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Predictors of Prosocial Behavior: Differences in Middle Aged and Older Adults

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Abstract

Generativity, contributing to the next generation, is important for well-being throughout middle and late life. Therefore, it is crucial to understand what contributes to generativity during these life stages. Parenting and work are common, but not the only, ways people engage generatively; prosocial behavior is another. A community connection may encourage generative contributions in adults. However, older adults may face obstacles to being generative, and may need an additional drive to engage in these behaviors. Given this, it was expected that community cohesion would predict prosocial behavior despite age, and that grit would provide motivation for older adults, so the current study examined whether age moderated the relation between grit and prosocial behavior. Data were used from 188 upper-Midwest adults (aged 37-89). Multiple regression analyses showed that age moderated the relation between grit and prosocial behavior such that grit predicted prosocial behavior in older adults but not middle age adults. A sense of community cohesion was predictive of prosocial behavior despite age. While grit may promote generative acts in different ways depending on age, a sense of community cohesion may foster community contributions despite age. The discussion focuses on future directions and ways to promote generativity using this research.

Keywords

middle age; older adults; prosocial behavior; community cohesion; grit; generativity; Erikson

1. Introduction

Erik Erikson (1982) posited that generativity (his seventh psychosocial stage), or contributing to the next generation in productive and creative ways, plays a key role in well-being from midlife onward. Shin An and Cooney (2006) found evidence supporting the role of generativity in well-being, noting that those middle age and older adults who were more generative reported greater well-being compared to those who were less generative. Therefore, understanding what cultivates generative behavior throughout mid and later life is

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crucial. Grit, defined as perseverance in striving for long term goals despite adversity, challenges, and failure (Duckworth, Peterson, Matthews, & Kelly, 2007) and sense of community cohesion may contribute to engagement in generative acts. Grit contributes to success (Duckworth, et al., 2007), so grit may promote generative behavior to allow for the successful resolution this psychosocial stage (even if not consciously). Additionally, having a strong sense of community cohesion may foster a need to give back (Levy, Itzhaky, Zanbar, & Schwartz, 2012) making it another likely contributor to engaging generatively.

The most common generative activities include parenting and contributing in the workplace (Shin An & Cooney, 2006). However, retirement is a time in which these activities become less accessible. Nevertheless, retirement is still an important time for generative involvement (Kleiber & Nimrod, 2008). People can also be generative through other family roles, friendships, volunteerism, and community activity (McAdams, 2013). These provide opportunities to be generative throughout middle age and later life. There are individual differences in the generative activities people engage in and the extent to which people behave in generative ways. Therefore, understanding what contributes to individual variation can help identify potential avenues that could be used to promote generativity.

2. Erikson's Theory of Psychosocial Development

Erikson's theory of psychosocial development posits that individuals go through psychological stages characterized by crises that must be resolved (Erikson, 1950). Of the many psychosocial stages that humans go through, the three that are particularly salient for middle age and older adults are: generativity vs. stagnation, ego integrity vs. despair, and grand generativity. Generativity is a dominant issue for adults starting around midlife (Shin An & Cooney, 2006). Erikson (1959) states that “generativity is primarily the interest in establishing and guiding the next generation” (p. 267) and includes productivity and creativity as well (Erikson, 1950). If this stage is not resolved successfully, people experience stagnation, which is “a sense that they cannot produce or generate and that their lives are not having the positive impact on others that they wish they might” (McAdams & Logan, 2004, p. 16). However, its successful resolution does not mean the end of generative behavior. A longitudinal study by Einolf (2014) suggests that generativity is relatively stable thorough out adulthood. Indeed, Erikson (1982) indicates that caring, a prominent factor in generative activity, remains important well into late life. Again, this is evident in Erikson's final stage, grand generativity. Grand generativity is a continuation of the earlier generativity vs. stagnation stage and is described as a need to assist the next generation even after the resolution of ego integrity vs. despair (Erikson, 1982). The existence of the grand generativity stage demonstrates that caring and involvement in generative acts are primary tasks well into older adulthood.

