

Daily Perceived Expectations for Social Engagement and Daily Prosocial Behavior: Evidence
from Two Cultures

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Abstract

Demographic change has intensified debates about what older adults should be like, including expectations that they should remain active and contribute to the common good. The present study examined whether daily perceived expectations for active aging (PEAA) in the social domain was associated with daily prosocial behaviors among middle-aged and older adults in Germany and Hong Kong SAR. Across two preregistered 14-day diary studies, 199 participants from Germany (age range = 50–91, $M = 65.08$, $SD = 8.06$; 65.8% female) and 314 participants from Hong Kong SAR (age range = 50–80, $M = 60.99$, $SD = 6.18$; 53.8% female) reported perceived expectations for social engagement and their prosocial behaviors. We investigated interindividual differences and daily fluctuations in the relation between PEAA and prosocial behaviors while accounting for individual differences in prosocial orientation. Generalized linear mixed models showed that individuals with higher trait prosocialness and higher between-person PEAA had greater odds of daily prosocial behavior overall. Additionally, on days with above-average PEAA, the odds of engaging in prosocial behaviors was also higher. Moreover, this within-person association was more pronounced in Germany compared to Hong Kong SAR. These findings suggest that older adults' everyday prosocial engagement is associated with both stable prosocial orientation and perceived external expectations for social contribution. The stronger within-person association in Germany than in Hong Kong SAR further suggests that the behavioral relevance of daily PEAA may vary across cultural contexts. Overall, this study highlights the value of considering personally perceived expectations in the social domain when examining prosocial engagement in aging societies.

Keywords: perceived expectations for active aging, social activation, prosocial behavior, culture comparison

Daily Perceived Expectations for Social Engagement and Daily Prosocial Behavior: Evidence from Two Cultures

In aging societies, the fair distribution of commonly shared resources, such as health care, has become increasingly challenging, to the point that intergenerational tensions might emerge (Chen et al., 2023; Martin & North, 2022; North & Fiske, 2013). Younger generations may feel that older adults are taking more than they deserve. Against this backdrop, societal normative expectations targeting older adults have developed to compensate for their allegedly disproportionate consumption of resources (Martin & North, 2022; North & Fiske, 2013). Older adults are expected to remain active, maintain their physical and cognitive fitness, and engage in prosocial activities that contribute to the common good (de Paula Couto et al., 2022; Pavlova & Silbereisen, 2016; Wirth et al., 2023).

Previous studies indicate high endorsement of these norms, especially in the health and fitness domain, not only among younger adults but also among older adults themselves (Pavlova et al., 2023). Moreover, studies indicate that older adults perceive that these expectations are directed at them personally (i.e., perceived expectations for active aging, Pavlova et al., 2023; Pavlova & Silbereisen, 2012). These societal normative ideas have been institutionalized as active aging policies in many countries (López-López & Sánchez, 2020; WHO, 2002), however, it remains an open scientific question of how much these external appeals are related to older adults' actual behaviors.

Although perceived expectations in the social engagement domain are less pronounced than in the health or fitness domain, focusing on this domain is particularly relevant as social engagement should not only provide personal benefits in terms of improved social integration or well-being (Hao, 2008) but should also be beneficial for society as a whole (Anderson et al.,

2014). Moreover, with an increasing reliance on volunteers to aid in or uphold important societal tasks, older adults engaging in prosocial activities has become more important than ever. Thus, understanding how societal normative expectations for social engagement are linked to prosocial behaviors is of utmost importance.

To gain a detailed understanding of this relation and to go beyond previous studies' focus on the narrower concept of volunteering (Wirth et al., 2025a, b), we employed a daily diary approach, as this will offer insights into how much expectations fluctuate in individuals' everyday life and whether individuals' prosocial behaviors are sensitive to these changes. Moreover, we examined these questions from a cross-cultural perspective, that is, whether the phenomenon has a similar relevance in both Western and non-Western contexts. This would offer insights into the common mechanisms through which everyday experiences of normative expectations become linked with everyday prosocial behaviors and whether interventions aimed at increasing prosocial behaviors should be culturally sensitive. Thus, we investigated interindividual differences and fluctuations of the relation between perceived expectations for social engagement and prosocial behaviors using 14-day daily diary data from Germany ($N = 199$) and Hong Kong SAR ($N = 314$). Given that prosocial behaviors are also related to internal motivation processes (Caprara et al., 2012; Cavallini et al., 2021), we also controlled for trait prosocialness.

In the following paragraphs, we first review PEAA as a construct capturing age-specific expectations that individuals perceive as directed at themselves, followed by research on prosocial behavior in middle-aged and older adults and its potential links with normative expectations.

