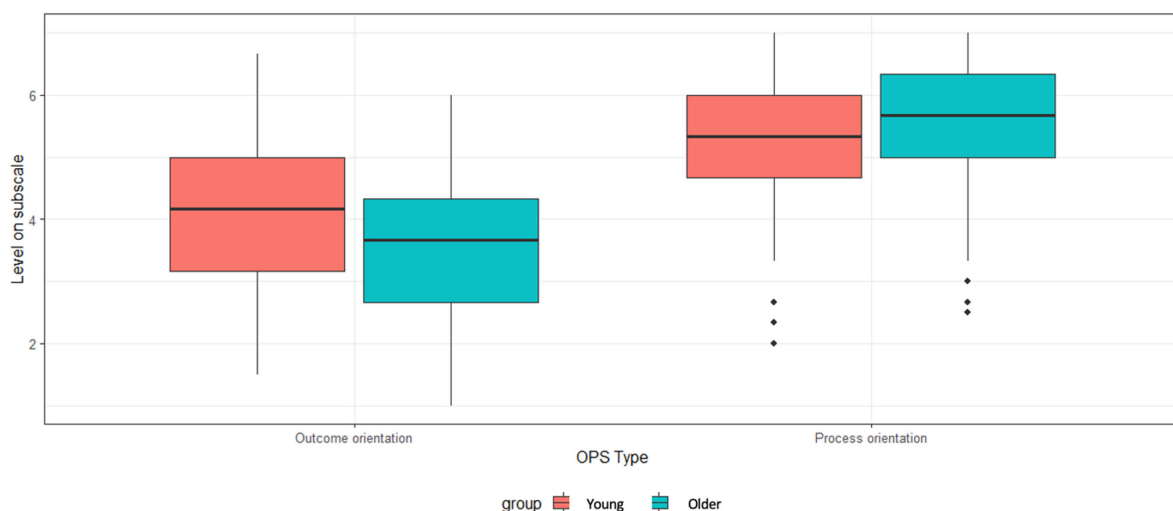


Figure 1. Outcome and process orientations across older and younger adults.

3.2. Temporal Focus

Turning to temporal focus, recall that we predicted more past and future focus among younger adults, and more present focus among older adults. To test this, we conducted a 2 (Age: young vs. old) × 3 (time: past, present or future) mixed-methods ANOVA with time as a within-participant factor. We detected a significant interaction, $F(1, 510) = 54.83$, $p < 0.001$, $\eta_p^2 = 0.18$. Young adults were significantly more focused on the past ($M = 4.85$, $SD = 1.24$) than were older adults ($M = 4.00$, $SD = 1.06$; $t(256) = 5.88$, $p < 0.001$, $g = -0.75$, $CI_{95} = [-1.00, -0.49]$). Young adults were also significantly more focused on the future ($M = 5.12$, $SD = 1.09$) than were older adults ($M = 4.06$, $SD = 1.11$; $t(255) = 7.60$, $p < 0.001$, $g = -0.96$, $CI_{95} = [-1.23, -0.70]$). However, older adults were significantly more present-focused ($M = 5.24$, $SD = 0.94$) than were young adults ($M = 4.67$, $SD = 1.02$; $t(256) = -4.60$, $p < 0.001$, $g = 0.58$, $CI_{95} = [0.32, 0.83]$). All three differences match our hypotheses.

These findings are also displayed in Figure 2. Temporal foci (past, present, future) are tracked along the X-axis. Blue bars indicate older adults' temporal focus levels while red bars indicate young adults' temporal focus levels. Young adults endorsed more past and future orientation than older adults, but they endorsed less present focus than the older sample, mirroring the above analysis.

