

**Examining the Role of Interpersonal and Societal Mattering
in the Health and Wellbeing of Rural Adolescents**

by

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DEDICATION

This dissertation is dedicated to my mother, Beverly Wallace.
Your positive attitude and zeal for helping others inspires me daily.

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ABSTRACT

The Theory of Marginality and Mattering (TMM; Schlossberg, 1989) posits that when individuals feel as though they matter to others and to society, it enables them to engage in prosocial behavior that provides a personally and socially rewarding path through life. It is also expected to help them avoid engaging in risk behaviors (e.g., substance use, non-violent delinquency, aggression) that would threaten a rewarding life. Mattering provides individuals with motivation to behave in certain ways (Rosenberg & McCullough, 1981). In fact, researchers show that youth with higher perceptions of mattering are less likely to engage in risky behavior (Elliot, Cunningham, Colangelor, & Gelles, 2011), however, important gaps in the literature remain. For instance, few researchers have studied mattering among rural youth. Additionally, researchers studying mattering have focused exclusively on interpersonal mattering and have not studied societal mattering. In fact, no well-validated scale for measuring societal mattering among youth currently exists. Also, most researchers have examined mattering as a predictor, but few researchers have studied interpersonal and societal mattering as outcomes. Finally, few researchers have examined the process through which interpersonal and societal mattering influence youth risk behavior. This proposed dissertation seeks to fill these gaps in the literature. The aims of this dissertation are to: 1) develop and test the psychometric properties of a societal mattering scale for rural youth, 2) explore how perceptions of factors at the community, school, peer, and family levels affect rural youths' feelings of interpersonal and societal mattering, and 3)

test a mediation model that links interpersonal mattering to youth risk behaviors through self-regulation and societal mattering through civic engagement.

CHAPTER 1

Introduction

Adolescence is a period in which individuals tend to engage in more risk behaviors such as substance use, non-violent delinquency, and aggression. In fact, according to Center for Behavioral Health Statistics and Quality (2016), 20% of youth between the ages of 12 and 20 have reported drinking alcohol within the past 30 days and 13% have reported binge drinking within the past 30 days. Additionally, in 2015, more than 9% of middle school youth in the U.S. reported having ever used marijuana in their lifetime (CDC, 2015). Theft and other non-violent acts of delinquency are common among youth as well. For example, in the United States in 2016, the number of arrests for theft among youth age 15 and under was 29,321 (U.S. Department of Justice, 2016). Aggressive behavior is also prevalent among youth. In fact, in a nationally representative sample of middle school students in grades 6th-8th, 44% reported having been in a physical fight in the past year (CDC, 2015).

Engaging in risk behavior as an adolescent has a multitude of negative consequences, both economically and individually. For instance, almost 600,000 young people between the ages of 10 and 24 are treated in emergency departments for violence-related injuries each year, costing an estimated \$16 billion in medical and other expenses (CDC, 2014). Additionally, engaging in risk behavior increases an adolescent's likelihood of facing adversity in multiple domains such as their physical health and psychosocial adjustment (Guerra & Bradshaw, 2008). Marijuana use among adolescents, for example, influences their short-term memory, making it challenging to learn and do well in school (Volkow, Baler, Compton, & Weiss, 2014).

Given the prevalence and severity of engaging in risk behaviors during adolescence, it is important to identify points of prevention. Kretman, Zimmerman, Morrel-Samuels, and Hudson (2009) suggest using a strengths-based approach for preventing youth risk behavior. In other words, they suggest focusing on promoting positive factors in the lives of youth rather than trying to eliminate risk factors. Mattering is one positive factor in the lives of adolescents worthy of being studied.

Defining Mattering

Mattering is defined as, “The perception that, to some degree and in any of a variety of ways, we are a significant part of the world around us” (Elliott, Kao, & Grant, 2004, p. 339); the opposite of mattering is marginality, or the perception of unimportance (Schlossberg, 1989).

Two types of mattering have been defined in the literature: interpersonal and societal mattering.

Interpersonal mattering is focused specifically on how much an individual feels they matter to the people they are closest to in their lives (e.g., parents, peers; Rosenberg & McCullough, 1981). Three components of interpersonal mattering include: 1) *awareness*, or the extent to which others know we exist, 2) *importance*, or the extent to which we believe those close to us are concerned about us, and 3) *reliance*, or the extent to which those close to us rely on us (Elliott et al., 2004). Societal mattering is the idea that we are important to society as a whole and that our thoughts and actions can make a difference in the world (Rosenberg, 1985).

Researchers suggest that mattering is conceptually distinct from other social-psychological constructs such as self-esteem, or self-worth, and perceived social support (Elliott, 2009; Rosenberg & Kaplan, 1982). Elliott (2009) notes that individuals’ perception of whether they matter to others and to society provides a foundation for their self-worth (Elliott, 2009), but the two constructs are separate. Mattering is mostly a cognitive process, whereas self-esteem is

both a cognitive and affective process (Rosenberg & Kaplan, 1982). Perceived social support, the belief that others provide us with material, psychological, and emotional support to help cope with stressors, and mattering are related, but are also distinct constructs (Elliott et al., 2004). While, greater social support enhances one's sense of mattering (Marshall, 2001), it is less likely that one's sense of mattering would increase their perceptions of social support received. Additionally, it is possible for a person to perceive high levels of social support provided to them, but still not feel like they matter. Consider individuals who feel as though the support they receive is not provided selflessly or it is provided without the other person sincerely caring about their well-being, they may have a high perception of social support but a low sense of mattering (Elliott, 2009).

Mattering During Early Adolescence

Understanding how mattering influences behavior becomes increasingly salient during early adolescence, which is typically considered 11 to 14 years of age. This is because during this developmental period, individuals are experiencing a number of changes, one being that they are gaining the ability to think abstractly (Steinberg & Morris, 2001). As a result of this increased cognitive capacity, individuals begin to think about themselves and characterize themselves in new, more complex ways. In fact, beginning in this period, individuals are able to see themselves through others' perspectives. Thus, early adolescence is marked by profound changes to the self-concept (Anderman & Maehr, 1994). According to Baumeister (1999), the self-concept includes one's beliefs about oneself. Mattering is an important dimension of the self-concept (Rosenberg & Kaplan, 1982). Given their increased ability to conceive of themselves in more sophisticated ways, early adolescents are better able to perceive how much

they matter to the people close to them and to society more broadly, thus these perceptions of mattering become more influential during this period of development.

Mattering and Risk Behavior

Researchers have demonstrated the importance of mattering in relation to risk behavior among youth. For instance, researchers suggest that the more an adolescent feels as though they matter, the less likely they are to engage in aggressive or violent behavior, illicit drug use, binge drinking, and theft (Elliott, 2009; Elliott, Cunningham, Colangelor, & Gelles, 2011; Lewis, 2016; Rosenberg & McCullough, 1981). In fact, lower perceptions of mattering among youth are associated with more risk behavior at school, more frequent risk behavior, and more serious forms of risk behavior (Elliott et al., 2011; Rosenberg & McCullough, 1981). Given the strong evidence supporting a relationship between mattering and risk behavior, understanding mattering among adolescents is particularly important.

Mattering provides individuals with motivation to behave in certain ways (Rosenberg & McCullough, 1981). The Theory of Marginality and Mattering (TMM) theorizes that when individuals feel as though they matter to others (interpersonal mattering) and to society (societal mattering) it motivates them to engage in prosocial behavior that provides a personally and socially rewarding path through life, and to avoid engaging in risk behavior (e.g., substance use, non-violent delinquency, violence) that would threaten a rewarding life (Schlossberg, 1989). TMM suggests that when individuals know they matter to significant others and to society, they are less likely to have favorable attitudes toward any behavior that may threaten the security mattering provides to them (Elliott, 2009).

Limitations of Previous Research

A limited number of researchers have focused on mattering in their studies. As such, significant gaps in the literature remain. First, researchers have mainly focused on mattering during middle adolescence (e.g., high school students), late adolescence (e.g., college students), and even adulthood (e.g., adults in the workforce, retired adults); very few have studied mattering among early adolescents such as students in middle school. Understanding perceptions of mattering among middle school students is particularly important given that middle school is a transitional phase of life. According to Schlossberg (1989), transitions in life are often characterized by feeling isolated and vulnerable, but feeling as though we matter can reduce these feelings. Additionally, when considering mattering as a potential point of prevention against risk behavior, middle school students are an excellent population to focus on because more serious forms of risk behavior, including violence perpetration, increase between 8th and 9th grade (Sampson, Morenoff, & Raudenbush, 2005). As such, a more in-depth understanding of mattering among middle school students can be useful for the development of prevention programs.

Second, researchers studying mattering have focused mostly on urban and suburban adolescents, with too few researchers focusing on mattering among rural youth (for exception, see Watson, 2017). Findings from studies on urban and suburban youth cannot be generalized to youth living in rural areas as the rural context uniquely influences community, school, family, and peer contexts. In fact, researchers have found that parenting behavior differs between urban parents and rural parents. Urban parents, for example, tend to place greater emphasis on helping their children foster relationships with peers compared to rural parents (Coleman, Ganong, Clark, & Madsen, 1989; Miller & Votruba-Drzal, 2013). More recently, researchers have found that rural parents tend to be less emotionally supportive of their children, less respectful of their

children's privacy, and harsher in their discipline compared to urban parents (Bornstein et al., 2008; Pinderhughes, Nix, Foster, & Hughes, 2001). Furthermore, schools in rural areas tend to be smaller in size, have fewer teachers and support staff, fewer curricular and extra-curricular offerings, and spend less per student compared to urban and suburban schools (McCracken & Barcinas, 1991). These differences can influence students' perceptions of the school environment, which may further affect perceptions of mattering among rural youth compared to non-rural youth. Therefore, we have a need for research focused on mattering among rural youth specifically.

