

PREDICTORS OF PROSOCIAL BEHAVIOR AND CIVIC INVOLVEMENT: DIFFERENCES  
IN MIDDLE AGED AND OLDER ADULTS

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**Title**

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

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State University's regulations and meets the accepted standards for the degree of

**MASTER OF SCIENCE**

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## **ABSTRACT**

Generativity is important for wellbeing throughout middle and late life. Therefore, it is crucial to understand what contributes to generativity during these life stages. Parenting and work are common ways middle age adults engage generatively. However, older adults may not have these opportunities. Those who are grittier, have a greater sense of religious importance, and a stronger sense of community cohesion may be more inclined to engage in prosocial behaviors and civic activities to stay generative. The current study examined whether age group moderated the relation between these variables and prosocial behavior and civic involvement. Data were used from 188 upper-Midwest adults (aged 37-89). Multiple regression analyses showed that age group moderated the relation between grit and prosocial behavior. Logistic regression analysis showed no moderating effects for any predictors of civic involvement. The discussion focuses on future directions and ways to promote generativity using this research.

## **ACKNOWLEDGEMENTS**

I would first like to thank my parents, Karen and Dan Wenner. Without their support and encouragement, I would never have made it this far. Their continued support has given me the tools and confidence to achieve this level of success. I would also like to thank my boyfriend, Jesse. His support throughout this process has helped me to be successful and to finish this thesis. He has made this process bearable and helped me remember what I am working toward. Thank you also to Dr. Melissa O'Connor and her statistical assistance. I would also like to thank my committee members, Dr. Linda Langley and Dr. Heather Fuller-Iglesias for their support, flexibility, and encouragement throughout this process. Finally, I would like to thank my advisor, Dr. Brandy Randall, for her continued support and encouragement throughout my graduate career. Thanks to her guidance and reassurance, I was able to complete this thesis.

## **DEDICATION**

I dedicate this thesis to my parents, without whom I would not be where I am today.

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## INTRODUCTION AND LITERATURE REVIEW

Erik Erikson (1982) posited that generativity, which is contributing to the next generation, plays a key role in well-being from midlife onward. Shin An and Cooney (2006) found evidence supporting this idea, noting that those middle age and older adults who were more generative had greater well-being compared to those who were less generative. Therefore, understanding what contributes to being generatively engaged throughout mid and later life is crucial. Grit, feeling that religion is important, and sense of community cohesion may contribute to engagement in generative behaviors. Because grit contributes to goal achievement, and Erikson's stages are developmental goals (though not necessarily conscious goals), grit may contribute to behaving generatively. Additionally, feeling religion is important and having a strong sense of community cohesion contribute to an individual's need to give back, also making them likely contributors to generative behaviors.

While the most common generative activities include parenting and contributing in the workplace (Shin An & Cooney, 2006), there are individual differences in the generative activities people engage in and the extent to which people behave in generative ways. For example, older adults who may be retired might not have as many home or workplace opportunities to be generative, making prosocial behaviors or civic activities vital for remaining generative in one's later years. Retirement is an important time for generative involvement (Kleiber & Nimrod, 2008). For this study, middle age individuals were 37-64 and older adults were 65 and over. This is consistent with previous literature, some of which uses 36 as the beginning of middle age (e.g. Kooij & Van De Voorde, 2011) and over 65 as the start of later life (e.g. Hebblethwaite & Norris, 2011). Understanding what contributes to individual variation can identify potential avenues that could be used to promote generativity.

## **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). If crises are not successfully resolved, they may be problematic in the future by causing an individual to fixate on that unresolved crisis and/or hinder the resolution of later crises. There are three stages that are particularly salient for middle age and older adults: generativity vs. stagnation, ego integrity vs. despair, and grand generativity. Erikson (1959) states that "generativity is primarily the interest in establishing and guiding the next generation" (p. 97). Generativity is a dominant issue for adults starting around midlife (Shin An & Cooney, 2006). 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. For example, a longitudinal study by Einolf (2014) suggests that generativity is relatively stable throughout adulthood. Erikson (1982) indicates that caring, a prominent factor in generative activity, remains important well into late life. This is evident in the final stage: grand generativity. Grand generativity is a continuation of the earlier generativity vs stagnation stage and is a continued need to assist the next generation even after the achievement of ego integrity (Erikson, 1982). The existence of this stage demonstrates that caring and involvement in generative acts are primary tasks well into older adulthood.