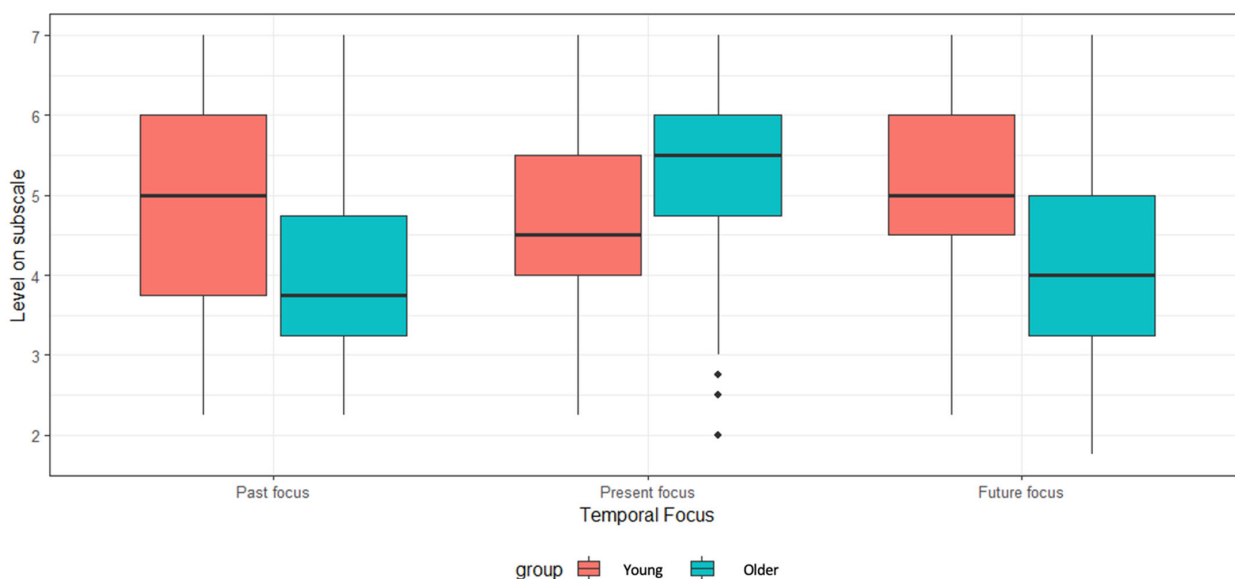


Figure 2. Temporal focus (past, present, future) levels across older and young adults.

3.3. Mediation Analysis

As four out of five hypothesized tests proved to be statistically significant, we decided to move forward with our hypothesized parallel mediation to test if age differences in past, present, and future temporal focus might be driven by differences in outcome/process orientations (tested via PROCESS, v3.5; model 4; 10,000 bootstrapped iterations; [37]) Age group (older adults = 0, young adults = 1) was the predictor variable, both outcome and process orientations were set as parallel mediators, and in each analysis one focus scale was set as a dependent variable separately. For brevity's sake and for ease of comparison, we merged three distinct mediation models within a single figure, displayed as Figure 3.

Figure 3 tracks the effects of age on past, present, and future focus, as mediated by outcome and process orientations. Significant overall indirect effects are revealed by solid lines, whereas non-significant overall indirect effects are tracked by dashed lines. First, we note that older adults were more process oriented. Note that this differs from the earlier analysis where older adults were only marginally more process oriented. However, in the mediation analysis, process and outcome were parallel mediators that adjust for one another statistically, producing this subtle change. Process orientation, in turn, was related

only to higher present focus, as indicated by a 95% bootstrapped interval that did not include zero, $IE = -0.05 [-0.12, -0.001]$. This pattern suggests that older adults were more focused on the present insofar as they were more motivated by the process of fully immersing themselves in the task at hand.