Third, no well-validated societal mattering scale developed specifically for adolescents currently exists. Researchers have developed one societal mattering scale that was developed recently, called the Work Mattering Scale (Jung & Heppner, 2017), but this measure has several limitations. It was developed to measure adults' perceptions of societal mattering within the context of a workplace. As such, this measure is not applicable to early adolescents as most early adolescents are not a part of a workplace environment. Rather, it would be more appropriate to measure perceptions of societal mattering among youth within the community and school contexts. According to Ecological Systems Theory (EST; Bronfenbrenner, 1979), different levels of factors influence adolescent development. One of these levels of influence is the microsystem, which is composed of the settings that most directly influence youth (Bronfenbrenner, 1979). For adolescents, two of the most salient microsystem settings are the community and school contexts (Bronfenbrenner, 1979). Thus, understanding adolescents' perceptions of societal mattering within these two contexts is important. Yet, researchers are unable to gain this understanding without the development and testing of an appropriate societal mattering scale for adolescents.

Another limitation of previous research on mattering is that many researchers have focused almost exclusively on interpersonal mattering while overlooking societal mattering (Jung, 2015). In his early work on mattering, Rosenberg (1985) described these two types of mattering as distinctive, but equally influential for adolescent development. Thus, the lack of research focused on understanding societal mattering is problematic.

One reason this lack of attention to societal mattering is problematic is because interpersonal and societal mattering are likely influenced by different factors, as they are conceptually distinct constructs. EST posits that factors across levels of the ecological model interact and influence other levels (Bronfenbrenner, 1979). Thus, factors at the community, school, family, and peer contexts likely play an instrumental role in shaping feelings of interpersonal and societal mattering. Yet, given the relational nature of interpersonal mattering, it is plausible that relationship-oriented factors (e.g., parent-child communication quality, parental involvement, friend support) across ecological levels uniquely influence interpersonal mattering, while less relationship-oriented factors and more contextual factors (e.g., opportunities for youth participation in the community, availability of community resources, support for autonomy at school, student input in decision-making at school) likely influence societal mattering uniquely. Previous research supports this hypothesis. Marshall (2001), for example, found that parental support influences interpersonal mattering. Furthermore, Whitlock (2007) found that youth are more likely to feel cared for, trusted, and respected by adults in their community, which may indicate greater perceptions of societal mattering, when activities exist in their community that allow them to get involved. Overall, few researchers have focused on what predicts mattering, and this is particularly true for societal mattering.

Another reason that the lack of attention to societal mattering is problematic is because interpersonal and societal mattering likely influence adolescent behavior in different ways. Very few researchers have examined possible mechanisms through which interpersonal mattering relates to youth risk behavior (for exception, see Elliott et al., 2011), and, to the best of my knowledge, no researcher has examined mechanisms through which societal mattering may influence these outcomes. It is plausible that societal mattering works through a behavioral mechanism, while interpersonal mattering may work through a cognitive mechanism. In fact, Rosenberg (1985) focused his research on interpersonal mattering because he argued that it is the type of mattering that has particularly important implications for cognition. When individuals feel as though they matter to people close to them and that those close to them are dependent upon them, they are more likely to think about the consequences of their behavior (Rosenberg & McCullough, 1981; Schlossberg, 1989). As such, one potential mechanism through which interpersonal mattering may affect risk behavior is self-regulation. According to Social Cognitive Theory (SCT; Bandura, 1989), the most proximal basis for behavior is self-regulation, which is an internal control mechanism that governs an individual's behavior. A core determinant of self-regulation is outcome expectations, or the perceived costs and benefits of avoiding or engaging in a behavior (Bandura, 1989). It is plausible that the perceived costs of engaging in risk behavior may outweigh the benefits for an individual who feels they matter to others close to them and, therefore, they may be better able to self-regulate to avoid engaging in behaviors such as substance use, delinquency, and aggression.

While interpersonal mattering may work through a cognitive mechanism, such as self-regulation, the mechanism through which societal mattering influences youth risk behavior may be behavioral. TMM theorizes that when individuals feel like they matter, they are more likely to

engage in prosocial behavior (Schlossberg, 1989), and I argue that this may be particularly true for societal mattering. It is plausible that when people feel like we are important to society and that their actions can make a difference in society, they may feel more inclined to contribute and give back to society through civic engagement. This hypothesis is supported by Duke, Skay, Pettingell, and Borowsky (2009) who found that adolescents who had a stronger connection to their communities, which may indicate greater perceptions of societal mattering, were more likely to engage in prosocial activities such as community service. Furthermore, several researchers have demonstrated a strong relationship between civic engagement and youth risk behavior in that more engagement is associated with less risk behavior (Li, Bebiroglu, Phelps, Lerner, & Lerner, 2016; Rose-Krasnor, Busseri, Willoughby, & Chalmers, 2006; Vieno, Nation, Perkins, & Santinello, 2007). Therefore, it is conceivable that societal mattering increases civic engagement, which in turn reduces the likelihood of engaging in risk behavior. Overall, however, more research is needed to understand better the mechanisms through which both interpersonal and societal mattering influence youth risk behavior.

Overview of Dissertation

My dissertation includes three studies that focus on understanding the role of mattering in the lives of rural youth. Collectively, my studies were designed to address the gaps in the literature noted above. The Theory of Mattering and Marginality and Ecological Systems Theory guided these three studies, and Figure 1.1 depicts the overall conceptual model that informs my dissertation studies.

Research Context & Participants

Each study included in my dissertation was conducted using data from 6th-8th grade students from two middle schools in two rural towns in Michigan located about 10 miles apart.

Both communities are low-income, predominantly White, and have a 12% unemployment rate, which is higher than the national average of 5.3% (Bureau of Labor Statistics, 2016). About 22% of families with children under the age of 18 years are living below poverty in one of the towns, and 31% of families with children under the age of 18 years are living below poverty in the other town (U.S. Census, 2015).

All 6th - 8th grade students from both schools were invited to participate. Of approximately 675 middle school students invited, 56% (N = 381; n = 172 from Middle School A and n = 209 from Middle School B) had parental consent and chose to participate. The mean age of the 381 students that participated in the study was 13.35 (SD = 0.91) and 50.4% of participants were male, which is about the same as the percentage of males attending the schools where data were collected from (52% male; Michigan's Center for Educational Performance and Information [MCEPI], 2016). Additionally, about 50% of the sample self-reported receiving free or reduced lunch at school, with school-level data showing that about 58% of students attending these two schools are economically disadvantaged (MCEPI, 2016). In an effort to maintain anonymity of participants, data were not collected on race/ethnicity, but about 94% of students attending these schools identify as White (MCEPI, 2016).

Study 1: Development and Validation of a Societal Mattering Scale for Youth

The purpose of Study 1 was to develop and test the psychometric properties of a societal mattering scale for youth, as no such measure exists today. It is useful to have a psychometrically sound measure of societal mattering to truly understand the role of mattering in the lives of youth, including rural youth. Study 1 seeks to fill this gap in the literature. For this study, I developed a scale to measure perceptions of societal mattering within the community and school contexts, as these are particularly salient societal contexts during adolescence (Bronfenbrenner,

1979). I also validated this newly developed societal mattering scale using exploratory factor analysis, confirmatory factor analysis, and by testing its construct validity. To assess the construct validity of my societal mattering scale, I examined whether the measure correlates with other constructs in the way that would be expected theoretically. Specifically, I assessed the associations between societal mattering with self-esteem, purpose in life, interpersonal mattering, and risk behavior (i.e., substance use, aggression, non-violent delinquency). I expected that greater perceptions of societal mattering would be associated with higher self-esteem, greater purpose in life, greater perceptions of interpersonal mattering, and less involvement in risk behaviors.

Study 2: Examining Contextual and Relational Predictors of Societal and Interpersonal Mattering Among Rural Youth

Relatively few researchers have examined predictors of interpersonal mattering and no researchers, to the best of my knowledge, have examined predictors of societal mattering among early adolescents, and this is particularly true for rural youth. Thus, Study 2 seeks to fill these gaps in the literature. I explored how perceived relationship factors and perceived contextual factors at the community, school, peer, and family levels affect rural youths' perceptions of interpersonal and societal mattering. With regard to my conceptual model (Figure 1.1), I tested paths A and D in this study.

During adolescence, parents and peers are two of the most influential socialization agents influencing youth (Brechwald & Prinstein, 2011; Prinstein & Dodge, 2008; Steinberg & Silk, 2002). As such, factors describing relationships with parents and peers likely influence adolescents' perceptions of interpersonal mattering in critical ways. With this in mind and taking into account previous research, I hypothesized that youth who reported greater support from friends, greater parental involvement, and more parent-child communication would also report

higher perceptions of interpersonal mattering. Furthermore, given the amount of time youth spend at school and in the community, factors at these two levels can have profound effects on youth (Lenzi et al., 2012; Leventhal & Brooks-Gunn, 2000), and may be particularly salient contexts to explore in relation to adolescents' perceptions of societal mattering. Therefore, I also hypothesized that students who reported more positive perceptions regarding opportunities available for youth involvement in their community, availability of community resources, opportunities for student input in decision-making at school, and support for autonomy at school would report a greater sense of societal mattering.