Ego integrity is the need to look back at life with a sense of fulfillment (Erikson, 1950). It becomes a central focus around retirement age (around 65 years of age) (Hannah, Domino, Figueredo, & Hendrickson, 1996). Without the successful resolution of the ego integrity stage, individuals feel a sense of despair and that time is running out (Erikson, 1950). While ego integrity is the major focus during the ego integrity vs despair stage, generativity and caring remain salient and may even contribute to the successful resolution of the crisis. For

example, those who volunteer gain an understanding of the world that allows them to achieve ego integrity through a sense of “wholeness in a life of service” (Piercy, Cheek, & Teemant, 2011, p. 558). Once the ego integrity vs. despair crisis has been resolved, individuals refocus on generativity in the grand generativity stage (Erikson, 1982).

3. Links Between Generativity and Prosocial Behavior

Generative acts can take multiple forms. As previously noted, parenthood is one common avenue through which one may engage generatively, though not everyone is generative through parenthood (Erikson, 1959; Shin An & Cooney, 2006). Workplace contributions provides another common opportunity to be generative (Shin An & Cooney, 2006). As stated in section 1, family roles, friendships, community activity, and volunteering also allow people to be generative (McAdams, 2013). Prosocial behaviors, defined as behavior intended to help or benefit another (Eisenberg, Fabes, & Spinrad, 2006), are also often generative in nature (Snyder & Clary, 2004). For example, prosocial behavior includes activities like donating, volunteering, and simply helping others (Eisenberg, et al., 2006). Thus, prosocial behaviors may provide additional ways for people to be generative beyond those that are most traditional, like parenting.

4. Predictors of Prosocial Behavior

4.1 Grit

Grit is associated with success throughout the life-span (Duckworth et al., 2007). For example, grit has been linked to higher GPA and higher educational attainment (Duckworth et al., 2007), teacher effectiveness (Robertson-Kraft & Duckworth, 2014), and completion of a West Point summer training program (Duckworth & Quinn, 2009). Grit promotes success, so may therefore promote the successful navigation of Erikson's psychosocial stages. Grit may promote the successful navigation of the relevant psychosocial stage at any point in development. Given that middle age and older adults are likely focused on the generativity vs stagnation stage or the later stages, grit would be a salient predictor of generativity at this age. As stated in section 2, older adults need to remain generative to continue to successfully resolve crises. However, they may have health problems or difficulties finding transportation that could hinder their ability to engage in generative activities, particularly because they may need to leave the home to behave generatively. When faced with such challenges, grittiness may drive older adults to persevere in order to remain generative. Thus, grittiness is likely a more salient predictor of prosocial behavior in older adults than of prosocial behavior in middle age adults because middle age adults likely face fewer, or none, of these challenges.

4.2 Community cohesion

Community cohesion is an individual's sense of community, degree of attraction to remain in the community, and degree of interaction within the community (adapted from neighborhood cohesion definition; Buckner, 1988). Feelings of community cohesion likely promote a desire to be generative and to contribute to community prosperity. For example, people age 60-74 with a strong sense of community cohesion are often those who are more generative

and more likely to volunteer (Okun & Michel, 2006). While this connection has been demonstrated in older adults, it is likely that a sense of community cohesion provides a drive or motivation to be generative and be involved with the community despite age. Therefore, a strong sense of community cohesion may well foster engagement in prosocial behaviors in both older adults and middle age adults as a way for them to remain generative.

5. Hypotheses

Based on these empirical and theoretical links, the aim of the current study was to examine the relations between grit and community cohesion in predicting prosocial behavior, and to assess whether the relation between grit and prosocial behavior differ as a function of age. Given the obstacles older adults may face to resolve psychosocial crises, it was expected that grit would contribute to more frequent prosocial behavior in older adults, but not middle age adults. However, it was expected that community cohesion would predict prosocial behavior for both older adults and middle age adults because of the drive to remain generative that community cohesion may provide.