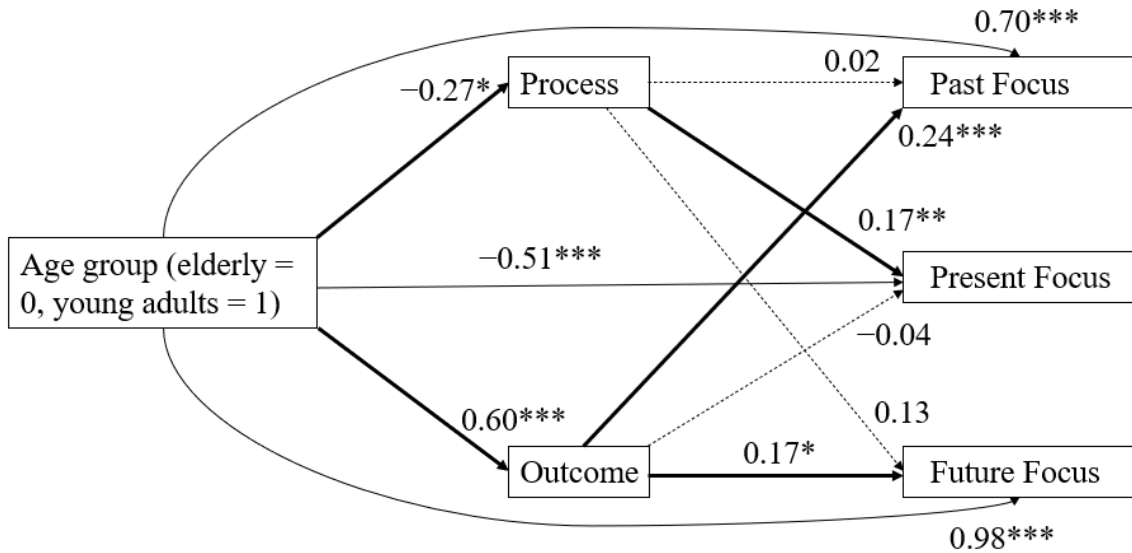


Figure 3. The mediating role of outcome and process orientations on temporal focus in older and younger adults. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Second, young adults were more outcome oriented than older adults. Outcome focus, in turn, related both to more past and more future focus. Both the past ($IE = 0.15 [0.05, 0.27]$) and future ($IE = 0.10 [0.03, 0.20]$) indirect effects through outcome orientation were significant. These patterns suggest that young adults were more past-focused and also more future-focused to the extent that they were more focused on the outcome components of tasks.

4. Discussion

The current research found that, compared to young adults, older adults scored higher on present temporal focus and process orientation. Meanwhile, young adults were more past and future focused, as well as more outcome oriented than their older counterparts. Mediation analyses further revealed that these relationships were interconnected. Specifically, older adults’ higher present focus was driven by their emphasis on the experience of doing a task (process), whereas young adults’ higher past and future focus was driven by their propensity toward pursuing target results within tasks (outcomes).

Connections with Existing Research

The finding that older adults scored higher on present focus compared to young adults replicates the recent results of Imtiaz and colleagues [32]. These findings also complement existing work reporting that older adults score higher than younger adults on trait mindfulness, which is partially characterized by an ability to remain in the present instead of getting drawn by the past or future [38]. Indeed, research with young adults has revealed a positive correlation between mindfulness and process orientation and a negative correlation between mindfulness and outcome orientation [1], potentially linking process orientation, mindfulness, and present temporal focus. Related to this, recent work has found that teaching employees how to be mindful and present for 15 to 30 min per day for 15 consecutive days enhances job satisfaction and decreases occupational stress in hospitality and service workers [39]. The researchers further asserted that focusing on these types of low-dose interventions that require minimal commitment and costs

may be a fruitful means for maximizing employee well-being in the workplace. Future search should build on these findings by examining how mindfulness, present focus, and process orientations interact with each other to impact the experiences of workers in their daily lives.

Along the same lines, researchers have documented that older adults are more likely to choose smaller, immediate benefits over larger, delayed benefits [35]. Likewise, when given a choice between two job opportunities that either emphasize vocational success in the present (i.e., a stable company that is thriving) or in the future (i.e., a growing company that is revolutionizing the market), older adults are significantly more likely to choose the present-focused work opportunity [10].