Study 3: Exploring Pathways from Interpersonal and Societal Mattering to Rural Adolescents' Risk Behavior

Strong theoretical and empirical evidence exists to support a relationship between mattering and risk behavior, yet very few researchers have examined the pathways through which mattering influences youth risk behavior. In fact, to the best of my knowledge, no researchers have examined mediators between societal mattering and risk behavior. This lack of research is particularly noticeable among rural youth. Therefore, Study 3 seeks to address these gaps in the literature by examining mechanisms by which interpersonal and societal mattering influence risk behavior among rural youth. With regard to my conceptual model (Figure 1.1), this study tested paths B→C and E→F.

Given interpersonal mattering has particularly important implications for psychological processes compared to societal mattering (Rosenberg, 1985), I tested self-regulation (a psychological process) as a mediator between interpersonal mattering and youth risk behavior. Furthermore, I tested civic engagement as a mediator between societal mattering and risk behavior because when youth feel they are important to society and that they can make a difference in the world, they may be more motivated to behave in a way that gives back to

society. Taking into account previous research, I expected to find that interpersonal and societal mattering are indirectly related to youth outcomes through self-regulation and civic engagement, respectively. In other words, I hypothesized that higher perceptions of interpersonal mattering would be associated with increased self-regulation and societal mattering would be associated with increased civic engagement, which would in turn be associated with less risk behavior.

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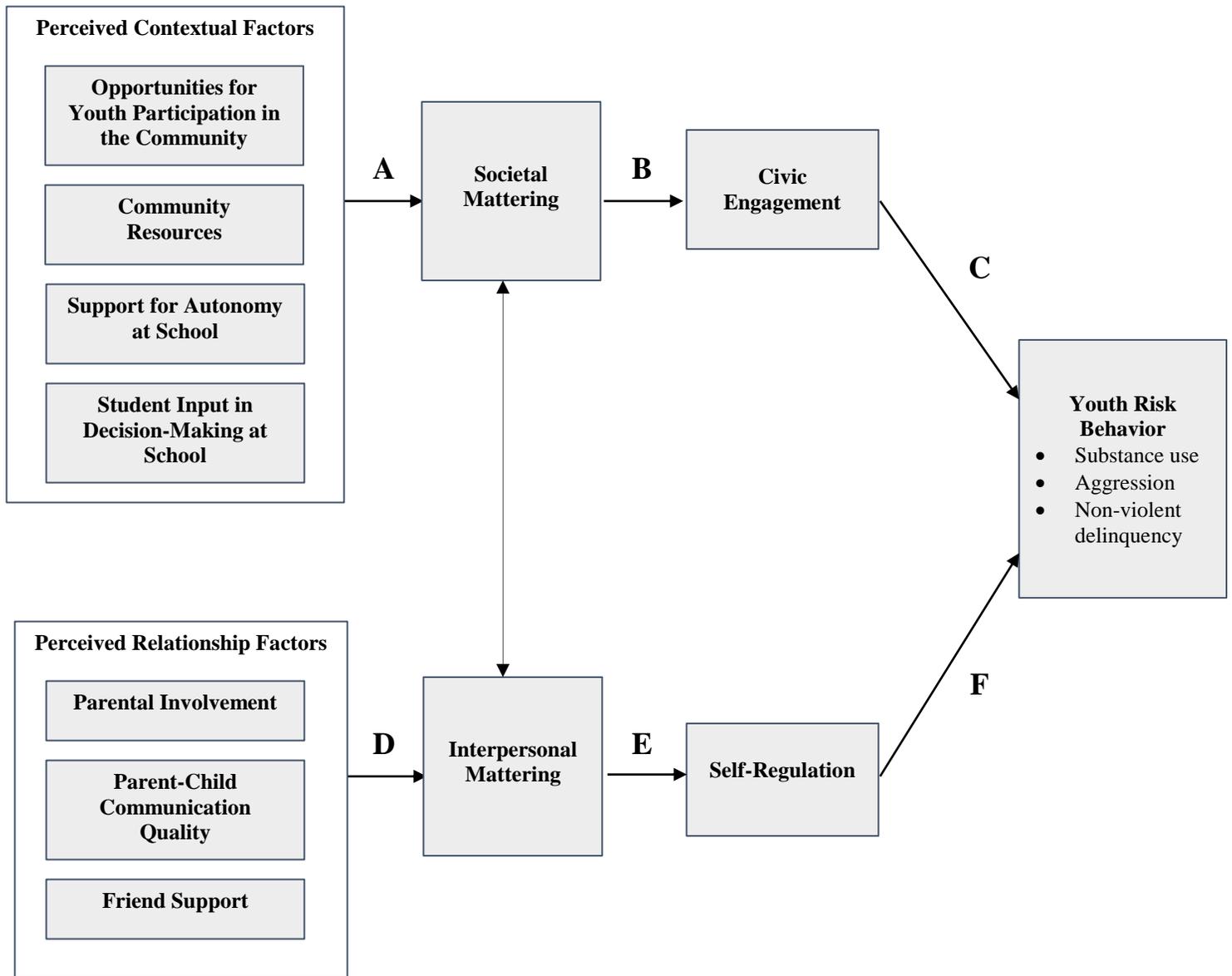


Figure 1.1 Conceptual model of mattering and youth risk behavior

CHAPTER 2

Study 1: Development and Validation of a Societal Mattering Scale for Youth

Mattering is defined as, “The perception that, to some degree and in any of a variety of ways, we are a significant part of the world around us” (Elliott, Kao, & Grant, 2004, p. 339); the opposite of mattering is marginality, or the perception of unimportance (Schlossberg, 1989). Four years after the concept of mattering was originally introduced by Rosenberg and McCullough (1981), Rosenberg (1985) identified two distinct types of mattering: interpersonal mattering and societal mattering. Interpersonal mattering is focused on how much an individual feels they matter to specific people that are closest in their lives (e.g., parents, peers; Rosenberg & McCullough, 1981). Three components of interpersonal mattering include: 1) *awareness*, or the extent to which others know we exist, 2) *importance*, or the extent to which we believe those close to us are concerned about us, and 3) *reliance*, or the extent to which those close to us rely on us (Elliott et al., 2004). Societal mattering is the idea that we are important to society as a whole and that our thoughts and actions make a difference in the world (DeForge & Barclay III, 1997; Rosenberg, 1985). While interpersonal mattering and societal mattering both incorporate an interpersonal component and both focus on an individual’s perception of how important they feel, these two types of mattering are in fact distinct constructs (George & Park, 2014; Rosenberg, 1985). Societal mattering focuses on how valued and important people perceive themselves to be within larger communities or society. It emphasizes a broader sense of social contribution and one’s place in the world. Interpersonal mattering, however, is more concrete

and focuses exclusively on relationships with specific people in one's life (DeForge & Barclay III, 1997).

Why Mattering Matters during Adolescence

Adolescence is a period in which individuals tend to engage in more risk behaviors such as substance use, non-violent delinquency, and aggression. In fact, according to the Center for Behavioral Health Statistics and Quality (2016), 20% of youth between the ages of 12 and 20 have reported drinking alcohol within the past 30 days and 13% have reported binge drinking within the past 30 days. Additionally, in 2015, more than 9% of middle school youth in the U.S. reported having ever used marijuana in their lifetime (CDC, 2015). Aggressive behavior is also prevalent among youth. In fact, in a nationally representative sample of middle school students in grades 6th-8th, 44% reported having been in a physical fight in the past year (CDC, 2015). The consequences of engaging in risk behavior as an adolescent are copious and reinforcing. For instance, engaging in aggressive or violent behavior can lead to criminal behavior later in life and substance use can result in addiction and other health-related problems (Farrington & Ttofi, 2011; Guerra & Bradshaw, 2008; Volkow, Baler, Compton, & Weiss, 2014; Weinberger & Sofuoglu, 2009). Given the prevalence and severity of engaging in risk behaviors during adolescence, it is useful to identify factors that may operate to reduce risk and provide a focus for prevention. Mattering is one potential factor that may both reduce risk, but also be intervened upon in an effort to prevent risk behaviors among adolescents, as an individual's sense of mattering is malleable.

The Theory of Marginality and Mattering (TMM) theorizes that when individuals feel as though they matter to others (interpersonal mattering) and to society (societal mattering) they are motivated to engage in prosocial behavior that provides a personally and socially rewarding path

through life. This includes avoiding engaging in risk behavior (e.g., substance use, non-violent delinquency, violence) that would threaten a rewarding life (Schlossberg, 1989). TMM suggests that when individuals know they matter to significant others and to society, they are less likely to have favorable attitudes toward any behavior that may threaten the security mattering provides to them (Elliott, 2009). In other words, it is likely that when an adolescent feels as though others close to them depend on them and care about them (i.e., interpersonal mattering) and that they are an important part of society (i.e., societal mattering), they may perceive the consequences of engaging in risk behavior may hurt others, their standing with others, or denigrate their social sphere. As a result, they may be more likely to avoid engaging in risk behavior in an effort to not disappoint themselves, society, or the people close to them.

Researchers have generated a small body of evidence corroborating TMM's hypothesis, but this research stems almost exclusively from studies focused on interpersonal mattering. For example, researchers suggest that the more an adolescent feels as though they matter to others close to them, the less likely they are to engage in aggressive or violent behavior, illicit drug use, binge drinking, and theft (Elliott, 2009; Elliott, Cunningham, Colangelor, & Gelles, 2011; Lewis, 2016; Rosenberg & McCullough, 1981). Furthermore, lower perceptions of interpersonal mattering among youth are associated with more risk behaviors at school, more frequent risk behaviors, and more serious forms of risk behaviors (Elliott et al., 2011; Rosenberg & McCullough, 1981). The role societal mattering plays on risk behaviors has yet to be studied, though we argue societal mattering may play an important and unique role.