Successful navigation of generativity vs stagnation allows for the possibility of successful resolution of ego integrity vs. ego despair (Erikson, 1950; Torges, Stewart, & Duncan, 2008). Ego integrity is the need to look back at life with a sense of fulfillment; it is the acceptance that one's life was how it should have been (Erikson, 1950). Ego integrity becomes central around

retirement age (around 65 years of age) (Hannah, Domino, Figueredo, & Hendrickson, 1996). Without the successful completion of ego integrity, individuals, rather than being at peace with their lives, have a sense of despair and feel that time is running out (Erikson, 1950). Lin, Dai, and Hwang (2003) suggest that individuals who achieve ego integrity believe their life has meaning and is fulfilled. 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 (Piercy, Cheek, & Teemant, 2011). Piercy et al. (2011) indicate that volunteers exhibit ego integrity through the sense of “wholeness in a life of service” (p. 558) that volunteering provides them. Once the ego-integrity vs despair crisis has been resolved, individuals refocus on generativity in the grand generativity stage (Erikson, 1982).

### **Links Between Prosocial Behavior, Civic Involvement, and Generativity**

Generative acts can take multiple forms. During midlife, there are multiple avenues through which one can be generative, including, but not limited to, parenthood and involvement in the community (Shin An & Cooney, 2006). Because this stage begins around midlife, parenting is a common way to resolve generativity (Pratt, Danso, Arnold, Norris, & Filyer, 2001; Shin An & Cooney, 2006). However, not everyone is generative through parenthood (Erikson, 1959; Shin An & Cooney, 2006). Prosocial behavior and civic involvement may provide opportunities to be generative beyond parenting. Prosocial behavior is behavior intended to help or benefit another including activities like donating, volunteering, and simply helping others including relatives, neighbors, friends, and strangers (Eisenberg, Fabes, & Spinrad, 2006). Civic involvement is defined here as involvement in community clubs or organizations not limited to involvement in charitable organizations (Driskell, Lyon, & Embry, 2008). Individuals who are

more generative are more likely to engage with society by contributing civically, politically, and religiously than those who are less generative (Jones & McAdams, 2013). This may be because these prosocial and civic activities provide opportunities for people to express their generativity. Prosocial behaviors, such as volunteer activities, can be generative in nature, particularly when they are directed at the next generation (Snyder & Clary, 2004). Volunteering in older adulthood is a way to contribute to the next generation and be involved with activities that will have lasting effects on a community (Folts, 2006). Generative qualities of an individual also tend to encourage volunteering (Snyder & Clary, 2004), with volunteers reporting significantly higher levels of generativity than non-volunteers (Okun & Michel, 2006). Civic involvement also provides opportunities to engage in generative activities and to have meaningful later life experiences (Kleiber & Nimrod, 2008). Clubs in particular can provide some of these options. Simply attending club meetings is associated with volunteering (Choi & DiNitto, 2012), demonstrating the opportunity clubs give individuals to be generative.

Because generative activities are often prosocial or civic activities (Snyder & Clary, 2004), prosocial behavior and civic involvement continue to play a role in the resolution of later life crises. Individuals engage in generative behaviors throughout mid and later life but as life demands and roles change, generative behaviors change as well. For example, while individuals may resolve the generativity vs stagnation crisis through parenting in midlife, they may need other opportunities provided by prosocial behavior and civic involvement to continue to be generative later in life when opportunities they had in midlife are no longer available.

### **Predictors of Prosocial Behavior and Civic Involvement**

**Grit.** Grit is defined as perseverance in striving for long term goals despite adversity, challenges, and failure (Duckworth, Peterson, Matthews, & Kelly, 2007). Grit is associated with

success throughout the life-span (Duckworth et al., 2007; Maddi, Matthews, Kelly, Villarreal, & White, 2012; Reed, Schmitz, Baker, Nukui, & Epperly, 2012). For example, grit has been linked to higher GPA and higher educational attainment (Duckworth et al., 2007). Grit also helps individuals achieve goals. Successful navigation of Erikson's psychosocial stages are developmental goals making grit a possible factor in their successful resolution. Middle age adults' grittiness is likely directed toward generative activities with the family or at work to successfully resolve the generativity vs stagnation stage. Older adults may no longer have these opportunities because they may be retired or their children may no longer live at home, but they still need to remain generative. However, it is worth noting that some older adults may have health problems or difficulties finding transportation that could hinder their ability to engage in generative activities, particularly because they likely need to leave the home to be generatively engaged. Grittiness is therefore likely a more salient feature of prosocial behavior and civic involvement for older adults than it is for middle age adults because prosocial and civic activities provide options to remain generatively engaged that middle age adults likely do not need and middle age adults likely do not face the same health and mobility issues as older adults. Grittiness may drive older adults to persevere in the face of challenges to generative involvement.