6. Method

This paper used data from a larger IRB-approved multigenerational study examining a range of social relationships and behaviors of undergraduate students and a parent or grandparent. Surveys were filled out by the student, parent and grandparent. All surveys were self-report. Only a subset of variables from the parent/grandparent data that are relevant to the hypotheses were used.

6.1 Participants

Data from 188 participants were used for this study. The majority of participants were women ($N = 161$; 85.6% women). Participants were mostly white (99%) with 51.1% ($N = 96$) of participants living in a rural area. Most participants reported that they had lived in their community for more than 10 years (81.4%). Participant ages ranged from 37 to 89 with a mean age of 56.04 years old. All participants had a child or grandchild attending an upper Midwestern university at the time of data collection.

6.2 Procedure

In the summer and fall semesters of 2008, undergraduate students volunteered to participate in the original study for either course extra credit or ten dollars. These students were recruited through in-class and internet announcements, posted campus signs, and listserv emails sent to students and instructors. Students who participated addressed an envelope to one parent and another to one grandparent they were closest to when they were younger. Parent and grandparent surveys were mailed by the research team along with a stamped and addressed envelope to return the completed survey anonymously. The response rate was 67.4%. Parents and grandparents did not receive any compensation for participation.

6.3 Measures

The cronbach's alphas reported are those for the current study.

6.3.1 Years in Community—Years in community was coded as 0 (*10 or fewer years*) and 1 (*More than 10 years*).

6.3.2 Residential Location—Participants who reported living on a farm or ranch or in a rural area were coded as 0 (*rural*) and those who reported living in a suburban or urban area were coded as 1 (*urban*).

6.3.3 Gender—Gender was coded as 1 (*men*) and 0 (*women*).

6.3.4 Grit—Grit, that is individual perseverance in goal attainment over the long term despite challenges, was assessed using an 8 item scale from Duckworth & Quinn (2009) ($\alpha = .70$). Items were rated on a 1 (*strongly disagree*) to 5 (*strongly agree*) Likert-type response scale. An average of the items was used for the final score with higher scores indicating more grittiness.

6.3.5 Community Cohesion—The individual's sense of community cohesion was assessed using an adapted 14 item ($\alpha = .88$) scale from Buckner (1988). The original scale measured neighborhood cohesion but was adapted for this study to assess community cohesion by altering the questions to ask about the entire community rather than the neighborhood so as to be more relevant for rural residents who do not live in a neighborhood. Items were rated on a 1 (*strongly disagree*) to 5 (*strongly agree*) Likert-type response scale. An average of the items was used for the final score. Higher scores indicate a stronger sense of community cohesion.

6.3.6 Prosocial Behavior—Five items ($\alpha = .80$) were taken from the Primary Prevention Awareness, Attitudes, and Usage Scale (PPAAUS; Swisher, Shute, & Bibeau, 1985). Participants were asked to report the frequency they engaged in prosocial behaviors in the past year. Items included: “Helped a friend with a problem”, “Raised or donated money for a charitable cause”, “Did volunteer work”, “Gave someone a present or did something nice for someone”, “Did someone a favor or lent someone money”. Items were rated on a 1 (*never*) to 6 (*almost every day or more*) Likert-type scale. An average of the items was used for the final score, with higher scores indicating more frequent prosocial behavior.

7. Results

7.1 Data Analysis

Hierarchical multiple regression was used to examine the contribution of age, grit, and community cohesion in predicting prosocial behavior. Gender, residential location, and years in community were included in the model as control variables because previous research has shown gender differences in frequency of prosocial behavior (e.g. Caprara & Steca, 2007), more prosocial involvement by rural residents than urban ones (Levine, Reysen, & Ganz, 2008), and that sense of community cohesion and closeness to the community could be affected by years in the community (Wilkinson, 2008), which could in turn affect frequency of prosocial behavior. Aiken and West (1991) indicate that in order to assess interactions, variables must be centered. Therefore, grit and community cohesion were mean centered before being added to the equation. In the final step, interaction terms for age with grit and

sense of community cohesion were added to examine age differences in these variables' prediction of prosocial behavior.