Role of Societal Mattering vs. Interpersonal Mattering on Adolescent Risk Behaviors

While the relationship between interpersonal mattering and healthy adolescent development is well-supported in the literature (Elliott, 2009; Elliott et al., 2011; Lewis, 2016;

Rosenberg & McCullough, 1981; Taylor & Turner, 2001), understanding the role of societal mattering on adolescent health and well-being has not been studied. Societal mattering may not affect adolescent behavior in the same way that interpersonal mattering does, but it may still contribute to positive youth development. It is plausible that societal mattering influences risk behavior through a behavioral mechanism, while interpersonal mattering may work through a cognitive mechanism. Rosenberg (1985) argued that interpersonal mattering is the type of mattering that has particularly important implications for cognition. When individuals feel as though they matter to people close to them and that those close to them are dependent upon them, they are more likely to think about the consequences of their behavior (Rosenberg & McCullough, 1981; Schlossberg, 1989). As such, interpersonal mattering may prevent youth risk behavior by helping youth better self-regulate their behavior by considering how the consequences of said behavior may affect close relationships.

On the contrary, societal mattering may prevent youth risk behavior by inspiring adolescents to contribute to society and promoting greater youth engagement. It is plausible that when youth believe they are valued by society and that they have an important role in the way society is, they may feel more inclined to contribute and give back to society through volunteerism and civic engagement. This hypothesis is supported by Duke, Skay, Pettingell, and Borowsky (2009) who found that adolescents who had a stronger connection to their communities, which is one component of societal mattering, were more likely to be civically engaged (e.g., as volunteers, by having a voice in politics) compared to youth with a weaker connection to their communities. Furthermore, several researchers have demonstrated a strong relationship between civic engagement and youth risk behavior in that more engagement is associated with less risk behavior (Li, Bebiroglu, Phelps, Lerner, & Lerner, 2008; Rose-Krasnor,

Busseri, Willoughby, & Chalmers, 2006; Vieno, Nation, Perkins, & Santinello, 2007). Taken together, it is plausible that the pathway through which societal mattering may prevent youth risk behaviors is through an increase in prosocial behavior, such as volunteerism and civic engagement.

Societal Mattering vs. Other Constructs

In addition to being distinct from interpersonal mattering, societal mattering is conceptually distinct from other social-psychological constructs salient to adolescent development such as self-esteem, purpose in life, and sense of belonging. An individual's perception of whether they matter to society and whether they have the power to make a change in the world provides a foundation for their self-esteem, but the two constructs are separate (Dixon & Kurpius, 2008; Elliott, 2009; Marshall, 2001; Rosenberg & Kaplan, 1982). The development of perceptions of mattering is mostly a cognitive process even though the effect may be on behavior. Conversely, the development of self-esteem is both a cognitive and affective process (Rosenberg & Kaplan, 1982). Societal mattering is also distinct from having a purpose in life (George & Park, 2014, 2016, 2017). Having a purpose in life is defined as being directed and motivated by valued life goals (Battista & Almond, 1973; Klinger, 1977; McKnight & Kashdan, 2009). Furthermore, Damon, Menon, and Bronk (2003) suggest that having a purpose in life includes having a "desire to make a difference in the world" (p. 121). It is plausible that societal mattering is a contributor to having a purpose in life. When we feel as though society counts on us, we may be more motivated to set goals to help make a difference in society and work towards those goals, thus giving us a greater purpose in life. Researchers have not studied the relationship between societal mattering and purpose in life, but they have found that greater perceptions of interpersonal mattering are associated with a greater purpose in life

(Dixon, 2007; Marshall, 2001). Finally, societal mattering differs from a sense of belonging or connectedness (Dixon-Rayle, 2005; Schlossberg, 1989), which is defined as feeling accepted, included, and encouraged by groups or institutions (Goodenow, 1993). While the two concepts are related, societal mattering is more comprehensive in that it also measures whether an individual believes they can make a difference or have an influence on the way things are in the world.

Gaps in Knowledge

Despite the important and unique influence societal mattering may have on adolescent development, very few researchers have focused on societal mattering in their studies. As such, significant gaps in the literature remain. First, no well-validated societal mattering scale developed specifically for adolescents currently exists. Marcus (1991) developed a General (Societal) Mattering Scale, which has been used in studies with adolescents (e.g., Dixon-Rayle & Myers, 2004; Lemon & Watson, 2011), yet the content validity of this scale is questionable (Jung, 2015). The measure does not include items assessing the extent to which youth believe their thoughts, opinions, and actions make a difference in the world, which is a critical component of societal mattering. Thus, Marcus's (1991) measure is not consistent with the conceptual definition of societal mattering. Instead, it is a measure assessing interpersonal mattering more broadly than within specific relationships (e.g., "How much do other people depend on you?"). The more recently developed Work Mattering Scale (Jung & Heppner, 2017), which includes a societal mattering subscale, may be more closely tied to the conceptual definition of societal mattering because it measures individuals' perceptions of their contribution, value, and connection to society. This measure, however, is not applicable to adolescents. It was developed to measure adults' perceptions of societal mattering within the context of a workplace

(e.g., “I think that society values the work I do.”). Many adolescents, especially early adolescents, are not a part of a workplace environment, and, if they are, it is more of a temporary situation than for many adults.

Jung (2015) hypothesized that this dearth of research on societal mattering during adolescence may be because adolescents are too young to have feelings about whether they are valued by society and whether their existence makes a difference in the world. During adolescence, however, individuals become capable of seeing themselves through others’ perspectives (Anderman & Maehr, 1994; Steinberg & Morris, 2001). Consequently, they are better able to perceive whether they are valued and important to others, and to society more broadly. It is possible, however, that the term *society* may be too abstract for youth to connect and relate to, making it challenging for researchers to appropriately measure societal mattering among adolescents. Given that society is comprised of many contexts, a more appropriate way to measure societal mattering among youth may be by focusing on whether they feel important and influential within their community and school contexts. According to Ecological Systems Theory (EST; Bronfenbrenner, 1979), different levels of influence are critical for adolescent development. The microsystem, which is composed of the settings that most directly influence youth (Bronfenbrenner, 1979), is the most proximal level for youth development. For adolescents, two of the most important microsystem settings are the community and school contexts (Bronfenbrenner, 1979). Thus, measuring and understanding perceptions of societal mattering within these two contexts may be most salient for adolescents.

Current Study

In this study, I developed and tested the psychometric properties of a scale to measure perceptions of societal mattering among youth within the community and school contexts, as

these are particularly salient societal contexts during adolescence (Bronfenbrenner, 1979). In addition to testing the factor structure of our Societal Mattering Scale for youth, I also tested the construct validity of my measure. A common approach for testing the construct validity of a newly developed survey measure is to examine whether the measure correlates with other constructs in the way that would be expected theoretically (i.e., convergent validity). One construct that I expected societal mattering to correlate with is self-esteem. While mattering and self-esteem are separate constructs (Rosenberg, 1985), both are aspects of the self-concept (Rosenberg & Kaplan, 1982). It would be expected then that an individual with a positive self-concept would likely feel as though they matter to society (i.e., societal mattering) and also have a positive evaluation of themselves (i.e., self-esteem).

Another construct that I expected societal mattering to correlate with is purpose in life. I hypothesized that an individual who believes they are an important part of society and that their actions and behavior can make a difference in the world would be more likely to view their life as having a purpose. While the relationship between societal mattering and purpose in life has yet to be studied, Pinquart (2002) conducted a meta-analysis of studies focused on purpose in life among older adults and found that purpose in life is often lower among retired individuals. One explanation for this may be that because retired individuals are no longer working, they may feel as though their actions are no longer making a difference in society and, thus, matter less to society. As such, I hypothesized that lower purpose in life would be associated with lower perceptions of societal mattering.

I also examined the relationship between societal mattering and risk behaviors including substance use, aggression, and non-violent delinquency. I expected to find a negative correlation between societal mattering and engagement in risk behavior in that youth with higher

perceptions of societal mattering will engage in less risk behavior. This hypothesis is supported by the TMM which posits that when individuals feel as though they matter to others and to society they are more likely to engage in prosocial behavior and less likely to engage in antisocial behavior (Schlossberg, 1989).

Finally, to further test the construct validity of my Societal Mattering Scale for youth, I assessed whether societal mattering is in fact unique from interpersonal mattering. Rosenberg (1985) and George and Park (2014) argue that interpersonal and societal mattering are two distinct types of mattering. It is plausible an adolescent can feel they are important to the people close to them, but not important to society or vice versa. Yet, because both constructs are focused on an individual's perception of how important they feel, I hypothesized the two types of mattering would be correlated moderately. More specifically, I hypothesized that greater perceptions of interpersonal mattering would be associated with greater perceptions of societal mattering.

Method

Research Context & Participants

Data for this study were collected through an anonymous, school-based survey focused on understanding the role of mattering in the lives of rural youth. Data were collected from 6th, 7th, and 8th-grade students from two middle schools in two rural towns in Michigan located about 10 miles apart. Both communities are low-income, predominantly White, and have a 12% unemployment rate, which is higher than the national average of 5.3% (Bureau of Labor Statistics, 2016). About 22% of families with children under the age of 18 years are living below poverty in one of the towns, and 31% of families with children under the age of 18 years are living below poverty in the other town (U.S. Census, 2015).