**Religious importance.** An individual's feeling that religion is personally important is linked to prosocial behavior and civic involvement. Religious ideals, regardless of religious denomination may foster a need to contribute or give back. McFadden (1999) indicates that for those who feel religion is important, their religious beliefs act as a motivator for engaging in generative activities. These individuals are driven through religion to "repair the world" (McFadden, 1999, p. 1094) and to bring about a better life for the next generation. Prosocial

behavior and civic involvement provide avenues that make these types of contributions possible. For example, Son and Wilson (2011) found that religious individuals (spirituality, which could be considered similar to religious importance, is included in the assessment of religiousness) are more likely to volunteer than those who are not religious. Choi and DiNitto (2012) found that having a religious identity (includes sense of religious importance) was positively associated with religious donating. Prosocial behavior provides an opportunity for individuals to fulfill the religious expectation to be generative.

The association between an individual's feeling that religion is personally important and civic involvement is unclear. One could expect that civic involvement would provide opportunities to engage in generative activities just as prosocial behavior does. However, no research exists identifying the relation between sense of religious importance and civic involvement. However, other measures of religiosity are associated with civic involvement. For example, Driskell et al. (2008) indicates that those with greater participation in religious activities are more likely to be civically involved. Additionally, Loveland, Sikkink, Myers, and Radcliff (2005) found that more frequent prayer is associated with participation in civic groups that are involved with providing services to the elderly, poor or disabled, associations focused on youth work, community-based associations, and support groups. This effect was stronger when those who prayed were part of a religious organization. As these studies demonstrate, various aspects of religiosity are associated with civic involvement. People who are religiously involved or involved in religious activities likely also believe religion to be important, so it is possible that those who find religion important may also be more likely to be civically involved.

Feeling that religion is personally important fosters a need to be generative (McFadden, 1999). Middle age adults likely fill this need through opportunities within the family, however,

as indicated previously, older adults may no longer have these opportunities. Therefore, since prosocial behavior and civic involvement provide generative opportunities outside the family, older adults, especially those who consider religion important, may take advantage of these avenues to remain generative.

**Community cohesion.** Community cohesion is an individual's sense of community, degree of attraction to live and remain in the community, and degree of interaction within the community (adapted from neighborhood cohesion definition; Buckner, 1988). Like grit and importance of religion, sense of community cohesion may foster a need to be generative, thereby influencing prosocial behavior and civic involvement. People with a strong sense of community cohesion are often also those who are more generative (Okun & Michel, 2006). It follows then that those who have a stronger sense of community cohesion may be more likely to be involved with their communities because they want their communities to prosper.

Because older adults likely need opportunities within the community to be generative, a strong sense of community cohesion may well foster engagement in prosocial behaviors and civic involvement. For example, individuals with a stronger sense of community cohesion (Okun & Michel, 2006), those who interact more frequently with their community, those who think community involvement is important, and those who are satisfied with their community interactions (Ahn, Phillips, Smith, & Ory, 2011) are more likely to volunteer. Additionally, a meta-analysis done by Talo, Mannarini, and Rochira (2014) demonstrated the significant relation between sense of community and sense of community cohesion with involvement in civic activities. This meta-analysis did not examine differences between middle age and older adults. However, middle age adults may have a strong sense of community cohesion, but could see the community continuing through their children or in the work environment. This segment of the



population is likely generatively engaged through home or work, making prosocial behavior and civic involvement unnecessary for them to be generative.

## **Hypotheses**

The aim of the current study was to examine how a number of individual and community perception variables contribute to participation in prosocial behavior and civic involvement in middle age and older adults. Specifically, whether the contribution of grit, sense of religious importance, and sense of community cohesion in predicting prosocial behavior and civic involvement varies for middle age and older adults was examined. Age group might play a role in civic involvement and prosocial behavior because middle age and older adults have different opportunities to resolve crises at the various psychosocial stages. Because older adults may need to be generative outside of a family context in order to achieve or maintain generativity, and grit contributes to achievement, it was expected that grit would contribute to older adults' engagement in prosocial behavior and civic involvement. However, for middle age adults, because there is usually a family or work option for engaging generatively, grit was not expected to predict prosocial behavior or civic involvement. Next, it was expected that age group would moderate the relations between importance of religion and prosocial behavior and civic involvement such that importance of religion would predict these behaviors in older adults but not middle age adults. Importance of religion may drive older adults to utilize prosocial and civic opportunities to be generative more so than middle age adults because of a lack of opportunity in the home or work environment. Finally, it was expected that age group would moderate the relations between sense of community cohesion and prosocial behavior and civic involvement such that community cohesion would predict prosocial behavior and civic involvement for older adults but not middle age adults. A sense of community cohesion may promote warm feelings

toward the community and may foster a desire to behave generatively. Prosocial behavior and civic involvement provide opportunities to fulfill this need to be generative that middle age adults likely do not need.