7.2 Correlations and Descriptives for the Total Sample

Means, standard deviations, and correlations are presented in Table 1. As shown in Table 1, residential location and prosocial behavior were significantly associated with gender. Men tended to live in more urban areas and engaged in prosocial behaviors less frequently than women. Years in the community was also associated with residential location such that those who live in rural areas are more likely to have lived in the community more than 10 years. Community cohesion was significantly positively associated with prosocial behavior, indicating that those with a stronger sense of community cohesion engaged in more prosocial behaviors.

7.3 Moderation Analyses Predicting Prosocial Behavior

Hierarchical multiple regression analysis was used to examine whether age moderated the relation between grit and community cohesion and prosocial behavior (see Table 2). While it was not expected that age would moderate the relation between community cohesion and prosocial behavior, the interaction term was included in the analyses to be thorough in the examination of these relations.

As shown in Table 2, gender was a significant predictor of prosocial behavior, with women engaging in more prosocial behavior than men. Adding grit and community cohesion in step 2 of the model resulted in a significant increase in R^2 . However, grit was not a significant predictor. Community cohesion was a significant predictor such that individuals with greater feelings of community cohesion engaged in more prosocial behavior. The addition of the interaction terms in step 3 did not result in a significant increase in overall R^2 , but the age by grit interaction was significant. The magnitude of the positive association between grit and prosocial behavior increased with age (Figure 1). To determine the age at which the effect of grit manifested itself, post hoc analyses were used. Age was centered at different values until the age at which grit became a significant predictor of prosocial behavior was identified. This is the age the effect is first seen. These analyses revealed that the effect of grit on prosocial behavior manifested itself at age 63 ($b = .29, p = .05$), and indicated that with higher levels of grit, older adults engaged in more prosocial behavior. However, an examination of the standardized beta coefficients in step 3 (see Table 2) revealed that the direct effect of community cohesion on prosocial behavior was stronger than that of grit. Each standard deviation increase in sense of community cohesion predicted a 0.25 standard deviation increase in frequency of prosocial behavior, whereas each standard deviation increase in grit predicted a .16 standard deviation increase in prosocial behavior for older adults only. Gender, community cohesion, and the grit by age interaction were the only significant predictors in the third step, such that women engaged in more prosocial behavior than men, community cohesion predicted prosocial behavior, and grit predicted prosocial behavior only in older adults. The final model accounted for 14% of the variance.

8. Discussion

This study examined the contribution of grit and sense of community cohesion in predicting prosocial behavior. As was expected, grit predicted prosocial behavior for older adults but not middle age adults. Older adults with higher levels of grit engaged in more prosocial behavior than those with lower levels of grit. This effect was not found in middle age adults. Grit may provide a drive for older adults to overcome obstacles and engage in generative behavior. Middle age adults may not have as many obstacles. Additionally, as was expected, community cohesion predicted prosocial behavior regardless of age. Sense of community cohesion may provide a connection to the community, thereby motivating generative behavior despite age.

8.1 Control variables

Although these variables were not a major focus of this study, the findings merit discussion. Consistent with previous research, women engaged in prosocial behavior more frequently than men. Women tend to be more nurturing and are socialized to be more helpful, so it is not surprising that women engage in these behaviors more often (e.g. Eagly & Crowley, 1986).

Contrary to expectations, residential location (Levine, et al., 2008) and years in community were not linked to frequency of prosocial behavior, nor was years in community linked with community cohesion (Wilkinson, 2008). It appears likely that individual personality characteristics and community characteristics would be better predictors of prosocial behavior and of community cohesion rather than the sheer amount of time in residence or a broad-based rural/urban distinction.