All 6th - 8th grade students from both schools were invited to participate. Of approximately 675 middle school students invited, 56% (N = 381; n = 172 from Middle School A and n = 209 from Middle School B) had parental consent and chose to participate. Notably, eight students had parental consent but chose not to participate, seven students had parental consent but were absent on the days of data collection, and 53 students had parents that did not want them to participate. The mean age of the 381 students that participated in the study was 13.35 (SD = 0.91) and 50.4% of participants were male, which is about the same as the percentage of males attending the schools where data were collected from (52% male; Michigan's Center for Educational Performance and Information [MCEPI], 2016). Additionally, about 50% of the sample self-reported receiving free or reduced lunch at school, with school-level data showing that about 58% of students attending these two schools are economically disadvantaged (MCEPI, 2016). In an effort to maintain anonymity of participants, data were not collected on race/ethnicity, but about 94% of students attending these schools identify as White (MCEPI, 2016).

Procedures

This study was approved by the University of Michigan Institutional Review Board. Written parental consent and electronic student assent were obtained prior to participation. Data were collected using self-administered electronic questionnaires created using Qualtrics survey software. To protect confidentiality among students, teachers were asked to leave the classrooms during data collection. Research staff helped students navigate to the electronic questionnaires and assisted students during the survey when they needed clarification on questions.

Participants completed the anonymous questionnaires during the spring semester of the 2016-2017 academic year. Data collection took place on two different days, one day per school.

During the survey administration, students who did not participate used an electronic tablet or computer to work on an electronic version of a worksheet that included grade-level appropriate and teacher-approved math and reading problems. Students with parental consent to participate and who gave youth assent used an electronic tablet or computer to complete the web-based survey during a 50-minute class period. The survey took approximately 30 minutes to complete ($M = 26.38$ minutes, $SD = 12.50$). Once students completed the survey, they were directed to a link to the electronic math and reading problems worksheet. Both schools received \$500 for participation in the study, but no students were remunerated. All students that brought back completed parental consent forms received a small treat (i.e., piece of candy or cinnamon roll) regardless of whether their parent agreed to allow them to participate.

Measures

For this study, I collected data measuring societal mattering, interpersonal mattering, self-esteem, purpose in life, substance use, aggression, and non-violent delinquency.

Societal mattering. Societal mattering was measured with nine items. Four of the items for this new scale were revised from the societal mattering component of the Work Mattering Scale (Jung & Heppner, 2017). For example, the item, “My work influences people’s lives” was revised to, “I influence the lives of people in my school.” The other five items in the scale were new items generated by analyzing the conceptual definition of societal mattering, reviewing the literature on societal mattering, and utilizing the professional review of four social and behavioral scientists. I tailored items from the societal mattering component of Jung and Heppner’s (2017) Work Mattering Scale to measure the extent to which adolescents perceive they matter more broadly within two contexts most salient to youth: school and community. Because I measured societal mattering within two contexts, I generated 18 total items: nine items

for societal mattering within the school context and nine items for societal mattering within the community context. Table 2.1 lists the 18 items used to measure societal mattering within these two contexts. Response options for each item ranged from 1 (*Strongly disagree*) to 5 (*Strongly agree*), with higher scores indicating a greater sense of societal mattering.

Interpersonal mattering. Interpersonal mattering was assessed using the Mattering to Others Questionnaire (MTOQ; Marshall, 2001), which was specifically developed for use with early and middle adolescents. The MTOQ is an 11-item scale that measures adolescents' perceptions of how important they feel to specific people in their lives (e.g., "When I talk, my [insert relationship] tries to understand what I am saying."), how noticed they feel to specific people in their lives (e.g., "My [insert relationship] notices my feelings."), and how depended upon they feel to specific people in their lives (e.g., "I am missed by my [insert relationship] when I am away."). For nine of the items, response options ranged from 1 (*Not much*) to 5 (*A lot*). The other two items asked respondents to indicate where they would stand on a list, with 1 being the bottom of the list and 5 being the top of the list, if a specific person in their life made a list of things they think and care about.

For this study, I used three referent versions to assess interpersonal mattering: mattering to mother, mattering to father, and mattering to friends. First, I created mean composite scores for perceived mattering to parents and friends. The mean composite score for perceived mattering to parents included the items measuring mattering to mother and the items measuring mattering to father. For participants that reported not having a mother or another person they considered to be their mother ($n = 49$), their composite score for mattering to parents only included items measuring mattering to father. Likewise, for participants that reported not having a father or another person they considered to be their father ($n = 52$), their composite score for

matter to parents only included items measuring mattering to mother. Once mean composite scores for perceived mattering to parents and friends were created, I created an overall interpersonal mattering mean composite score by averaging these two composite scores. Higher scores indicated greater perceptions of interpersonal mattering.

Using a study with 532 adolescents, Marshall (2001) provided evidence that the MTOQ has good construct validity. Marshall (2001) assessed the convergent and discriminant validity of the MTOQ and found that interpersonal mattering was associated with self-esteem, relationship closeness, social support, and purpose in life while being negatively associated with peer rejection in a sample of adolescents. The MTOQ also has high internal consistency reliability. Marshall (2001) reported Cronbach's alphas of .93, .95, and .93 for perceived interpersonal mattering to mother, father, and friends, respectively. Others who have used this measurement tool among diverse samples (e.g., college students, minority adolescents, nonminority adolescents) also report strong internal consistency. Dixon-Rayle and Myers (2004) found Cronbach's alphas of .76, .75, and .76 for perceived interpersonal mattering to mother, father, and friends, respectively. For the current study, I found the following internal reliabilities: .94 for mattering to mother, .95 for mattering to father, and .95 for mattering to friends.

Self-esteem. A shortened version of the Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965) was used to measure students' self-esteem. This measure included four items. An example item is, "I have a positive attitude toward myself," with response options ranging from 1 (*Strongly disagree*) to 5 (*Strongly agree*). Items were coded in a way that higher scores indicated higher levels of self-esteem. A mean composite score of the four items was created. The psychometrics of this scale has been tested in multiple studies and has demonstrated good construct validity and high internal consistency reliability across various populations (Hagborg,

1996; Rosenberg, 1979; Schmitt & Allik, 2005; Sinclair et al., 2010). The internal reliability for this scale for the current study was .85.

Purpose in life. Purpose in life was assessed using eight items: seven items from the Purpose in Life subscale of the Ryff Scales of Psychological Well-Being (Ryff & Keyes, 1995; e.g., “Some people wander aimlessly through life, but I am not one of them.”) and one item from the Youth Purpose Survey (Bundick et al., 2006; i.e., “I have a purpose in my life that says a lot about who I am.”). Participants were asked to indicate the extent to which they agree or disagree with each of the statements and response options ranged from 1 (*Strongly disagree*) to 5 (*Strongly agree*). Items were coded in a way that higher scores indicated greater purpose in life. A mean composite score of the eight items was created. Researchers have found this measure to be reliable (Cronbach’s alpha = .80) in a sample of urban adolescents (Hurd, Stoddard, Bauermeister, & Zimmerman, 2014). The internal reliability of this scale for the current study was .68.

Substance use. Substance use was measured using five items from the Monitoring the Future study (Johnston, O’Malley, Bachman, & Schulenberg, 2011), which have previously been used by Zimmerman and Schmeelk-Cone (2003) and Hurd et al. (2014). Participants were asked to indicate how often within the past 30 days they used the following substances: cigarettes; chewing tobacco, snuff, or dip; cigars, cigarillos, or little cigars; marijuana; and beer, wine, or liquor. Response options for each item ranged from 1 (*No use within the past 30 days*) to 5 (*Everyday*). Participants will be coded as 0 for an item if they report having never used that substance in their lifetime. A sum composite score of the five items was created. Higher values indicated greater substance use. The internal reliability for this scale in my study was .86.

Aggression. Aggression was measured using Orpinas and Frankowski's (2001) Aggression Scale. This scale includes 11 items measuring the frequency of aggressive behavior within the past month. For example, students were asked to indicate how often they have threatened to hurt or to hit someone. Response options ranged from 0 (*Never*) to 5 (*5 or more times*). A sum composite score was calculated with higher scores indicating more aggressive behavior. The psychometrics of this scale have been tested among two samples of 6th-8th grade students. The researchers found the scale to have strong construct validity and high internal consistency reliability ($\alpha = .87$ for both studies) across genders and grade-levels (Orpinas & Frankowski, 2001). The internal reliability of this scale for the current study was .89.

Non-violent delinquency. Self-reported non-violent delinquency was assessed with five items from a scale previously used by Zimmerman, Salem, and Notaro (2000) and Stoddard, Zimmerman, and Bauermeister (2012). Participants were asked to indicate how often they engaged in the following delinquent behaviors during the past month: taken something not belonging to them, gone into some house or building when they weren't supposed to be there; damaged school property on purpose; set fire to someone's property on purpose; and gotten into trouble with police because of something they did. Response options ranged from 0 (*Never*) to 5 (*5 Times or More*). A sum composite score was calculated with higher scores indicating more non-violent delinquency. In previous studies using this scale among adolescents, researchers reported the scale to have Cronbach alphas above .80 (Zimmerman et al., 2000, Stoddard et al., 2012). I found a similar internal reliability value for this study ($\alpha = .83$).

Data Analytic Strategy

Data analysis was conducted in four phases, as described below.

Phase I. Phase I of analysis was focused on item analysis and testing the internal consistency reliability of the 18-item Societal Mattering Scale. Item analyses were conducted to identify possible items for deletion. I examined skew and kurtosis of each item to identify any items that may not differentiate responses well. I used ± 2 as acceptable limits of skew and kurtosis (Trochim & Donnelly, 2006; Field, 2000, 2009; Gravetter & Wallnau, 2014). To avoid redundancy and multicollinearity, I also tested the inter-item correlations to distinguish whether any pairs of items were too highly correlated (i.e., $r > .80$). In this phase of analysis, I also examined the internal reliability of the items retained by assessing Cronbach's alpha.