Perceived Expectations for Active Aging

In contrast to a traditional conception of late life as a period of disengagement from work and social responsibilities, older adults are increasingly expected to maintain an active lifestyle in recent decades (de Paula Couto et al., 2022; Pavlova & Silbereisen, 2012, 2016). A growing body of evidence shows that the norm of active aging is more strongly endorsed by older compared to younger adults and is associated with better outcomes, such as life satisfaction and health (de Paula Couto et al., 2022; Pavlova & Silbereisen, 2016). However, previous research has largely focused on norms targeting older adults in general, rather than on expectations perceived as directed at individual older adults personally. As stereotype embodiment theory posits (Levy, 2009), age-related beliefs may become especially consequential when they are perceived as relevant to the self. This highlights the importance of distinguishing broad norms about older adults from expectations that individuals perceive as directed at themselves personally. Perceived expectations for active aging (PEAA; Pavlova & Silbereisen, 2012, 2016) capture this personally directed aspect of active aging norms, referring to individuals' awareness that expectations for active aging are directed at them personally. PEAA are conceptualized as domain-specific, encompassing expectations related to physical fitness, mental fitness, and social engagement (Pavlova et al., 2023; Pavlova & Silbereisen, 2012, 2016).

PEAA are not only meaningful as stable individual differences but may also fluctuate in everyday life. At the between-person level, individuals may differ in their general exposure to expectations for active aging. Prior research has mostly treated PEAA as a relatively stable, trait-like construct, providing a basis for examining between-person differences in PEAA (Pavlova et al., 2023; Radoš et al., 2024, 2025). For example, Pavlova et al. (2023) found that higher subjective socioeconomic status was associated with stronger PEAA in the social engagement domain, and that employment predicted stronger PEAA in this domain among adults aged 55 and

older. These findings suggest that PEAA are shaped by relatively stable differences in perceived resources, social standing, and productive role contexts. At the within-person level, however, older adults' daily contexts and aging-related experiences may make active-aging expectations more or less salient from day to day. Wirth and Rothermund (in press) provided empirical support for this view by showing that daily awareness of age-related gains and losses was associated with daily PEAA. This suggests that within-person PEAA reflect meaningful day-to-day changes in the salience of active-aging expectations, rather than random fluctuation. Therefore, distinguishing between-person from within-person PEAA allows us to ask not only for whom perceived expectations are stronger, but also when the same individual perceives stronger expectations than usual.

Prosocial Behavior in Later Life

Prosocial behaviors refer to diverse forms of actions intended to benefit others (Li et al., 2024; Penner et al., 2005), such as volunteering, donating, helping, and providing care and emotional support. Active prosocial engagement has important implications for tackling the challenges that are linked to population aging. By engaging in prosocial activities, older adults can take an active social role and invest their own resources to contribute to the common good (Pavlova & Silbereisen, 2012; Wirth et al., 2025a, b). From a societal perspective, social engagement can help to relieve the stress on social welfare and healthcare systems that may arise from demographic change. Also from an individual perspective, numerous studies suggest that engaging in prosocial behavior is associated with improved physical and mental health in later life (Anderson et al., 2014; Hui et al., 2020).

Research on prosocial behaviors across adulthood has examined different forms of prosocial actions using multiple measures, including experimental tasks, hypothetical scenarios,

self-report surveys, and population-level indicators such as volunteering rates (Cutler et al., 2021; Li et al., 2024; Pollerhoff et al., 2024). Findings on age differences in prosocial behavior are mixed and appear to depend on the type of prosocial behaviors examined and their measurement. Some laboratory studies have reported more prosocial actions among older than younger adults (Sparrow et al., 2021), but meta-analytic and real-life evidence does not consistently show higher prosocial engagement in older adults (Han et al., 2023; Pollerhoff et al., 2024). Against this background, the present study focuses on broad everyday prosocial engagement as it unfolds in the daily lives of middle-aged and older adults.

Given the importance and variability of prosocial behavior in later life, understanding factors associated with older adults' prosocial engagement is important. Prior research has often explained individual differences in prosocial behavior through internal motivational and dispositional factors, such as empathy and agreeableness (Cavallini et al., 2021; Sze et al., 2012). For example, agreeableness has been shown to predict self-reported prosocial behavior directly and actual prosocial behavior indirectly through empathic concern among older adults (Cavallini et al., 2021). Trait prosocialness captures a broad and relatively stable tendency to act in ways that benefit others across situations and over time, which is related to empathy and agreeableness but more directly captures a generalized tendency toward prosocial actions (Caprara et al., 2012; Cavallini et al., 2021). When examining how perceived external expectations are associated with daily prosocial behavior, it is therefore important to account for such stable internal prosocial orientation. Beyond such stable internal prosocial orientation, PEAA in the social domain may provide another lens for understanding older adults' everyday prosocial engagement.