Age was not correlated with grit, despite previous findings indicating that older adults tend to report higher grit (Duckworth & Quinn, 2009). It is possible that the current study and/or previous studies were not representative of older adults, and so additional research examining grit in older adults is clearly warranted in order to build a more clear understanding of how grit manifests in older adults. The results of the current study suggest that grit may be an important consideration in older adults' well-being, despite the lack of a correlation between age and grit. This finding merits further examination of this link as the relation between age and grit may provide a potential avenue for increasing well-being in later life. Clearly, further research concerning age effects is necessary to better examine this link.

8.2 Grit and Prosocial Behavior

As expected, age moderated the relation between grit and prosocial behavior such that grit predicted prosocial behavior in older adults but not middle age adults. Older adults have a need to remain generative to successfully navigate life stages (Erikson, 1982). Grit contributes to success (Duckworth et al., 2007) so grit may be an important factor in the successful resolution of Erikson's psychosocial stages. Older adults may have health problems or mobility issues that may hinder their ability to engage generatively. Therefore,

grit likely contributes to engagement in prosocial behaviors because grit provides motivation to engage generatively despite challenges or obstacles.

8.3 Community Cohesion Linked with Positive Social Behavior

Community cohesion was a significant predictor of prosocial behavior such that those with a greater sense of community cohesion engaged in more prosocial behavior. This finding was consistent with the hypotheses. Positive perceptions of one's community similarly motivates positive behavior for middle age and older adults. Previous research has shown that those who have a strong sense of community cohesion tend to be more generative (Okun & Michel, 2006). However, this finding is based on older adults (age 60-74), and so the current research suggests the age range at which community cohesion affects generativity is broader than previously understood.

8.4 Limitations

This study has several notable limitations. There were several challenges related to the measures available to assess key constructs as this study used secondary data. The major limitation is that prosocial behavior served as a proxy measure for generativity, as generativity was not actually measured. Without a measure of generativity, we cannot be sure that grit motivates older adults to behave prosocially as a way to be generative. There may be an entirely different motivational mechanism at work which has yet to be identified.

Another challenge in this study was the relatively small proportion of older adults and of men in the sample, as their small number makes it difficult to know that they are representative of other men and other older adults. The study could have benefitted from more even distributions of gender and age. The cross-sectional nature of the study was also a limitation, such that the age at which grit impacts prosocial behavior could be a cohort effect. A longitudinal examination of the effect of grit on prosocial behavior would be beneficial. Additionally, only a small amount of the variance was explained. In the model, 12% of the variance was explained by main effects, and 14% by the final model. Finally, participants were self-selected, which could bias the sample.

8.5 Conclusions and Future Research

Generativity is important for well-being from midlife onward (Erikson, 1982) and prosocial behaviors can provide opportunities to be generative. As demonstrated by this study, community cohesion may encourage adults to engage generatively, as evidenced by the finding that community cohesion predicted prosocial behavior despite age. Given that community cohesion may provide a connection to one's community and a desire to "give back", this finding was not surprising. The current study also demonstrated the importance of grit for older adults' engagement in prosocial behavior. Given grit's contributions to success, likely aiding in the successful resolution of Erikson's psychosocial stages, and the fact that it may help older adults overcome health and mobility obstacles, this finding was not a surprise. Grit may provide an additional drive for older adults to overcome obstacles and engage generatively.

The results of this study suggest promoting grittiness in older adults may help ensure their continued engagement in generative activities and promote healthy behavior. Future research should continue to explore this connection and determine if grit is truly linked to generativity. Longitudinal research could be beneficial in establishing these connections. Better understanding of this connection could lead to a better understanding of positive development in later life and the role that grit plays in development and well-being. Longitudinal research should also be conducted to identify whether the effect of grit on prosocial behavior occurs as one ages, or if the findings from this study are due to a cohort effect. Additionally, given that only a small amount of variance was explained, results of this study suggest that there are other contributors to prosocial behavior. Finally, future research should explore further what contributes to engagement in these behaviors to help older adults understand how they can remain generative by being prosocial.