Phase II. Exploratory factor analysis (EFA) was conducted in Phase II of data analysis using IBM SPSS (version 21) software. A random sample of about one third of the participants ($n = 122$; 57.4% male; $M_{\text{age}} = 13.35$, $SD = 0.86$) was used for this phase of data analysis. First, I used the Kaiser-Meyer-Olkin measure of sampling adequacy and Bartlett's test of sphericity to determine the factorability of the data set for the 18 societal mattering items. Once factorability was determined, I used principal axis factor analysis for our factor extraction method with oblique rotation (i.e., promax) to allow our factors to correlate. I assessed the number of factors identified by the EFA based on eigenvalues, a scree plot of the eigenvalues, and the percent of variance explained by items. In examining eigenvalues, I used Kaiser's (1960) rule of thumb, which states that factors with eigenvalues greater than one should be retained for interpretation. Additionally, items with factor loadings of less than .40 were dropped (Stevens, 1992). I expected to find a two-factor solution with items measuring societal mattering within the community context holding together as one factor and items measuring societal mattering within the school context holding together as a second factor.

Phase III. Phase III of data analysis included confirmatory factor analysis (CFA) using structural equation modeling (SEM) in Mplus 7.3 (Muthén & Muthén, 2012). The remaining 67% of my total sample ($n = 259$; 47.1% male; $M_{\text{age}} = 13.35$, $SD = 0.93$) was used in this phase of analysis to further assess the factor structure of our Societal Mattering Scale. First, I tested a two-factor model specified to reflect the factor structure identified in Phase II. Then, to examine the possibility of a unidimensional scale rather than a two-factor model, I tested a model in which all retained items of our Societal Mattering Scale from Phase II were specified to load onto only a single latent factor. Finally, I tested a second-order model in which the two latent factors identified in Phase II were specified to load onto a single, second-order latent factor.

For all three models tested, I used maximum likelihood estimation. To assess the factorial validity of the models, I evaluated the value and significance of the factor loadings as well as the overall model fit. With regard to factor loadings, items that did not reach statistical significance or had factor loadings less than .40 were dropped (Matsunaga, 2010). Overall model fit was based on multiple indices including the following: the model chi-square test, the Comparative Fit Index (CFI; Bentler, 1990), the Root Mean Square Error of Approximation (RMSEA; Steiger, 1990), and the Standardized Root Mean Square Residual (SRMR). A model was considered good if the model chi-square test was non-significant (i.e., $p > .05$), the CFI was greater than or equal to .95 (Hu & Bentler, 1999), the RMSEA was less than or equal to .08 (MacCallum, Browne, & Sugawara, 1996), and the SRMR was less than or equal to .08 (Hu & Bentler, 1999). Finally, to determine the best fitting model of our three specified models, I used chi-square difference tests.

Phase IV. The final phase in my analysis was focused on examining the construct validity of my Societal Mattering Scale for youth by calculating the correlations between scores

of my measure of societal mattering and measures of other conceptually relevant constructs. For this phase of analysis, the full sample was utilized. I examined convergent validity by correlating scores from our Societal Mattering Scale with scores from self-esteem, purpose in life, substance use, aggression, and non-violent delinquency. I also examined the correlation between societal mattering and interpersonal mattering to determine whether the two constructs can be differentiated.

To assess the correlations between societal mattering and these other variables, I first had to create a total societal mattering score. To do so, I created a mean composite score for the nine items comprising the Community Societal Mattering subscale and another mean composite score for the nine items comprising the School Societal Mattering subscale, which were identified through Phases I, II, and III of data analysis. To create a total societal mattering measure, I averaged these two composite scores for each individual. Then, I used IBM SPSS (version 21) software to calculate Pearson's correlations. I examined the values of the correlation coefficients as well as the statistical significance of these values. I expected to find higher levels of societal mattering being associated with higher self-esteem and greater purpose in life, and less involvement in risk behaviors. Finally, I expected to find a moderate, positive correlation (e.g., $r = .50 - .60$) between societal mattering and interpersonal mattering, as this would suggest the two constructs are related, but also distinct.

Missing Data

For Phases I and II of data analysis, I used listwise deletion so that only individuals with complete data on variables of interest were included in analysis. The sample size was 358 for Phase I and 122 for Phase II. For Phase III of data analysis, I used Full Information Maximum Likelihood (FIML) to address missingness. FIML estimates parameters based on available

complete data and implied values for missing data conditioned on observed data (Schlomer, Bauman, & Card, 2010). The sample size for Phase III of data analysis was 259. Finally, for Phase IV of data analysis, I used listwise deletion so that only individuals with complete data on each of the variables being correlated were included in analysis. Thus, the final sample size for Phase IV was 340.

Results

Phase I: Item Analysis and Internal Reliability Test

I found that skew statistics for all 18 items of our Societal Matterings Scale ranged from -0.64 to 0.23 and kurtosis statistics ranged from -0.77 to 0.22. Furthermore, I did not identify any pairs of items that were too highly correlated. While inter-item correlations were all statistically significant, none of the Pearson coefficients were greater than .80 (range: $r = 0.29$ to $r = 0.78$). Finally, my test of internal consistency reliability demonstrated that the 18 items measuring societal matterings produced similar scores ($\alpha = .95$). Given these results from my item analysis and internal consistency reliability test, all 18 items were retained and utilized for EFA in Phase II.

Phase II: EFA

The Kaiser-Meyer-Olkin measure of sampling adequacy (0.94) and Bartlett's test of sphericity ($p < .001$) indicated the factorability of the data set for the 18 societal matterings items. My EFA yielded two factors explaining a total of 71.43% of the variance for the entire set of items. The first factor had an eigenvalue of 10.95 and explained 60.80% of variance and the second factor had an eigenvalue of 1.91 and explained 10.63% of variance. Additionally, the eigenvalues on the scree plot leveled off after two factors.

Table 2.2 shows the factor loadings and communalities for each item. All items in this analysis had primary factor loadings over .40. Two items had cross-loadings above .30. The item “I feel I help meet the needs of my school” loads onto Factor 1 at .33 and loads onto Factor 2 at .43. The item “I am an important part of my school” loads onto Factor 1 at .32 and Factor 2 at .55. Given the theoretical relevance of these items and the fact that the factor loadings for both items were over .40 on Factor 2 and were not over .40 on Factor 1, I retained both of these items as part of Factor 2. As such, all 18 items of my scale were retained.

Factor 1 was labeled Community Societal Mattering because all items reflect the individual’s perception of their contribution, value, and connection to their community (9 items; $\alpha = .97$). Highest loading items were “I am an important part of my community” (factor loading of .94), “My ideas are valued by the people in my community” (factor loading of .90), and “I have an influence on the way my community is” (factor loading of .90). A higher score on the nine items comprising this factor indicates a feeling of greater societal mattering within the community context.

Factor 2 was labeled School Societal Mattering because all items reflect the individual’s perception of their contribution, value, and connection to their school (9 items; $\alpha = .93$). Highest loading items were “I feel like I matter to my school” (factor loading of .89), “I influence the lives of people in my school” (factor loading of .84), and “I am appreciated by the people in my school” (factor loading of .82). A higher score on the nine items comprising this factor indicates a feeling of greater societal mattering within the school context. The interfactor correlation coefficient between Community Societal Mattering and School Societal Mattering was .69.

Phase III: CFA

The first model tested using CFA was a two-factor model specified to reflect the factor structure identified in the EFA during Phase II. The model fit statistics for this model were: $\chi^2 = 218.98$, $df = 110$, $p < .001$, CFI = .96, RMSEA = .06, and SRMR = .04. Given the model chi-square test is affected by sample size and the size of the correlations in the model (i.e., the larger the correlations, the poorer the fit), I used the chi-square to degrees of freedom ratio test to make it more interpretable. The chi-square to degrees of freedom ratio for this model is 1.99, which is considered acceptable according to Kline (2005) who recommends a ratio less than four. Therefore, despite a significant model chi-square test, my results still indicate a good model fit. Additionally, all items loaded onto their respective latent factors at the $p < .001$ level, ranging from .69 to .83 (standardized) for Community Societal Mattering and ranging from .61 to .77 (standardized) for School Societal Mattering. The intercorrelation between these two latent factors was .71, which is very similar to that found in Phase II.

The second model I tested using CFA was a model in which all 18 items of our Societal Mattering Scale were specified to load onto only a single latent factor. This model was tested to examine the possibility of a unidimensional scale rather than a two-factor model. The model fit statistics for this model were: $\chi^2 = 431.31$, $df = 111$, $p < .001$, CFI = .89, RMSEA = .11, and SRMR = .07. The chi-square to degrees of freedom ratio for this model is 3.89. I used a chi-square difference test to determine whether our two-factor model or this single-factor model was better. The results of the chi-square difference test were $\chi^2_D(1) = 212.32$, $p < .001$. These results indicate that the fit of the two-factor model is statistically better than that of the single-factor model. In essence, the results supported a two-factor model over a one-factor model.

My third model examined if the first-order Community Societal Mattering factor and School Societal Mattering factor loaded onto a more general, second-order Societal Mattering

factor. Model fit statistics for this model were: $\chi^2 = 218.98$, $df = 109$, $p < .001$, CFI = .96, RMSEA = .06, and SRMR = .04. The chi-square to degrees of freedom ratio for this model is 2.01. These fit statistics suggest good model fit. I used a chi-square difference test to determine whether this model was better than our first-order, two-factor model (Model 1). The results of the chi-square difference test were $\chi^2_D(1) = 0$, $p = \text{n.s.}$, suggesting this second-order model was statistically equivalent to Model 1. Results from my second-order model, however, suggest that the first-order latent factors (i.e., Community Societal Mattering and School Societal Mattering) significantly load on the second-order latent factor (standardized factor loadings are .85 for both Community Societal Mattering and School Societal Mattering). Furthermore, the addition of a higher-order factor resulted in an admissible solution, and the higher-order factor is consistent with my guiding theoretical framework. These results suggest that, moving forward, I can operationalize total societal mattering as a composite score of the Community Societal Mattering and School Societal Mattering subscales.