Linking Social-Domain PEAA to Daily Prosocial Behavior

Previous studies suggest that PEAA are domain-specific, with different domains showing distinct associations with their predictors (Pavlova & Silbereisen, 2012, 2016). This domain-specific perspective makes social-domain PEAA particularly relevant to understanding older adults' everyday prosocial engagement. However, existing studies involving PEAA have mainly examined volunteering or volunteering intentions (Pavlova & Silbereisen, 2016; Wirth et al., 2025a). Volunteering cannot fully capture older adults' everyday prosocial behavior, which can also include informal acts such as caring for others or providing advice outside structured volunteer settings. Thus, direct evidence linking personally perceived expectation for social engagement to broader everyday prosocial behavior remains limited.

Broader research on normative expectations and prosocial behavior provides a useful theoretical basis for expecting such an association. Normative expectations refer to what others believe we ought to do, constituting the customary rules that guide behavior in groups and societies (House, 2018). Many human behaviors are shaped by normative prescriptions, as people often strive to adhere to group standards and avoid social disapproval (House, 2018; Kölle & Quercia, 2021). Such expectations may be especially relevant in the prosocial domain, where helping, caring, and supporting others are socially valued and closely tied to social approval or disapproval (Henrich et al., 2006; House, 2018). For example, experimental studies show that children behave more generously when prosocial norms are made salient (McAuliffe et al., 2017) and younger adults' prosocial decisions are associated with what they believe they should give (Dunning et al., 2014). However, this evidence concerns children and younger adults, rather than age-specific expectations directed at middle-aged and older adults.

Cultural context may further influence the behavioral relevance of normative expectations. A recent meta-analysis found that social norms are positively associated with charitable giving, with stronger associations in non-WEIRD and more collectivist contexts, where group harmony, interdependence, and conformity to group expectations are more strongly emphasized (Chapman et al., 2025). These findings suggest that cultural orientations may be relevant to understanding how social-domain PEAA is associated with prosocial behavior. Germany and Hong Kong SAR differ in cultural orientations that may shape the conformity and behavioral relevance of social norms (Schwartz, 2006). In Germany, individual autonomy and personal choice are relatively emphasized, whereas interdependence and social harmony are more salient in Hong Kong SAR (Schönpflug & Yan, 2013). Such cultural variation may lead to differences in how strongly individuals orient their behavior toward normative expectations. The present study therefore examines whether social-domain PEAA is associated with older adults' daily prosocial behavior, and whether this association is consistent across Germany and Hong Kong SAR.

Overview of the Current Research

With the growing number of older adults, public debates about intergenerational resource allocation, and increasing societal appeals for older adults to remain socially active and engaged, it is important to understand whether and how social-domain PEAA is related to daily prosocial behaviors in late life. We tested two primary hypotheses in our preregistration. At the between-person level, we hypothesized that older adults who perceived stronger social-domain PEAA on average would report higher levels of prosocial behavior. At the within-person level, we hypothesized that on days when older adults perceived stronger expectations for social engagement than usual, they would report more prosocial behavior on the same day. Given the

limited direct evidence on cultural differences in these associations, we explored whether they differed between Germany and Hong Kong SAR.

Moreover, prior research suggests that trait prosocialness is related to prosocial engagement (Cavallini et al., 2021) and demographic characteristics are related to PEAA (Pavlova et al., 2023). We therefore included trait prosocialness as an indicator of stable internal prosocial orientation, along with age, gender, education, subjective socioeconomic status, and retirement status as demographic covariates. These covariates may help explain between-person differences in the focal variables and sample-composition differences across cultures.

Data for the present study are part of a large international consortium investigating effects of views of aging on various outcomes in daily life in multiple countries (AGES consortium, Neupert et al., in press). We will present data of two 14-day diary studies, one from Germany and one from Hong Kong SAR, that included daily assessments of PEAA and prosocial behavior. This daily diary design allowed us to examine whether social-domain PEAA was associated with prosocial behavior at both the between-person and within-person levels.

Method

Participants and Procedure

A total of 513 community-dwelling middle-aged and older adults participated in two 14-day daily diary studies conducted in Germany ($N = 199$) and Hong Kong SAR ($N = 314$). The German sample ranged in age from 50 to 91 years ($M = 65.08$, $SD = 8.06$), with 65.8% female participants. The Hong Kong SAR sample ranged in age from 50 to 80 years ($M = 60.99$, $SD = 6.18$), with 53.8% female participants. Detailed demographic characteristics and sample differences between Germany and Hong Kong SAR were reported in Table 1.