A novel finding from the current work was that older adults reported higher levels of process orientation compared to young adults, and this in turn mediated the relationship between age and present focus. An interesting consideration for why older adults may be more process oriented relates to experience, wisdom, and authenticity. Indeed, past research has shown that older adults are less likely than younger adults to conform to social pressures [40], indicating that the passage of time may bring about a sense of authenticity as older adults pursue endeavors that align more strongly with their true desires and motives. Relating this to process orientation, moving away from evaluations and outcomes that are deemed positive by others or society as one gets older may allow individuals to immerse themselves more fully in their present-day activities instead of being preoccupied with the results that these activities may produce.

Turning to the mediation analysis, SST posits that older adults are more concerned with immediate satisfaction in the here and now (which may be viewed as a proxy for present focus) due to their limited sense of time remaining in life [28]. However, recall that Imtiaz et al. found that a limited sense of time remaining in life was surprisingly associated with less focus on the present [32]. The current findings suggest that, instead of a limited sense of time remaining in life, process orientation may be an alternative explanation accounting for older adults' present focus. Specifically, being able to immerse oneself wholly in tasks on a regular basis may be a means by which older adults remain anchored in the present moment. Viewed this way, process orientation may be regarded as liberating, if instead of focusing on the present due to a fear that the future may never come, older adults immerse themselves fully in tasks to get the most from the moment presently before them.

Turning to young adults, their enhanced focus on the past and the future relative to older adults also replicates recent research [32]. This is also in line with previous work showing that the pursuits of younger adults are often concerned with experiencing linear improvements from the past to the future across domains such as education, family life, and work [41]. The novel finding that young adults are more outcome oriented than older adults complements these results, as previous research showed that younger adults are more interested in future-focused gains such as attaining higher levels of fitness [34], while older adults are more likely to be satisfied with simply maintaining overall health. In terms of why young people may be more outcome oriented, researchers have postulated that the need to be results-oriented in young adulthood may be driven by the pressure to establish oneself during these formative years. Indeed, researchers have asserted that the rise of global competition for jobs, along with the increasing cost of education and living in many parts of the world, has precipitated this mindset in recent times [42].

As for the mediation analysis illustrating that young adults were more past and future focused due to their outcome orientation, being motivated by results may require one to engage in more temporal time travel in order to extract lessons from the past [20] and set targeted, specific goals for the future [21,22]. It is important to note that there may be a dark side to being overly past and future focused due to an emphasis on outcomes for younger adults—namely the sacrifice that one must make toward the present. Indeed, research has shown that being in the present is associated with enhanced happiness, while thinking about the “what-ifs” of the past and the uncertainty of the future is associated

with more stress and reduced wellbeing [43,44]. Relatedly, Freund and colleagues outlined that although younger adults were less likely to focus on the process over the outcome when pursuing specific goals such as quitting smoking, young adults benefitted the most from this orientation [3]. Indeed, the researchers documented that goal development and affective well-being were both positively associated with focusing on the process. Thus, by excessively focusing on the past and the future due to a strong outcome orientation, young adults may miss out on important benefits derived from focusing on the present moment/the process of task completion. Relating this to the current work, the higher rates of past and future focus, along with a high outcome orientation in young adults, may explain in part why young people tend to have lower life satisfaction compared to older adults [12]. Future work should focus on how age, temporal focus, and outcome/process orientations intersect to contribute toward health and happiness.