This study presents new evidence regarding possible mechanisms through which people remain generative throughout mid and later life. Prosocial behaviors provide opportunities for people to be caring and generative. Because behaving generatively is beneficial to well-being throughout mid and later life (Shin An & Cooney, 2006), it is important that future research discover additional ways to promote generativity. Understanding what contributes to engaging generatively will continue to benefit each new generation of middle age and older adults.

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References

- Aiken, L.S., West, S.G. Multiple regression: Testing and interpreting interactions. Thousand Oaks, CA: SAGE Publications; 1991.
- Buckner JC. The development of an instrument to measure neighborhood cohesion. *American Journal of Community Psychology*. 1988; 16(6):771–791.
- Caprara GV, Steca P. Prosocial agency: The contribution of values and self-efficacy beliefs to prosocial behavior across ages. *Journal of Social and Clinical Psychology*. 2007; 26(2):218–239.
- Duckworth AL, Peterson C, Matthews MD, Kelly DR. Grit: Perseverance and passion for long-term goals. *Journal of Personality and Social Psychology*. 2007; 92(6):1087–1101. DOI: 10.1037/0022-3514.92.6.1087 [PubMed: 17547490]
- Duckworth AL, Quinn PD. Development and validation of the short grit scale (grit-s). *Journal of Personality Assessment*. 2009; 91(2):166–174. DOI: 10.1080/00223890802634290 [PubMed: 19205937]
- Eagly AH, Crowley M. Gender and helping behavior: A meta-analytic review of the social psychological literature. *Psychological Bulletin*. 1986; 100(3):283–308.
- Einolf CJ. Stability and change in generative concern: Evidence from a longitudinal survey. *Journal of Research in Personality*. 2014; 51:54–61. DOI: 10.1016/j.jrp.2014.04.003

- Eisenberg, N., Fabes, RA., Spinrad, TL. Prosocial development. In: Eisenberg, N., Damon, W., Lerner, RM., editors. *Handbook of child psychology: Social, emotional, and personality development*. Vol. 3. Hoboken, NJ: Wiley; 2006. p. 646-718.
- Erikson, EH. *Childhood and society*. New York, NY: W. W. Norton & Company, Inc; 1950.
- Erikson, EH. *Identity and the life cycle*. New York, NY: International Universities Press, Inc; 1959.
- Erikson, EH. *The life cycle completed*. New York, NY: W. W. Norton & Company, Inc; 1982.
- Hannah MT, Domino G, Figueredo AJ, Hendrickson R. The prediction of ego integrity in older persons. *Educational and Psychological Measurement*. 1996; 56(6):930-950. DOI: 10.1177/0013164496056006002
- Kleiber D, Nimrod G. Expressions of generativity and civic engagement in a 'learning in retirement' group. *Journal of Adult Development*. 2008; 15:76-86. DOI: 10.1007/s10804-008-9038-7
- Levine RV, Reysen S, Ganz E. The kindness of strangers revisited: A comparison of 24 US cities. *Social Indicators Research*. 2008; 85:461-481. DOI: 10.1007/s11205-007-9091-9
- Levy D, Itzhaky H, Zanbar L, Schwartz C. Sense of cohesion among community activists engaging in volunteer activity. *Journal of Community Psychology*. 2012; 40(6):735-746. DOI: 10.1002/jcop.21487
- McAdams DP. The positive psychology of adult generativity: Caring for the next generation and constructing a redemptive life. *Positive Psychology*. 2013; 13:191-205. DOI: 10.1007/978-1-4614-7282-7_13
- McAdams, DP., Logan, RL. What is generativity?. In: de St Aubin, E., McAdams, DP., Kim, T., editors. *The Generative Society: Caring for future generations*. Washington, D.C.: American Psychological Association; 2004. p. 15-32.
- Okun MA, Michel J. Sense of community and being a volunteer among the young-old. *Journal of Applied Gerontology*. 2006; 25(2):173-188. DOI: 10.1177/0733464806286710
- Piercy KW, Cheek C, Teemant B. Challenges and psychosocial growth for older volunteers giving intensive humanitarian service. *The Gerontologist*. 2011; 51(4):550-560. DOI: 10.1093/geront/gnr013 [PubMed: 21383113]
- Robertson-Kraft C, Duckworth AL. True grit: Trait-level perseverance and passion for long-term goals predicts effectiveness and retention among novice teachers. *Teachers College Record*. 2014; 116(3):1-27. [PubMed: 26120219]
- Shin An J, Cooney TM. Psychological well-being in mid to late life: The role of generativity development and parent-child relationships across the lifespan. *International Journal of Behavioral Development*. 2006; 30(5):410-421. DOI: 10.1177/0165025406071489
- Snyder, M., Clary, E. Volunteerism and the generative society. *The Generative Society: Caring for future generations*. de St Aubin, E., McAdams, DP., Kim, T., editors. Washington, D.C.: American Psychological Association; 2004. p. 15-32.
- Swisher JD, Shute RE, Bibeau D. Assessing drug and alcohol abuse: An instrument for planning and evaluation. *Measurement and Evaluation in Counseling and Development*. 1985; 17:91-97.
- Wilkinson D. Individual and community factors affecting psychological sense of community, attraction, and neighboring in rural communities. *Canadian Review of Sociology*. 2008; 45(4): 305-329. DOI: 10.1111/j.1755-618X.2008.00013.x [PubMed: 19579352]