German participants were recruited through personal contacts and social media. Hong Kong SAR participants were recruited via mass email distribution through the Chinese University of Hong Kong. Before data collection, the study design and hypotheses were pre-registered. Ethical approval was granted by the Ethics Committee of Friedrich-Schiller-University Jena (project title “Expectations for active ageing”; approval no. FSV 22/018) and the Survey and Behavioural Research Ethics Committee of the Chinese University of Hong Kong (“Who Should Help Older Adults to use Technology?”; approval no. SBRE-23-0919).

Participants provided written informed consent, completed an online baseline questionnaire assessing demographic characteristics and trait prosocialness, and then completed daily questionnaires on 14 consecutive evenings. Participants completed the daily diary each evening between 4 p.m. and midnight in Germany and between 7:30 p.m. and 11:00 p.m. in Hong Kong SAR. Participants showed high diary compliance in both samples (Germany: $M = 96.1\%$, range = 57%-100%; Hong Kong SAR: $M = 99.9\%$, range = 92.8%-100%). Participants received monetary compensation after completing the entire study.

Measures

Daily prosocial behaviors

Every evening, participants reported whether they had engaged in prosocial behaviors during that day. Examples of prosocial behavior included volunteering, donating, helping others with tasks, providing care/comfort/emotional support, engaging in other prosocial activities, or reporting no prosocial behavior. At the Hong Kong SAR site, two additional response options were provided: “providing guidance/advice/information” and “helping others solve technology problems.” Responses were coded as a binary variable indicating whether participants engaged in any prosocial behavior on a given day (0 = no, 1 = yes). Across the 14-day study period,

German participants reported prosocial behaviors on an average of 7.28 days ($SD = 4.18$), whereas Hong Kong SAR participants reported prosocial behavior on an average of 7.05 days ($SD = 4.66$). In the combined sample, the intraclass correlation (ICC) indicated that 53% of the variation in daily prosocial behavior was attributable to between-person differences. Culture-specific $ICCs$ also indicated moderate between-person variance for daily prosocial behavior in both cultures (Germany: $ICC = .47$; Hong Kong SAR: $ICC = .56$).

Daily perceived expectation of social engagement

Daily PEAA for social engagement was assessed by adopting one item from Pavlova and Silbereisen (2012, 2016) to the daily context (see also Wirth & Rothermund, in press).

Participants were asked to consider their everyday life and the social expectations directed at them. Each day, they indicated their agreement with the statement, “Today, I was expected to engage in social or charitable causes,” using a 5-point Likert scale (1 = disagree strongly, 5 = agree strongly). This item assessed perceived expectations directed at oneself rather than prosocial behaviors. Higher scores indicated stronger perceived expectations in the social domain. In the combined sample, the intraclass correlation (ICC) indicated that 58% of the variation in daily PEAA was attributable to between-person differences. Culture-specific $ICCs$ also indicated moderate between-person variance for daily PEAA in both cultures (Germany: $ICC = .46$; Hong Kong SAR: $ICC = .68$).

Covariates

Trait prosocialness was included as a theoretically relevant indicator of internal prosocial orientation (Cavallini et al., 2021). Controlling for trait prosocialness allowed us to examine whether daily social-domain PEAA was associated with daily prosocial behavior beyond participants’ internal tendency to help others. It was measured using the six-item short version of

the Prosocialness Scale for Adults (Caprara et al., 2005). Sample items include “I try to help others” and “I help immediately those who are in need,” rated on a 6-point scale (1 = strongly disagree, 6 = strongly agree). Internal consistency was good in both samples (Cronbach’s $\alpha = .78$ in Germany and $\alpha = .85$ in Hong Kong SAR).

Following previous research on PEAA (Pavlova et al., 2023; Pavlova & Silbereisen, 2012), we included age, gender (1 = female, 2 = male), subjective socioeconomic status, retirement (0 = not retired, 1 = retired), and education as demographic covariates. These characteristics may affect perceived expectations, prosocial opportunities, and their inclusion also controls for sample-composition differences between Germany and Hong Kong SAR. Subjective socioeconomic status was assessed using the MacArthur Scale of Subjective Social Status (Adler et al., 2000), in which participants indicated their perceived position on a 10-rung social ladder ranging from 1 (lowest standing in society) to 10 (highest standing in society). To ensure that education level was comparable across the German and Hong Kong SAR samples, education was harmonized into four categories: Low, Medium, High, and Other. The Low category included participants with no formal education up to some high school completion. The Medium category included participants with high school completion, vocational training, associate degrees, and incomplete college education. The High category included participants with graduate-level qualifications, including Master’s, Doctoral, or other post-baccalaureate degrees. The Other category was reserved for participants whose educational background did not fit into the preceding categories. As shown in Table 1, the “other” category was sparse and was therefore set to missing in the final model rather than modeled as a separate category.