## **METHOD**

This paper used data from a larger IRB-approved multigenerational study examining risk-taking behaviors, relationships, gambling attitudes and behaviors, prosocial behaviors, and community-related perceptions 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.

### **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. Middle age adults were identified as under 65 years. Older adults were identified as 65 years and over. The majority of participants were middle age, with 76.1% (N = 143) falling into that category. Means and standard deviations for each age group are presented in Table 1. All participants had a child or grandchild attending an upper Midwestern university at the time of data collection.

### **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. Parents and grandparents did not receive any compensation for participation.

## **Measures**

**Years in Community.** Participants were asked “How many years have you lived in your community?”. Possible answers included Less than 1 year, 1-5 years, 6-10 years, 11-20 years, and More than 20 years. Less than 1 year, 1-5 years, and 6-10 years were collapsed into one category and 11-20 years and More than 20 years were collapsed into another category. Years in community was coded as 10 or less years = 0 and More than 10 years = 1.

**Residential Location.** Participants were asked “Where do you currently live?”. Possible answers included farm/ranch, rural, suburban, and urban. Farm/ranch and rural were collapsed into one category classified as rural and suburban and urban were collapsed into one category classified as urban. Residential location was coded as rural = 0 and urban = 1.

**Gender.** Participants were asked whether they were a man or a woman. Gender was coded as men = 1 and women = 0.

**Age.** Age was dummy coded such that middle age adults = 0 and older adults = 1. Middle age adults included those under 65 years and older adults included those 65 years and older.

**Grit.** Grit was assessed using a 12 item scale from Duckworth et al. (2007) ( $\alpha = .72$ ). The scale examined individual perseverance in goal attainment over the long term despite challenges. 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 more grittiness. See Appendix A for full scale.

**Religious importance.** Religious importance was assessed with the question “How important would you say religion is to you?” with response options on a scale of 1 (*Not important at all*) to 5 (*Very important*). Higher scores indicated religion was more important to the individual.

**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. Community cohesion rather than neighborhood cohesion was assessed 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. See Appendix B for full scale.

**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. Higher scores indicate more frequent prosocial behavior.

**Civic involvement.** Four items were taken from a community residents survey (Goepfinger & Baglioni, 1985). Participants were asked to indicate if they participated in clubs or associations in their community including: “Local civic or service clubs”, “Any local patriotic

or fraternal organization”, “Any local advisory boards, planning commissions, town board, or town council”, and “Any other local groups or organizations”. Items were answered with a yes or no response. An answer “yes” indicated participation in the activity. Scores were either a 0 (no civic involvement) or a 1 (involvement in one or more activities).

## RESULTS

### Data Analysis

Correlation analyses were calculated for all variables. Hierarchical multiple regression was used to examine the contribution of age group, grit, religious importance, and community cohesion in predicting prosocial behavior. Gender, residential location, and years in community were included in the model as control variables. Gender was controlled for because previous research has shown gender differences in prosocial behavior, prosocial behavior frequency (e.g. Caprara & Steca, 2007), and civic involvement (e.g. Hodgkin, 2011). Some research has also indicated rural residents are more involved in civic and prosocial activities than urban residents (Oliver, 2000) so residential location was controlled for as well. Finally, research has also suggested that the number of years one spends in a community could influence the sense of community cohesion and one's closeness to the community (Wilkinson, 2008), so years in the community was also controlled for. Aiken and West (1991) indicate that in order to assess interactions, variables must be centered. Therefore, grit, religious importance, and community cohesion were mean centered before being added to the equation. Grit, religion, and community cohesion were added in the next step. In the final step, interaction terms for age group with grit, religious importance, and sense of community cohesion were added to examine age group differences in these variables' prediction of prosocial behavior.

Logistic regression was used to examine the contribution of age group, grit, religious importance, and community cohesion in predicting civic involvement. The predictors were entered in an identical manner to those used in the multiple regression model examining prosocial behaviors.

## Descriptives

Means, standard deviations, and *t* values for both the total sample and separately by age group are reported in Table 1 for grit, religious importance, community cohesion, and prosocial behavior. As shown in the table, middle age adults had significantly higher grit scores than older adults. Older adults felt that religion was significantly more important than middle age adults did. Additionally, older adults had a significantly stronger sense of community cohesion than middle age adults. Middle age adults and older adults did not differ significantly in the frequency they engaged in prosocial behaviors. A majority of the participants were civically involved (53.7% (N=101)), with 51.7% (N=74) of middle age adults and 60% (N=27) of older adults civically involved. A chi-square test of independence was done to examine age group differences in civic involvement. There were no age group differences found between middle age and older adults' civic involvement,  $\chi^2(1, N = 188) = .94, p = .33$ .