Highlights

- Women engaged in prosocial behaviors more frequently than men.
- Grit predicts prosocial behavior in older adults but not middle age adults.
- Community cohesion predicts prosocial behavior, regardless of age.

Figure 1.
Contributions of Grit to Prosocial Behavior by Age.

Table 1
Correlations and Descriptives Among All Variables for the Total Sample

	M (SD)	1	2	3	4	5	6
1. Age	56.04 (11.83)	-					
2. Gender		.02	-				
3. Residential Location		.11	.18*	-			
4. Years in Community		-.03	-.08	-.16*	-		
5. Grit	3.60 (.44)	-.07	.01	.11	.06	-	
6. Community Cohesion	3.59 (.51)	.10	-.03	.05	.07	.13	-
7. Prosocial Behavior	3.72 (.79)	-.11	-.18*	-.04	.07	.11	.26**

Note. Gender coded Women = 0, Men = 1. Residential Location coded Rural = 0, Urban = 1. Years in Community coded 10 or less years = 0, More than 10 years = 1.

* $p < .05$,
** $p < .01$,
*** $p < .001$

Table 2

Moderation Analyses Predicting Prosocial Behavior

	Step 1		Step 2		Step 3	
	<u>b (SE)</u>	β	<u>b (SE)</u>	β	<u>b (SE)</u>	β
Age	-.01 (.01)	-.11	-.01 (.01)	-.12	-.01 (.01)	-.08
Gender	-.40* (.17)	-.18	-.38* (.16)	-.17	-.38* (.16)	-.17
Residential Location	.03 (.12)	.02	-.01 (.12)	-.01	-.01 (.11)	-.01
Years in Community	.12 (.15)	.06	.06 (.15)	.03	.06 (.15)	.03
Grit			.13 (.12)	.07	.12 (.12)	.07
Community Cohesion			.39*** (.11)	.25	.39*** (.11)	.25
Age $\times$ Grit					.02* (.01)	.16
Age $\times$ Community Cohesion					-.01 (.01)	-.08
R ²	.05		.12		.14	
F	2.24		4.09**		3.72***	
df	4, 183		6, 181		8, 179	
F change	2.24		7.46**		2.45	

Note. b are Unstandardized regression weights; β are Standardized regression weights. Gender is coded Women = 0 and Men = 1. Residential Location is coded Rural = 0 and Urban = 1. Years in Community coded 10 or less years = 0, More than 10 years = 1.

* $p < .05$,

** $p < .01$,

*** $p < .001$