Analytic Approach

We used generalized linear mixed models (GLMMs) to account for daily diary observations nested within individuals. The binary outcome, daily engagement in any prosocial behaviors, was modeled using a binomial distribution with a logit link function, with random intercepts specified for participants. A sensitivity analysis showed that adding a random slope for within-person PEAA did not improve model fit relative to the random-intercept model ($AIC = 7096.77$ vs. 7094.26), and the key fixed-effect estimates remained stable. We therefore retained the more parsimonious random-intercept model.

To distinguish within-person from between-person effects, daily PEAA was person-mean centered to capture daily deviations from each participant's own mean, whereas participants' mean PEAA scores were centered around the culture-specific mean to capture between-person differences. Continuous person-level covariates, including trait prosocialness, age, and subjective socioeconomic status, were standardized. Gender, retirement, and education were included as categorical covariates and dummy coded. Day was included as a fixed effect to adjust for temporal trends across the diary period.

Moreover, we conducted additional analyses to clarify the robustness and interpretation of the primary findings. Given that the Hong Kong SAR diary study included response categories that were not administered in Germany, we repeated the primary analysis using only the prosocial behavior categories common to both samples. Analyses were conducted in R version 4.5.1 (R Core Team, 2025) using the *lme4* (Bates et al., 2015), *lmerTest* (Kuznetsova et al., 2017), and *interactions* (Long, 2019) packages.

Results

Descriptive Statistics

As shown in Table 1, German and Hong Kong SAR participants reported prosocial behaviors on a similar number of diary days. In contrast, Hong Kong SAR participants reported stronger daily perceived expectations for active aging in the social domain than German participants. The two samples differed on several baseline characteristics. German participants reported higher levels of trait prosocialness than Hong Kong SAR participants. German participants were older, reported higher subjective socioeconomic status and included a higher proportion of women than Hong Kong SAR participants. Education composition also differed, with more German participants in the high education category and more Hong Kong SAR participants in the medium education category. Sample-composition differences between Germany and Hong Kong SAR were adjusted for in the primary models by including demographic and trait covariates.

Table 2 presented the focal within- and between-person correlations between daily prosocial behavior and PEAA by culture. At the within-person level, daily social-domain PEAA was positively correlated with daily prosocial behavior in both Germany and Hong Kong SAR. At the between-person level, participants with higher average PEAA also tended to report more prosocial behavior days in both cultural groups. These patterns provided preliminary support for examining PEAA as a predictor of daily prosocial behavior in the multilevel models reported below.

Positive relationship between PEAA and prosocial behaviors

As shown in Table 3, social-domain PEAA was associated with daily prosocial behavior at the between-person and within-person levels. With Germany as the reference group, the

PEAA coefficients indicate the associations in Germany, and the PEAA $\times$ culture terms indicate whether these associations differed in Hong Kong SAR. At the between-person level, German participants whose average PEAA was one unit higher than the German sample mean had approximately twice the odds of reporting daily prosocial behavior, $B = 0.72$, $OR = 2.05$, $p < .001$. The between-person PEAA $\times$ culture interaction was not significant, $B = -0.03$, $OR = 0.97$, $p = .889$, indicating that this association did not differ between Germany and Hong Kong SAR. At the within-person level, German participants were more likely to report prosocial behavior on days when their PEAA was higher than usual, $B = 0.55$, $OR = 1.74$, $p < .001$. The within-person PEAA $\times$ culture interaction was significant, $B = -0.35$, $OR = 0.70$, $p < .001$. A simple-slope analysis showed that the corresponding within-person association in Hong Kong SAR was also positive and statistically significant, $B = 0.20$, $SE = 0.07$, $OR = 1.22$, $p < .001$. As shown in Figure 1, these results suggest that this day-to-day association was weaker in Hong Kong SAR than in Germany.

Trait prosocialness was positively associated with daily prosocial behavior, $B = 0.51$, $OR = 1.67$, $p = .002$, suggesting that stable prosocial orientation contributed to interindividual differences in daily prosocial engagement alongside PEAA. The findings were robust when the Hong Kong SAR outcome was restricted to activity categories shared with Germany (Supplementary Table S3).