Table 1. Means, Standard Deviations, and T-Tests by Age for the Major Study Variables (Civic Involvement Included in Text).

Variable	Total Sample	Middle Age Adults	Older Adults	<i>t</i>	<i>df</i>
	M (SD)	M (SD)	M (SD)		
Age	56.04 (11.83)	50.14 (5.20)	74.80 (5.85)	-	-
Grit	3.56 (.41)	3.59 (.40)	3.45 (.43)	1.99*	186
Importance of Religion	4.32 (.92)	4.17 (.95)	4.78 (.64)	-3.98***	186
Community Cohesion	3.59 (.51)	3.54 (.52)	3.72 (.47)	-2.00*	186
Prosocial Behavior	3.72 (.79)	3.75 (.74)	3.65 (.94)	0.73	186

*Note.* Age is coded Middle Age Adults = 0 and Older Adults = 1. Grit scores ranged from 1-5, with higher scores indicating more grittiness. Importance of religion scores ranged from 1-5, with higher scores indicating religion is very important. Community cohesion scores ranged from 1-5, with higher scores indicating a strong sense of community cohesion. Prosocial behavior scores ranged from 1-6, with higher scores indicating more frequent prosocial behavior. \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$



## **Correlations for the Total Sample**

As shown in Table 2, residential location and prosocial behavior were significantly associated with gender. Men tended to live in more urban areas than women and women engaged in prosocial behaviors more frequently than men. Further, civic involvement was significantly associated with residential location and importance of religion. Individuals in rural areas and those who felt more strongly that religion was important were more likely to be civically involved. 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 importance of religion, prosocial behavior, and civic involvement. These associations indicated that those with a stronger sense of community cohesion felt more strongly that religion is important, engaged in more prosocial behaviors, and were more likely to be civically involved. Finally, prosocial behavior and civic involvement were significantly positively associated with each other, indicating that those who were more likely to be civically involved also engaged in more prosocial behaviors.

## **Moderation Analyses Predicting Prosocial Behavior and Civic Involvement**

Hierarchical multiple regression analysis was used to examine whether age group moderated the relation between grit, feelings of religious importance, and community cohesion and prosocial behavior (see Table 3). Binary logistic regression analysis was used to examine whether age group moderated the relation between grit, feelings of religious importance, and community cohesion with civic involvement (see Table 4).

As shown in Table 3, gender was a significant predictor of prosocial behavior, with women engaging in more prosocial behavior than men. Adding grit, religion, and community

Table 2. Correlations Among All Variables for the Total Sample

	1	2	3	4	5	6	7
1. Gender	-						
2. Residential Location	.18*	-					
3. Years in Community	-.08	-.16*	-				
4. Grit	.07	.13	.02	-			
5. Importance of Religion	-.06	.01	-.07	.06	-		
6. Community Cohesion	-.03	.05	.07	.11	.16*	-	
7. Prosocial Behavior	-.18*	-.04	.07	.13	.13	.26**	-
8. Civic Involvement	.02	-.22**	.13	.02	.15*	.19*	.33**

*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.

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

cohesion to the equation resulted in a significant increase in  $R^2$ . However, neither grit nor importance of religion were significant predictors. 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 did not result in a significant increase in  $R^2$ . The age group by grit interaction was the only significant interaction, with grit predicting prosocial behavior in older adults but not middle age adults (Figure 1). Post hoc simple slopes analyses indicate that for older adults, individuals with higher levels of grit report engaging in prosocial behaviors significantly more frequently than those with lower levels of grit ( $B = .71, p = .01$ ). However, among middle age adults, grit was not associated with prosocial behavior frequency ( $B = .09, p = .89$ ). Gender, community cohesion, and the grit by age group interaction were the only significant predictors in the final 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.

Table 3. Moderation Analyses Predicting Prosocial Behavior

	Step 1 B (SE)	Step 2 B (SE)	Step 3 B (SE)
Age	-.09 (.14)	-.19 (.14)	-.05 (.16)
Gender	-.40*(.17)	-.37* (.16)	-.41* (.16)
Residential Location	.01 (.12)	-.03 (.12)	-.03 (.12)
Years in Community	.12 (.15)	.09 (.15)	.08 (.15)
Grit		.19 (.14)	.02 (.16)
Importance of Religion		.10 (.06)	.11 (.07)
Community Cohesion		.37**(.11)	.40**(.12)
Age X Grit			.70* (.32)
Age X Importance of Religion			-.16 (.20)
Age X Community Cohesion			-.16 (.28)
R <sup>2</sup> at each step	.04	.13	.15
F	1.80	3.73**	3.17**
df	4, 183	7, 180	10, 177
F change	1.80	6.10**	1.74

*Note.* Unstandardized regression weights. Age is coded Middle Age Adults = 0 and Older Adults = 1. 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.