Phase IV: Construct Validity

All correlations were in the conceptually expected directions. More specifically, I found a large positive correlation between societal mattering and self-esteem ($r = .59$, $p < .001$). I also found a moderate positive correlation between societal mattering and purpose in life ($r = .38$, $p < .001$). Furthermore, societal mattering was negatively associated with substance use ($r = -.19$, $p < .001$), aggression ($r = -.25$, $p < .001$), and non-violent delinquency ($r = -.28$, $p < .001$), as hypothesized. Taken together, these results demonstrate my Societal Mattering Scale for youth has convergent validity.

Finally, I found a positive correlation between societal mattering and interpersonal mattering ($r = .52$, $p < .001$). Although this is a large correlation coefficient, a correlation

coefficient of .52 indicates only 27% of shared variance exists between societal mattering and interpersonal mattering, leaving over 70% of non-shared variance between these two variables. These results demonstrate that societal mattering and interpersonal mattering are related but distinct constructs.

Discussion

My findings provide evidence that measuring societal mattering within the community and school contexts is appropriate for adolescents, which aligns with Bronfenbrenner's (1979) argument that these two contexts are the most important microsystem settings for this population. My factor analyses yielded an 18-item, two-factor model of societal mattering that assesses how strongly adolescents believe they can make a difference in the world and are valued by society. Specifically, the EFA and CFA results indicated two, nine-item subscales: a Community Societal Mattering subscale and a School Societal Mattering subscale. Results from the CFA also supported a higher-order model of societal mattering in which both subscales loaded on to a second-order Societal Mattering factor.

My results support both the conceptual and operational definitions of societal mattering. My Societal Mattering Scale for youth has excellent psychometric properties. My results demonstrate that the items in the scale are closely related and are measuring the same underlying construct. This is true among items within each subscale as well as across subscales. Findings from this study also demonstrated that my Societal Mattering Scale has good construct validity, as it correlated with other similar constructs as hypothesized. I found that greater perceptions of societal mattering was associated with higher self-esteem. Given both self-esteem and mattering are aspects of the self-concept (Rosenberg & Kaplan, 1982), it would be expected that an individual with a positive self-concept would likely feel as though they matter to society (i.e.,

societal mattering) and also have a positive evaluation of themselves (i.e., self-esteem). The association I found between societal mattering and self-esteem, however, was only moderate, which we anticipated because each construct represents a different aspect of the self-concept (Rosenberg & Kaplan, 1982). I also found greater perceptions of societal mattering to be associated with a greater purpose in life. This finding is consistent with what others have found for adults and the context of work; when individuals feel as though society counts on them through the work they do, they are more likely to have a purpose in life (Pinquart, 2002; Schultz, 2016). Similarly, my results support the idea that when youth feel as though they matter in larger social contexts such as community and school, they are also more likely to have a sense of directedness and purpose in life.

Construct validity for my Societal Mattering Scale was further established by my findings that a greater sense of societal mattering was correlated with less involvement in risk behaviors. These findings are consistent with previous research focused on the link between interpersonal mattering and risk behaviors (Elliott, 2009; Elliott et al., 2011; Lewis, 2016; Rosenberg & McCullough, 1981). They also corroborate Schlossberg's (1989) Theory of Marginality and Mattering which posits that greater perceptions of mattering are associated with positive outcomes. One explanation as to why societal mattering may be associated with less engagement in risk behaviors is that feeling as though we are important to society and that what we think and do can make a difference in the world may encourage civic engagement and volunteerism, and some responsibility to the greater good. Conrad and Hedin (1991) argued that youth were growing increasingly alienated from society and this contributed to youth being less likely than other age groups to vote or volunteer (Billig, 2000). Yet, volunteerism and civic engagement promotes positive youth development and is associated with less involvement in negative

behaviors such as violence and substance use (Mellor & Freeborn, 2011; Yates & Youniss, 1996). Therefore, increasing perceptions of societal mattering among adolescents may prevent engagement in risk behaviors through the promotion of prosocial behavior.

Finally, I expected and found societal and interpersonal mattering to be moderately correlated, but that they represent distinct constructs as well. These results are consistent with Rosenberg's (1985) notion that two types of mattering exist. Interpersonal mattering is specifically focused on how important we perceive ourselves to be to specific people in our lives, whereas societal mattering is focused on how important we perceive ourselves to be to larger communities and society as a whole. Considering both types of mattering focus on individuals' perceptions of how important they feel, it makes sense that I found the two constructs to be moderately correlated. Yet, studying societal mattering as a separate and distinct construct from interpersonal mattering is important. When youth believe they are important to society and that they have a role in making a difference in the world, they may feel more inclined to contribute and give back to society through volunteerism and civic engagement. This hypothesis is supported by Jung and Heppner's (2017) study in which they found societal mattering within the work context to be associated with adults' commitment to their work organizations. Applying these findings to youth, it is conceivable that when youth feel they matter to their school and community (i.e., society), they may be more likely to feel committed to making a difference in these contexts.

Study Limitations

A few study limitations should be noted. First, the generalizability of the factor structure of my Societal Mattering Scale is limited. My sample included rural, early adolescents from predominantly low-income, white communities. Therefore, my results may not be generalizable

to youth from urban or suburban areas, middle or late adolescents, or minority youth. Yet, focusing on rural youth is also a strength of this study because researchers studying mattering in general have focused mostly on urban and suburban adolescents. Rural youth are not widely studied. This may be particularly critical because rural contexts may have few community programs promoting positive youth development (Burd-Sharps & Lewis, 2017). Nevertheless, future studies are needed to validate this scale among other populations of youth.

Another limitation of this study is that participants may have defined community differently from one another. For example, one student may have defined community geographically while another student may have defined community socially. I tried to avoid this issue by asking participants to think of community as the place they live, though students may have overlooked this when they completed their questionnaire. Furthermore, this study relies solely on self-report data. Self-report data are susceptible to social desirability bias (Huang, Liao, & Chang, 1998). The questionnaires, however, were self-administered, which has been shown to decrease social desirability bias in answers to questions on sensitive topics including violent behavior and substance use (Tourangeau & Yan, 2007). Additionally, my reliance on self-report data was necessary given I collected data on participants' perceptions. Notably, some researchers suggest that the use of non-self-report data to measure constructs inherently perceptual may not be appropriate (Chan, 2009). Issues of interpretation differences by participants and use of self-reported data would likely reduce the chances of finding effects. Given that I still found effects despite these limitations suggests that my findings are robust.

An additional limitation that must be acknowledged is that my EFA results showed that two of my items cross-loaded onto both factors even after rotation. I chose to retain both items as part of the School Societal Mattering factor given that both items loaded the highest onto this

factor. According to Matsunaga (2010), it is an acceptable and widely used approach to retain a cross-loading item as long as the “item’s highest factor loading is greater than an a priori determined cutoff value” (p. 101). For this study, my a priori cutoff was .40 as suggested by Stevens (1992). Both items loaded onto the School Societal Mattering factor above a .40 cutoff (they loaded on to this factor at .55 and .43, specifically) and did not load onto the Community Societal Mattering factor above .40 (they loaded on this factor at .32 and .33). Thus, it was acceptable to retain both items as part of the School Societal Mattering factor. Furthermore, Hair, Tatham, Anderson, and Black (1998) argue that factor loadings of .30-.35 are often too small to be of significance when a sample size is below 250. Given that the sample size for my EFA was 122, the factor loadings of these two items on the Community Societal Mattering factor may not be of importance. Nevertheless, it would be useful for future research to replicate the factor structure of my societal mattering measure using larger samples of youth to get a better idea of whether these two items should be retained or eliminated as part of the scale.

Finally, about 44% of youth did not participate in this study, with 33% of students not even returning a parental consent form. This was to be expected given that nonresponse rates are often higher among lower income populations (Reyes, 2016) like the sample used for this study. This nonresponse may have introduced bias into my study in that youth at highest risk for violence perpetration may have been less likely to participate in my study because they are less likely to be in school compared to youth at lower risk for engaging in violence (Smit, De Zwart, Spruit, Monshouwer, & Van Ameijden, 2002). Yet, I still found statistically significant relationships in the hypothesized directions despite this potential bias, which further suggests my results are robust. In fact, if no bias was introduced into this study, the effects I found may have been even stronger. With that being said, I have no reason to believe that some groups of youth

were less likely to participate in this study compared to other groups. The demographics of the sample used in this study reflect the demographics of the overall population from the two school districts.

Contributions & Implications

These limitations notwithstanding, this study makes several unique and significant contributions. First, this study provides researchers with a useful tool for studying the role of societal mattering in adolescent development. While researchers have developed various measures of interpersonal mattering for use among adolescents (e.g., Elliott et al., 2004; Marshall, 2001), my Societal Mattering Scale is the first empirical measure of societal mattering developed specifically for this population. The focus on adolescents' perceptions of interpersonal mattering is likely influenced by the emphasis that Rosenberg (1985) placed on this type of mattering in relation to adolescents' behaviors and psychological well-being. Jung (2015) argued that interpersonal mattering is more salient than societal mattering with regard to clinical or programming implications. Yet, without a validated measure, we are unable to examine whether societal mattering also influences adolescent development, nor can we say the implications of societal mattering are any less important than the implications of interpersonal mattering. Researchers can use my Societal Mattering Scale to identify predictors of societal mattering, which is necessary for future program development as it will give researchers and practitioners an idea of how to enhance perceptions of societal mattering. Furthermore, my measure can be used to examine the pathways through which societal mattering influences youth outcomes including risk behaviors and academic outcomes.