Discussion

This study examined how perceived expectation for social engagement was associated with daily prosocial behaviors among individuals from late midlife to older adulthood in Germany and Hong Kong SAR. By separating between-person differences from within-person daily fluctuations, our findings show that both higher average PEAA and higher-than-usual daily

PEAA were associated with greater odds of reporting prosocial behaviors. The within-person association was stronger in Germany than in Hong Kong SAR, suggesting that the daily salience of social-domain expectations may be linked to prosocial engagement differently across cultural contexts. Trait prosocialness also linked to daily prosocial behavior, indicating that perceived external expectations and stable internal prosocial orientation represent complementary, correlates of everyday prosocial engagement.

The significant association between trait prosocialness and prosocial behavior suggests that prosocial engagement is partly grounded in stable individual differences in prosocial orientation. Meanwhile, perceived expectations for social engagement also emerged as a significant between-person predictor of prosocial behavior, indicating that prosocial engagement cannot be fully explained by internal dispositional tendencies alone. Rather, trait prosocialness and social-domain PEAA appear to constitute distinct sources of daily prosocial behavior. This distinction underscores the unique and non-substitutable contribution of perceived expectations. Moreover, the positive relationship between within-person PEAA and daily prosocial engagement reflected day-to-day fluctuations. Taken together, these social-domain PEAA findings suggest that higher average PEAA reflects a broader sense of being expected to contribute socially, whereas higher-than-usual daily PEAA marks days when such social-role expectations become especially salient. These associations remained evident after accounting for trait prosocialness, suggesting that perceived normative expectations offer a meaningful lens for understanding daily prosocial behavior beyond stable individual differences in prosocial orientation.

More importantly, the within-person association between PEAA and daily prosocial engagement was stronger in Germany than in Hong Kong SAR. One possible interpretation is

that the daily salience of perceived expectations for social engagement may carry different meanings across cultural contexts. In Germany, where personal autonomy and individually chosen social engagement are more strongly emphasized (Schönpflug & Yan, 2013; Schunk et al., 2021; Schwartz, 2006), expectations to contribute socially may be less routinely embedded in everyday role obligations. Under these conditions, day-to-day increases in PEAA may be more likely to be experienced as salient social cues that coincide with prosocial action. In Hong Kong SAR, by contrast, cultural orientations toward interdependence and relational obligation (Schönpflug & Yan, 2013; Schunk et al., 2021) may lead social contribution to be construed more strongly as an everyday relational responsibility, or as something older adults feel obliged to do within ongoing social roles. This interpretation is consistent with the higher average daily PEAA reported by Hong Kong SAR participants, suggesting that such expectations may be more common and less distinctive in daily life. In this context, daily PEAA fluctuations may add less explanatory value beyond these ongoing relational obligations, rather than because prosocial behaviors are trivial or merely routine tasks. Taken together, these findings suggest that differences in obligation may help explain why daily PEAA was more strongly linked to prosocial behavior in Germany than in Hong Kong SAR.

Another possibility concerns the phrasing of the PEAA measure. The daily PEAA item in the present study was phrased at the individual level (“I was expected to engage in social or charitable causes”), which may not capture expectations in the same way across cultural contexts. In more independent cultural contexts such as Germany, where personal agency and individually directed expectations are more strongly emphasized (Schönpflug & Yan, 2013; Schunk et al., 2021; Schwartz, 2006), being personally expected to contribute socially may be a particularly meaningful motivational cue. In more interdependent cultural contexts, by contrast,

motivation is often tied not only to the individual self but also to relational units such as “my family and I” (Rudy et al., 2015; Yi et al., 2014). Thus, Hong Kong SAR participants may be more responsive to expectations from family members or close others, whereas the current PEAA item did not specify the source of the expectation. This may partly explain the weaker PEAA-prosocial behavior link in Hong Kong SAR. Future cross-cultural research on PEAA should consider both the target and the source of expectations.

Limitations and Future Directions

Several limitations warrant consideration. First, the present findings cannot establish causal direction, engaging in prosocial behaviors might increase sensitivity to perceive social engagement expectations. This direction is in line with previous findings showing that volunteers report a higher level of expectations to contribute to the public good compared to non-volunteers (Pavlova & Silbereisen, 2016). Future studies should use experimental designs or interventions to clarify causal direction. Second, the assessment of daily prosocial engagement had several limitations. The binary outcome captured whether participants reported any prosocial behaviors on a given day, but it did not distinguish among different types of prosocial action in the primary model. This may obscure meaningful differences between various forms of everyday prosocial behaviors. Response categories also differed between Germany and Hong Kong SAR, which may limit cross-site comparability. Although the common-category robustness check supported the main conclusions (Supplementary Table S3), future cross-cultural diary studies should use the same prosocial behavior response categories across sites to improve comparability. Third, the cultural scope of the study was limited to Germany and Hong Kong SAR. Although these contexts provide a useful comparison and cross-cultural daily diary studies are rare (Neupert et al., in press), the findings should not be generalized to broader Western or East Asian cultures.