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

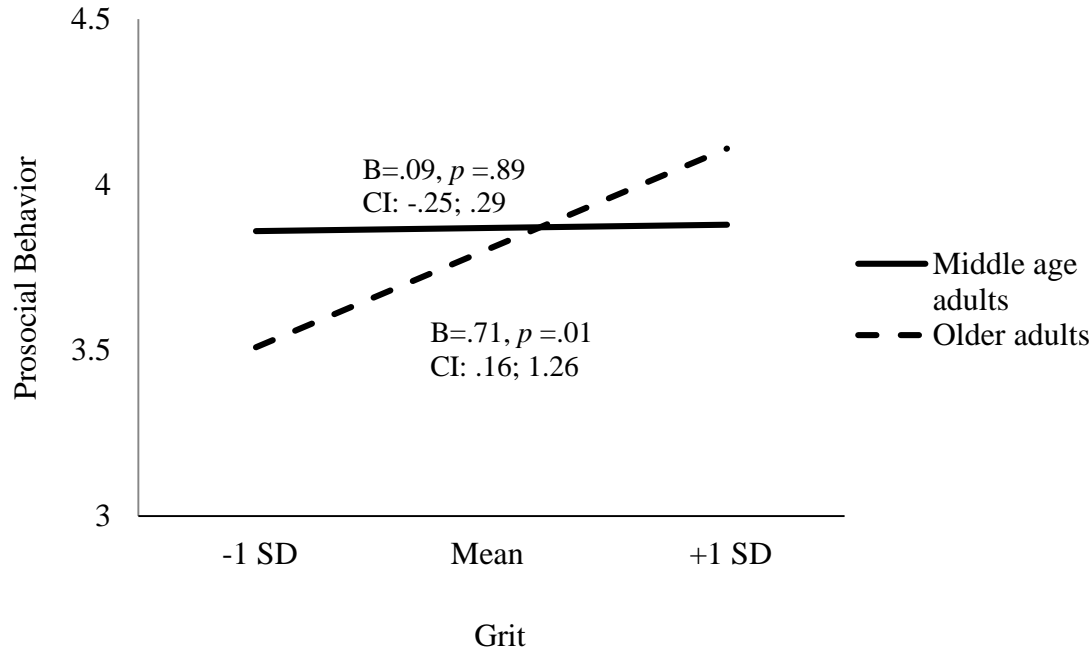


Figure 1. Contributions of Grit to Prosocial Behavior by Age Group.  
 Note: Unstandardized regression weights.

As shown in Table 4, residential location was a significant predictor, such that those who live in an urban area are less likely to be civically involved than those in rural areas (OR = 0.40,  $p < .01$ ). When added, grit and religious importance were not significant predictors of civic involvement. Community cohesion was a significant predictor such that those who a stronger sense of community cohesion were more likely to be civically involved (OR = 2.10,  $p = .02$ ). None of the interaction terms significantly predicted civic involvement, so they were not included in the final model. A test of the step including the interaction terms as compared to the previous step revealed that the inclusion of the interactions did not significantly improve model fit ( $X^2(3, N = 188) = 4.93, p = n.s.$ ). Therefore, the final step included the control variables, grit, importance of religion, and community cohesion. A test of the final model as compared to a base model only including control variables revealed that model fit was significantly better in the final model.  $X^2(3, N = 188) = 9.79, p < .05$ . Residential location and community cohesion were

the only significant predictors in the final model. Those who lived in urban areas were less likely to be civically involved than those in rural areas (OR = .36,  $p < .01$ ) and those who had a stronger sense of community cohesion were more likely to be civically involved than those with a weaker sense of community cohesion (OR = 2.10,  $p = .02$ ).