5. Implications

A better understanding of outcome and process orientations may lead to important improvements across a variety of cognitive and behavioral outcomes. As an example of this utility in the athletic domain, consider a round of golf where an athlete is trying to either achieve a certain score (outcome orientation), or simply enjoy all that the experience has to offer (process orientation). Knowledge about the athlete's tendencies to focus on outcome versus process may help coaches develop congruency between training sessions and individual preferences. Outcome oriented individuals may respond more favorably to environments that provide clear win conditions (e.g., make a certain number of puts within 10 feet), while process oriented individuals may respond more positively to experiential drills aimed at making incremental progress without any clear success/failure conditions. To be sure, this example can be generalized across many situations in both competitive and recreational sport settings. Linking this to aging, it may be that older, more process-oriented individuals may respond more positively to sport and exercise when it is framed through a more descriptive (less evaluative) lens. For example, health promotion initiatives aimed at increasing exercise levels in older adults may be more effective when they highlight the experience of engaging in the programs (e.g., enjoyment and deep immersion) instead of the potential health gains. In contrast, younger adults (i.e., more outcome oriented) may respond more favorably to similar exercise initiatives when they clearly track one's progress and skill development throughout the program.

Along the same lines, work settings may benefit from finding continuity between individual preferences for outcome and process orientations and job demands. Indeed, researchers have asserted that person-job fit—or the consistency between an individual's skills and interests and the demands of his or her job [45]—is critical for ensuring employee satisfaction and work performance [46]. As such, being able to identify individual team members' proclivity toward outcome and process orientations may be an important way for leaders and organizations to maximize productivity and well-being in each employee. This is consistent with emerging research illustrating the importance of managing employees based on their unique needs (i.e., individualized consideration; [47]), as opposed to indiscriminately treating each employee the exact same way (e.g., color blindness in the context of racial diversity; [48]) Linking this to age, this is especially significant considering the generational diversity that is currently prevalent in the modern workplace, which is comprised of more than four generations of workers, each with their own unique proclivities [49]. One promising avenue for practically applying these findings in work settings involves the utilization of multi-generational teams. Indeed, emerging research has found that when work teams are deliberately composed of individuals from various generations, workplace performance is significantly enhanced due to the cross-pollination of ideas and shared experiences [50]. Linking this to outcome and process orientations, younger and older colleagues may be able to bring their unique perspectives to multi-generational teams, in turn enhancing creativity and innovation while minimizing the deleterious effects of groupthink. A similar application involves the use of reverse mentoring, whereby older

and younger colleagues take turns coaching each other with a particular emphasis on the relative strengths of their generational perspectives [51]. Traditionally, this has involved older individuals sharing their wisdom and experience with their younger comrades, while young adults coach their older peers on novel work processes involving technological advancements. Relating this to the current work, reverse mentoring may also be used to create work dyads comprised of older and younger work colleagues who coach each another on the vocational benefits of focusing on the process or outcome of their work tasks, respectively. As modern work practices increasingly demand a multiskilled approach to solving complex problems, cultivating employees who have awareness and knowledge about distinct orientations and motives (regardless of their preferences) could significantly raise work engagement and performance.

Emerging research has also found that focusing on the process of completing a work task from beginning to end (i.e., task identity) is positively associated with thriving at work, which in turn enhances work satisfaction [52]. The researchers also asserted that task identity encourages employees to focus on the whole aspect of a job from start to finish, promoting understanding and familiarity with the task at hand and how it is connected to other aspects of work. As this is very much in line with the current work's definition of a process orientation (i.e., immersing oneself completely in a task to experience everything that it has to offer irrespective of results), future research should examine how process orientations are associated with thriving in the workplace, and how this influences job satisfaction and overall well-being at work.

Turning to outcome orientations, research has found that the quiet ego—a psychological construct focusing on balance and growth at the individual level—has been positively associated with outcomes such as self-determination and psychological resilience [53]. Researchers have postulated that focusing on one's long-term, eudemonic growth allows the quiet ego to pursue meaning and purpose in life in a holistic manner that is non-selfish and non-aggressive [54]. As this balanced focus on growth and development is in line with the current work's definition of outcome orientations (i.e., focusing on identifying and reaching success conditions), future work should examine how constructs such as the quiet ego and outcome orientation may be related, and how they make shape human thinking and behavior.