Because daily PEAA was assessed with a single item, we could not test measurement invariance across cultural contexts. Future studies should examine in more detail whether and how cultural contexts shape the association between PEAA and daily prosocial engagement.

Conclusion

By focusing on perceived expectations for active aging in the social domain, this study shows that daily prosocial behaviors in late midlife and older adulthood are linked to both stable internal prosocial disposition and perceived external expectations. Daily increases in PEAA were more strongly associated with prosocial behaviors in Germany than in Hong Kong SAR, suggesting that the meaning of perceived social expectations may vary across cultural contexts. Together, these findings highlight the value of considering normative expectations, alongside individual prosocial disposition, when examining everyday prosocial engagement in aging societies.

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Table 1
Descriptive Statistics by Culture

Variable	Germany (<i>N</i> = 199)	Hong Kong SAR (<i>N</i> = 314)	Cultural Comparison
Continuous Variables, <i>M</i> (<i>SD</i>);			<i>t</i>
Prosocial behavior days	7.28 (4.18)	7.05 (4.66)	-0.64
PEAA scores	1.96 (0.83)	2.82 (0.84)	11.37***
Trait Prosocialness	3.90 (0.55)	3.33 (0.61)	-10.72***
Age	65.08 (8.06)	60.99 (6.18)	-6.48***
Subjective socioeconomic status	6.84 (1.37)	5.85 (1.56)	-7.36***
Categorical Variables, <i>n</i> (%);			χ^2
Gender (female)	131 (65.8)	169 (53.8)	7.23**
Retirement (retired)	128 (64.3)	201 (64.2)	0.00
Education Level			107.07***
Low	29 (14.6)	52 (16.6)	
Medium	57 (28.6)	216 (68.8)	
High	105 (52.8)	42 (13.4)	
Other	8 (4.0)	4 (1.3)	

Note. *M* = mean; *SD* = standard deviation. Prosocial behavior days indicate the number of diary days with any reported prosocial behavior (range = 0–14). PEAA scores indicate participants' average daily ratings of social-domain perceived expectations for active aging across the 14-day period (1 = disagree strongly, 5 = agree strongly). Trait prosocialness was rated from 1 (strongly disagree) to 6 (strongly agree). Subjective socioeconomic status was rated from 1 (lowest standing) to 10 (highest standing). Cultural comparisons used independent-samples *t* tests for continuous variables and Pearson chi-square tests for categorical variables. *** *p* < .001, ** *p* < .01.

Table 2

Means, Standard Deviations, and Correlations Among Main Variables

Variable	Germany <i>M (SD)</i>	Hong Kong SAR <i>M (SD)</i>	1	2	3	4
1. PB	0.54 (0.31)	0.53 (0.34)	-	.30***	.17*	-.09
2. PEAA	1.96 (0.83)	2.82 (0.84)	.31***	-	.11	-.04
3. Trait prosocialness	3.90 (0.55)	3.33 (0.61)	.26***	.40***	-	-.03
4. Age	65.08 (8.06)	60.99 (6.18)	.02	.05	.02	-

Note. Germany: $n = 199$; Hong Kong SAR: $n = 314$. PB = daily prosocial behavior (0 = no, 1 = yes); PEAA = perceived expectations for active aging in the social domain (1 = disagree strongly, 5 = agree strongly). Trait prosocialness was rated from 1 (strongly disagree) to 6 (strongly agree). Values above the diagonal indicate person-level correlations for Germany. Values below the diagonal indicate person-level correlations for Hong Kong SAR. Daily variables were aggregated to the person level for these correlations. The within-person PB-PEAA correlations were $r = .19^{***}$ in Germany and $r = .05^{**}$ in Hong Kong SAR. *** $p < .001$, ** $p < .01$, * $p < .05$.