Table 4. Logistic Regression Predicting Civic Involvement

	<u>Step 1</u>	<u>Step 2</u>
	<u>OR (CI; L,U)</u>	<u>OR (CI; L,U)</u>
Age	1.52 (.75, 3.10)	1.15 (.53, 2.50)
Gender	1.45 (.61, 3.44)	1.60 (.66, 3.88)
Residential Location	.40**(.22, .74)	.36** (.19, .68)
Years in Community	1.75 (.81, 3.79)	1.74 (.78, 3.86)
Grit		1.11 (.51, 2.40)
Importance of Religion		1.35 (.96, 1.91)
Community Cohesion		2.10* (1.10, 3.99)
Nagelkerke's $R^2$ at each step	.09	.16
Goodness of fit statistics		
-2LL	246.26	236.47
Model df	4	7
$\chi^2$ (compared to first model)	-	9.79*

*Note.* Unstandardized regression weights. Age is coded Middle Age Adults = 0 and Older Adults = 1. 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.

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

OR = odds ratio. CI = confidence interval. L = lower. U = upper.

## **DISCUSSION**

This study examined whether the contribution of grit, sense of religious importance, and sense of community cohesion in predicting prosocial behavior and civic involvement varies for middle age and older adults. It was expected that older adults would be more likely to be civically involved and more prosocial than middle age adults because of the differential opportunities for these age groups to resolve psychosocial crises. Further, it was expected that grit, sense of religious importance, and sense of community cohesion would predict prosocial behavior and civic involvement for older adults but not middle age adults. The roles of grit, sense of religious importance, and sense of community cohesion were examined because they offer opportunities to engage in generative behavior outside the home, opportunities that older adults likely need but middle age adults may not. The only hypothesis that was supported was that grit predicted prosocial behavior in older adults but not middle age adults, meaning that 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 and Prosocial Behavior**

As was hypothesized, age group moderated the relation between grit and prosocial behavior such that grit contributed to engagement in 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 goal achievement (Duckworth et al., 2007). Because successful navigation of Erikson's psychosocial stages are developmental goals, grit may be an important factor in the successful resolution of these stages. However, middle age adults likely have opportunities that allow for the successful navigation of generativity vs. stagnation either within their family or at work and therefore need not apply their grittiness to achieving

generativity outside the home. Older adults, on the other hand, may not have the same opportunities and may have health problems or mobility issues that may hinder their ability to engage generatively. Grittiness is, therefore, likely a significant contributor of engagement in prosocial behavior for older adults but not middle age adults because prosocial behaviors provide opportunities to remain generative that middle age adults may not need. Additionally, older adults who are grittier may be better able to overcome health and mobility issues that might hinder engaging in generative activities, such as prosocial behaviors.

### **Religious Importance and Prosocial Behavior**

Contrary to what was hypothesized, age group did not moderate the relation between religious importance and prosocial behavior. Even though Son and Wilson (2011) and Choi and DiNitto (2012) indicate that a sense of religious importance or measures including sense of religious importance are associated with engagement in prosocial behavior, Okun and Michel (2006) and Lam (2002) found evidence to the contrary. Okun and Michel (2006) suggest church attendance, not measures assessing spirituality which could include a sense of religious importance, is associated with prosocial behavior. Lam (2002) did not find church attendance or a sense of religious importance to be associated with prosocial behavior, but that frequency of prayer and religious reading increase odds of involvement in volunteer organizations. It is possible that religious importance was not a factor in engaging in prosocial behavior in the current study because church attendance or religious involvement were not measured. The relation between various aspects of religion and participation in prosocial activities is somewhat muddled. Other aspects of religion or religiosity, rather than just feeling that religion is important, may reveal more about religion's influence on feeling a need to be generative. Future research should continue to identify the ways different aspects of religion and religiosity

contribute to prosocial behavior as well as constructs that contribute to prosocial behavior amongst those who are not religious. Constructs like morality may better identify the mechanisms driving prosocial behavior.

### **Community Cohesion Linked with Positive Social Behavior**

Community cohesion was a significant predictor of prosocial behavior and civic involvement such that those with a greater sense of community cohesion engaged in more prosocial behavior and were more likely to be civically involved. However, contrary to the hypothesis, age group did not moderate these relations. It is possible that no age group differences were found because feeling connected to the community contributes to a desire to see it prosper and continue, regardless of age group. Additionally, those who have a strong sense of community cohesion tend to be more generative (Okun & Michel, 2006). It is possible that people fulfill this need to be generative through contributing to the community, despite opportunities at home or in the workplace. Perhaps strong feelings of community cohesion bring about a need to help and be involved in the community beyond behaving generatively at home or at work, making prosocial behaviors and civic activities crucial opportunities to be generative for those with a strong sense of community cohesion, despite their age group.