Lastly, the knowledge from the current research may be practically relevant in marketing and consumer behavior, where crafting persuasive messages that cater to the specific preferences of an audience is integral for ensuring success. Relating this to the present work, older adults (i.e., process oriented) may respond more positively to advertisements that showcase how to use and experience certain products and services, whereas outcome oriented young consumers may respond more favorably to similar messages highlighting what they will ultimately get out of the product. Interestingly, emerging research has outlined the differences between experiential purchases related to "doing" (e.g., a hike in the woods [which might be considered as encouraging a process orientation]), versus materialistic purchases related to "obtaining" (e.g., designer clothing [which might be considered as more appealing to outcome-oriented people]; [55,56]). However, researchers have yet to examine how this may be influenced by age differences across the lifespan. This is particularly important given that the emerging older adult population is the most powerful consumer market in the world [57]. Further, recent research has demonstrated that older and younger individuals vary significantly in their preferences and behavioral intentions toward persuasive messages [32]. Relating this to the present work, older adults may prefer experiential messages (due to their process orientation), whereas younger adults might be expected to respond more favorably to materialistic product messages (due to their outcome orientation).

6. Limitations and Future Directions

In the present work, outcome and process orientations were broadly categorized as this was the first research of its kind to examine how they intersect with age and temporal focus.

To build on these findings, future work should examine whether there are specific settings (e.g., the workplace, health promotion, and consumer behavior) where these orientations exert more influence in older and younger adults. This knowledge may be a useful step toward creating specific initiatives that aim to leverage differences in outcome and process orientations to enhance the uptake and impact of programs targeting different age groups.

Relatedly, because the current research was cross-sectional, we cannot yet be overly certain about our theorized causal order of variables (e.g., age to task orientation to temporal focus). Some readers may wonder why we did not compute alternative models (e.g., substituting our mediator and dependent variables). Related to this, researchers have argued that statistical methods cannot determine whether an original or re-oriented mediation model is most valid, and this must be investigated through theoretical logic or design choices that probe different variable orderings [58]. For instance, future work may examine this question by manipulating our proposed mediator. That is, outcome and process orientations may be manipulated within younger and older adults, with the hypothesis that the age difference should be attenuated when outcome/process orientations are induced by random assignment. This finding would help to establish the task orientations as being causally responsible for differences in temporal perspectives.

Further, the behavioral impact of outcome and process orientations remains to be empirically studied. For instance, do older or younger adults perform better in demanding tasks when they are pursuing it through the lens of their preferred orientation? Likewise, although the current work found associations between outcome and process orientations and temporal focus, the impact of these orientations on consequences related to stress management, relationships, and wellbeing remains to be explored. Similarly, the present work could serve as a steppingstone toward filling a critical gap in our understanding of lifespan stereotypes in applied settings. For instance, future research could examine how age-related variance in outcome and process orientations impacts vocational motives, work satisfaction, and meaning-making in workplace settings across older and younger adults. Further, psychotherapeutic interventions could examine how age-related differences in outcome and process influence existential therapies at the individual, family, or group level in both the workplace and beyond.

Although the current work provides a solid foundation on which to examine outcome and process orientations across the human lifespan, we recognize that we only included older and younger adults in the sample, leaving out other age groups. Thus, it remains to be determined how these orientations impact children and adolescents, as well as individuals between the ages of 25 and 65. For instance, are children and adolescents more outcome oriented due to their proclivity toward immediate gratification [59], or does their relatively lower degree of foresight and self-regulation [60] actually make them more process oriented as they engage each moment more wholly due to their discounting of future consequences? As for individuals between the ages of 25 and 65, do they incorporate both outcome and process orientations in their lives, or lean more toward one orientation depending on which generational group they are closer to in age? Research on these middle-aged cohorts has found that significant life events that typically occur between the ages of 30 and 40 (e.g., new parenthood) are often accompanied by significant shifts in motivation and behavior (e.g., motivation and intention for healthier eating behaviors; [61]). However, the impact of these shifts on outcome and process orientations has never been empirically studied. Do middle-aged adults become more outcome oriented as they begin to focus more on result-driven aspects of their lives (e.g., achieving a desirable body weight), or more process oriented as they slow down their career growth and development and begin to emphasize aspects such as work–life balance and family life? Future research is warranted to answer these important questions.