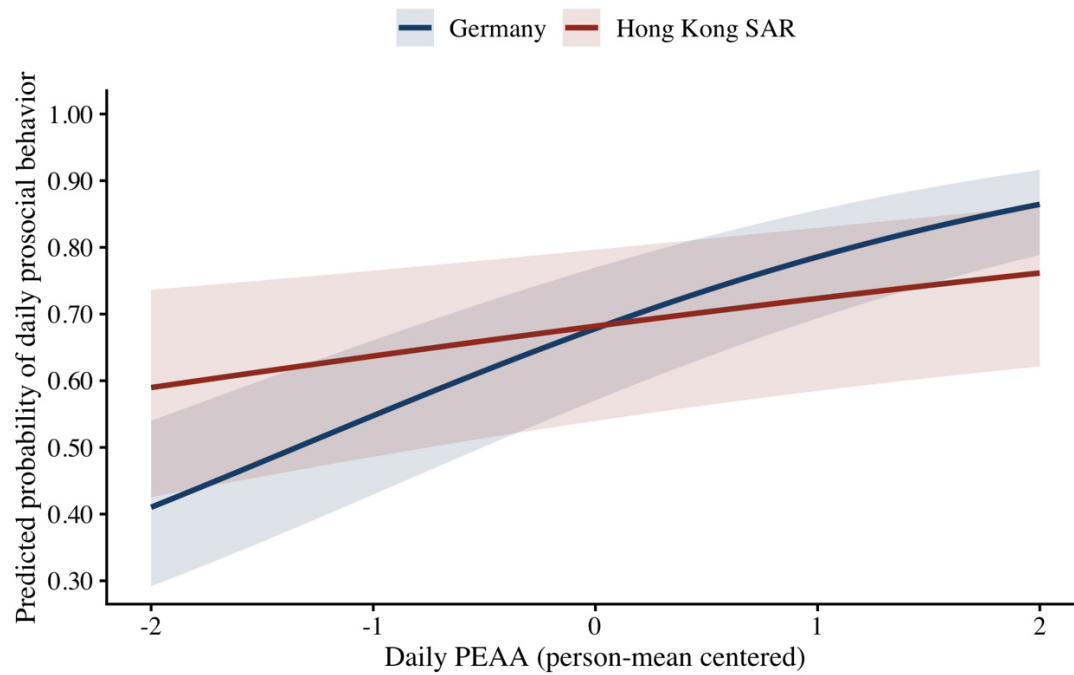
Table 3
Multilevel Model Predicting Daily Prosocial Behavior by Social-domain PEAA

Predictors	<i>B</i> (log-odds)	<i>SE</i>	Odds Ratio	95% CI for Odds Ratio	<i>p</i>
Fixed Effects					
Intercept	1.18	0.24	3.25	[2.02, 5.23]	<.001
Day	-0.06	0.01	0.94	[0.93, 0.96]	<.001
Culture [HK]	0.02	0.22	1.02	[0.66, 1.56]	.939
Between-person PEAA	0.72	0.17	2.05	[1.46, 2.88]	<.001
Within-person PEAA	0.55	0.07	1.74	[1.53, 1.98]	<.001
Between-person PEAA × culture [HK]	-0.03	0.22	0.97	[0.63, 1.50]	.889
Within-person PEAA × culture [HK]	-0.35	0.10	0.70	[0.58, 0.85]	<.001
Trait Prosocialness	0.51	0.16	1.67	[1.21, 2.30]	.002
Age	0.13	0.12	1.14	[0.91, 1.43]	.266
Subjective socioeconomic status	0.13	0.09	1.14	[0.95, 1.37]	.173
Gender [Male]	-0.37	0.19	0.69	[0.48, 0.99]	.046
Retirement [retired]	-0.47	0.23	0.63	[0.40, 0.98]	.041
Education [Low vs. High]	-0.44	0.30	0.65	[0.36, 1.17]	.147
Education [Medium vs. High]	-0.01	0.24	0.99	[0.63, 1.58]	.982
Random Effects					
σ^2			3.29		
τ^2 ID			3.23		
ICC			0.50		
Number of participants			500		
Observations			6728		
Marginal R^2 / Conditional R^2			0.109 / 0.551		
AIC			7094.26		

Note. B = unstandardized log-odds coefficient; SE = standard error; CI = confidence interval; ICC = intraclass correlation coefficient; AIC = Akaike information criterion. PEAA = perceived expectations for active aging in the social domain; HK = Hong Kong SAR. The final model used complete cases on all model variables. The sparse Education Other category was set to missing ($n = 12$), and one Hong Kong SAR participant was missing retirement status, yielding 500 participants and 6,728 diary observations. Reference groups were Germany for culture, female for gender, not retired for retirement status, and high education for education.

Figure 1

Predicted Probability of Daily Prosocial Behavior by Within-Person PEAA and Culture



Note. Predictions were based on 500 participants (Germany: $n = 191$; Hong Kong SAR: $n = 309$) and 6,728 daily observations. PEAA = perceived expectations for active aging in the social domain. Person-mean-centered PEAA values indicate how much each day's score differed from the participant's average score. Shaded areas indicate 95% confidence intervals.