### **Civic Involvement**

Age group did not moderate the relation between grit, sense of religious importance, and sense of community cohesion. Therefore, none of the hypotheses concerning civic involvement were supported. This may be because this study's measure of civic involvement only identified whether or not participants were engaged in a civic organization. There was no way to identify what participants actually did in each organization and if it was generative. Therefore participants may not have actually taken part in any generative activities within each



organization. For example, the current measure asked about any groups or organizations a participant was involved in. This could include involvement in purely social organizations that provide no generative opportunities. Because there is no way to determine whether or not participants were generatively engaged within each organization, in retrospect it is not surprising that age group was not a moderator of these relations. Future research should examine age group differences using a more a more comprehensive measure of civic involvement.

### **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. As mentioned previously, there were inadequacies in the measures of civic involvement and religious importance. Additionally, while the prosocial behavior measure was more inclusive than measures used in past studies, it was still simple and the study could have benefitted from a more complex measure. For example, scales such as the Prosocial Tendencies Measure (Carlo & Randall, 2001) assess more nuanced categories of prosocial behavior that are performed under different types of circumstances and motivated by different reasons. A growing body of research suggests that prosocial behavior is multidimensional rather than unitary construct. However, perhaps even more limiting is that civic involvement and prosocial behavior served as proxy measures for generativity, as generativity was not actually measured.

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, as was the fact that participants were self-selected.

## **Conclusions and Future Research**

Generativity is important for wellbeing from midlife onward (Erikson, 1982). While both middle age and older adults need to contribute generatively, they may have different opportunities given their stage in life. Prosocial behavior and civic involvement provide opportunities to be generative that may not be necessary for middle age adults. Therefore, grit, feeling that religion is important, and sense of community cohesion were expected to contribute to older adults' engagement in prosocial or civic activities because these are attributes that contribute to goal achievement or a need to give back.

The current study demonstrated the importance of grit for older adults' engagement in prosocial behavior. Given grit's contributions to goal achievement, the fact that it may help older adults overcome health and mobility obstacles allowing them to engage in generative activities outside the home, and the fact that successful navigation of Erikson's psychosocial stages are developmental goals, this finding was not a surprise. This suggests promoting grittiness in older adults may help ensure their continued engagement in generative activities and promote healthy behavior. There is currently little research on how to promote grit and the little that does exist focuses on children. Thus, exploration of whether it is possible to increase grit in older adults has the potential to greatly enhance older adults' wellbeing. Additionally, given that only the grit by age group interaction was significant, results of this study suggest that there are other contributors to prosocial behavior in older adults. 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.

The lack of significant moderation for the relation between any predictors with civic involvement were unexpected. However, upon further reflection about the measure used, the

findings made more sense. Future research should examine the contributions of these variables and others to civic involvement and if age group differences exist to help people understand what contributes to engaging generatively and how older adults can best remain generative.

This study presents new evidence regarding the ways people can remain generative throughout later life. Prosocial behaviors and civic involvement provide continued opportunities for older adults to remain caring and generative. Because behaving generatively is beneficial to wellbeing throughout mid and later life, it is important that future research continue to examine and discover additional contributors to generative behavior and 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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## APPENDIX A. GRIT SCALE

Choose the option that best describes you. (1 = Strongly Disagree; 5= Strongly Agree)

1. I often set a goal, but later choose to pursue a different one. (reverse scored)
2. New ideas and new projects sometimes distract me from previous ones. (reverse scored)
3. I become interested in new pursuits every few months. (reverse scored)
4. My interests change from year to year. (reverse scored)
5. I have been obsessed with a certain idea or project for a short time, but later lost interest.  
(reverse scored)
6. I have difficulty maintaining my focus on projects that take more than a few months to complete. (reverse scored)
7. I have achieved a goal that took years of work.
8. I have overcome setbacks to conquer an important challenge.
9. I finish whatever I begin.
10. Setbacks don't discourage me.
11. I am a hard worker.
12. I am diligent.

## **APPENDIX B. COMMUNITY COHESION SCALE**

Indicate your level of agreement with each of the following statements about your community.

(1 = Strongly Disagree; 5 = Strongly Agree)

1. I feel like I belong to my community.
2. I visit with the neighbors from my community in their homes.
3. The friendships and associations I have with other people in my community mean a lot to me.
4. Given the opportunity, I would like to move out of my community. (reverse coded)
5. If I needed advice about something I could go to someone in my community.
6. I think I agree with most people in my community about what is important in life.
7. I believe the neighbors in my community would help me in an emergency.
8. I feel loyal to the people in my community.
9. I think of myself as similar to the people who live in my community.
10. I borrow things and exchange favors with my community members.
11. I rarely have neighbors from my community over to my house to visit. (reverse coded)
12. A feeling of fellowship runs deep between me and other people in my community.
13. I regularly stop and talk with people in my community.
14. Living in my community gives me a sense of unity.