Along with adding age diversity, future research would benefit from examining outcome and process orientations and their impact on temporal focus across varying cultures. As the variables studied in the current research are inextricably tied to the concept of time, it is important to note that varying cultures around the world have an

entirely different view of this concept. For example, in comparison to Western participants from Europe and North America, East Asians perceive the past and the future to be closer and more connected to the present [62]. Would these differences make East Asians more process oriented as they engage the notion of time with more continuity and fewer boundaries? Future work should examine these important questions along with their impact on behavioral outcomes. Further, recent research has shown that cultures of dignity (e.g., Canada and the United States) prioritize internal standards of self-worth and intrinsic growth, while cultures of honor (e.g., Turkey and Pakistan) highlight attainment of success and one's reputation [63]. Thus, one may expect cultures of dignity to lean more toward process orientation, emphasizing the experience and journey that accompanies life's various stages, while cultures of honor may instead prefer outcome orientation, emphasizing the realization of successful life outcomes. At this point, more research is required in order to untangle these novel applications at the intersection of culture and motivation.

Finally, these findings should be expanded to include data from diverse educational and socioeconomic backgrounds. For example, the young adult sample was comprised solely of younger students pursuing a university degree. As higher education is often associated with successful work and life outcomes, future work should test whether young people who are not attending university vary in outcome and process orientations compared to the current sample. Similarly, the older adult sample was comprised of individuals living independently in an adult lifestyle community. As this lifestyle is attainable only by middle- and upper-income people, future work would benefit from testing the current results against low- and middle-income older adults to see whether the findings are generalizable across different income brackets. Related to this, potential biases that may have been introduced by providing a cash draw as compensation for participating in the study could be addressed by recruiting older and younger adults for future research without including cash prizes. Similarly, potential biases in sample selection may be addressed by finding settings where both older and younger adults are present (instead of distinct settings such as universities and senior health clubs) and using a recruiting strategy based on intrinsic motivation to target all potential participants.

7. Conclusions

The present work found that older adults were more process oriented than younger adults, which was in turn related to present focus. In contrast, young adults were more outcome oriented than their older counterparts, which was in turn related to past and future focus. These findings may be applied across important domains such as multi-generational work teams, sport and exercise, as well as health and wellness. The current research presents a transdisciplinary investigation drawing from cognitive psychology, cultural communication, and behaviorist metrics to explore differences in outcome and process orientations among older and younger adults. Future research should extend the practical implications of these differences in specific contexts such as cross-cultural psychology, healthcare, and consumer behavior settings.

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Appendix A

Outcome and Process Scale: Please rate your agreement or disagreement with the following statements on a scale from 1 (Strongly disagree) to 7 (Strongly agree). In other words, higher numbers represent greater agreement with the statements. A '4' indicates that you are neutral toward the statement.

Table A1. Outcome and Process Scale Items.

Item Wording	M	SD
Outcome	3.76	1.22
1. Tasks without clear success conditions frustrate me.	4.07	1.76
2. I keep my 'eye on the prize' throughout activities.	4.18	1.62
3. When doing a job, I get very excited when I'm winning, and very unhappy when losing.	4.08	1.68
4. During tasks, I am often preoccupied with what winning or losing might feel like.	2.99	1.63
5. My strongest memories are of my victories and my defeats.	3.85	1.84
6. The first thing to do when trying something new is to figure out what counts as succeeding or winning.	3.41	1.70
Item Wording	M	SD
Process	5.45	1.01
1. The most memorable part of doing something is the doing of it.	5.16	1.41
2. Most people don't spend enough time just enjoying tasks for their own sake.	5.52	1.27
3. If something is fun or interesting, that's reason enough to do it.	5.75	1.42

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