In addition to providing researchers with a tool for studying societal mattering among adolescents, this study may also have implications for practice. My results suggest changes in

school policies and/or opportunities within the community to help youth feel they are a valued and influential member of their school and/or community should be considered. For example, schools could include a service learning component in the school curriculum, or more opportunities for students to be involved in school decision-making could be instituted. Furthermore, organizations within communities that increase opportunities for youth participation in decision making and problem solving may help them feel as though they matter. School and community efforts such as these may help youth understand their role and contribution to society and therefore may help reduce youth risk behaviors and increase prosocial behaviors. My findings support this conclusion and suggest programs designed to enhance perceptions of societal mattering may indeed prevent problem behaviors.

This study may have particularly important research and practice implications for rural youth specifically. In general, researchers studying mattering have focused less on rural youth as compared to urban and suburban youth. Studying rural youth is important because they comprise almost 20% of the youth population in the United States (U.S. Census Bureau, 2014). Furthermore, findings from studies on urban and suburban youth cannot be generalized to youth living in rural areas, as the rural context creates different experiences for rural youth as compared to urban and suburban youth. Rural youth are disconnected from important resources that promote healthy development at a much higher rate (20.3%) compared to urban youth (14.2%) and suburban youth (12.3%; Burd-Sharps & Lewis, 2017). For example, rural youth are less likely than non-rural youth to have access to community recreation centers and health services (U.S. Department of Health and Human Services, 2011). Thus, while rural and non-rural youth may be from the same society, the differences in their experiences may uniquely affect their perceptions of societal mattering. Therefore, we have a need for research focused on societal

matter among rural youth specifically, and this study opens the door for more researchers to do so. With regard to practice implications, rural youth have less access to resources, including youth programs, compared to non-rural youth (Burd-Sharps & Lewis, 2017; U.S. Department of Health and Human Services, 2011), which may suggest that rural youth have fewer opportunities to participate in activities (e.g., decision-making) that help them feel as though they matter to society. As such, it is critically important for practitioners to develop and implement programs in rural areas focused on helping youth understand their role and contribution to society.

Conclusion

Given their increased ability to conceive of themselves in more sophisticated ways, adolescents are better able to perceive how much they matter to the people close to them and to society more broadly, thus perceptions of mattering become more influential during this period of development. We know interpersonal mattering has important implications for adolescent development, but we know much less about societal mattering. This is a significant gap in the literature which this study begins to fill. In order to study how societal mattering influences adolescent development, we have to be able to measure it. This study provides researchers with the instrument to do so.

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TABLE 2.1 Items tailored and developed to measure Societal Mattering within the school and community contexts

Societal Mattering Scale: School Context	Societal Mattering Scale: Community Context
The people in my school value me as a person.*	The people in my community value me as a person.*
I feel I help meet the needs of my school.*	I feel I help meet the needs of my community.*
I am an important part of my school.	I am an important part of my community.
My school would not be the same without me.	My community would not be the same without me.
I influence the lives of people in my school.*	I influence the lives of people in my community.*
I feel like I matter to my school.	I feel like I matter to my community.
My ideas are valued by the people in my school.	My ideas are valued by the people in my community.
I am appreciated by the people in my school.	I am appreciated by the people in my community.
I have an influence on the way my school is.*	I have an influence on the way my community is.*

Note: * Item is tailored from the Societal Mattering component of Jung & Heppner's (2015) Work Mattering Scale

TABLE 2.2 Factor loadings, communalities, and total variance explained from EFA of 18 final items of Societal Mattering Scale

Items	Factor Loadings		Communalities	% of Variance
	F1	F2		
Factor 1				60.80%
The people in my community value me as a person.	.84	-.01	.70	
I feel I help meet the needs of my community.	.88	-.06	.70	
I am an important part of my community.	.94	-.02	.86	
My community would not be the same without me.	.76	.09	.68	
I influence the lives of people in my community.	.77	.10	.71	
I feel like I matter to my community.	.85	.08	.83	
My ideas are valued by the people in my community.	.90	.004	.82	
I am appreciated by the people in my community.	.86	.03	.78	
I have an influence on the way my community is.	.90	-.09	.71	
Factor 2				10.63%
The people in my school value me as a person.	.09	.72	.62	
I feel I help meet the needs of my school.	.33	.43	.50	
I am an important part of my school.	.32	.55	.66	
My school would not be the same without me.	-.04	.72	.49	
I influence the lives of people in my school.	-.14	.84	.57	
I feel like I matter to my school.	-.05	.89	.73	
My ideas are valued by the people in my school.	.10	.76	.69	
I am appreciated by the people in my school.	.02	.82	.68	
I have an influence on the way my school is.	.09	.65	.51	

CHAPTER 3

Study 2: Examining Contextual and Relational Predictors of Societal and Interpersonal Mattering Among Rural Youth

Mattering is a construct that was introduced by Rosenberg and McCullough (1981) more than 30 years ago. It is defined as, “The perception that, to some degree and in any of a variety of ways, we are a significant part of the world around us” (Elliott, Kao, & Grant, 2004, p. 339); the opposite of mattering is marginality, or the perception of unimportance (Schlossberg, 1989). Mattering is one of the primary dimensions of the self-concept (i.e., an individual’s beliefs about themselves; Rosenberg & McCullough, 1981; Elliott et al., 2004). Perceptions of mattering influence how we value ourselves and how we understand our place in the world; individuals who feel they matter have a more positive self-concept (Marshall, 2004).

Four years after the concept of mattering was originally introduced, Rosenberg (1985) presented the idea that two types of mattering are important: interpersonal and societal. Interpersonal mattering is focused specifically on how much an individual believes they matter to specific people in their lives (e.g., parents, peers; Rosenberg & McCullough, 1981; Marshall, 2001). Three components of interpersonal mattering include: 1) *awareness*, or the extent to which others know we exist, 2) *importance*, or the extent to which we believe those close to us are concerned about us, and 3) *reliance*, or the extent to which those close to us rely on us (Elliott et al., 2004). Societal mattering is the idea that we are important to society as a whole and that we play a significant role in shaping the world in which we live (DeForge & Barclay III,

1997; Rosenberg, 1985). The two types of mattering are in fact distinct constructs despite the fact that they both incorporate an interpersonal component and both focus on an individual's perception of how important they feel (George & Park, 2014; Rosenberg, 1985; Chapter 2).

Mattering and Adolescent Health & Well-being

Mattering has important implications for health and well-being. For instance, greater perceptions of mattering are associated with fewer depressive symptoms (Rosenberg & McCollough, 1981; Taylor & Turner, 2001), greater levels of happiness (Taniguchi, 2015), and less emotional distress (Rayle, 2006; Fazio & Nguyen, 2014). Researchers have demonstrated that the associations between mattering and health and well-being are particularly profound for adolescents. Specifically, more positive perceptions of mattering among adolescents are predictive of better academic outcomes (Rayle & Chung, 2007; Lemon & Watson, 2011), greater purpose in life (Marshall, 2001), higher self-esteem (Rosenberg & McCollough, 1981), increased satisfaction in romantic relationships (Mak & Marshall, 2004), and better overall psychological well-being (Marshall, 2004). For adolescents, mattering can also protect against suicide ideation (Elliott, Colangelo, & Gelles, 2005), externalizing problems (Schenck et al., 2009), and substance use and violent behavior (Elliott, 2009; Elliott, Cunningham, Colangelor, & Gelles, 2011; Lewis, 2016; Rosenberg & McCullough, 1981). While the evidence indicating links between mattering and positive adolescent outcomes stems almost exclusively from researchers focused on interpersonal mattering, my findings from Chapter 2 provide preliminary evidence that societal mattering is also associated with healthy adolescent health (i.e., less aggression, substance use, and non-violent delinquency; greater purpose in life).

The Theory of Mattering and Marginality (TMM) provides an explanation as to why mattering may be associated with better outcomes among youth (Schlossberg, 1989).

Schlossberg (1989) posits that when individuals feel they matter to others and to society it motivates them to engage in prosocial behavior that provides a personally and socially rewarding path through life. Furthermore, it is hypothesized that those who believe they matter avoid engaging in behaviors that may threaten a rewarding life (Elliott, 2009; Schlossberg, 1989). When individuals know they matter to significant others and to society, they are less likely to have favorable attitudes toward any behavior that may threaten the security mattering provides to them (Elliott, 2009).

Factors Related to Mattering

Given how important mattering is for the positive development of youth, it is necessary to understand how to enhance feelings of mattering among adolescents. An individual's sense of mattering is malleable and can be the focus of health promotion programs as a way of promoting better health and well-being and preventing risk behaviors. In fact, mattering may be a particularly relevant factor in interventions for promoting adolescent health. Kretman, Zimmerman, Morrel-Samuels, and Hudson (2009), for example, argue for the importance of developing programs focused on enhancing positive factors in the lives of youth rather than trying to minimize risk factors. Yet, without a strong understanding of determinants for interpersonal and societal mattering, researchers and other interventionists cannot develop effective programs. Most research on mattering is focused on how perceptions of mattering relate to health and behavioral outcomes, but we know little about what factors predict mattering as few researchers have examined predictors of interpersonal mattering, and even fewer have studied predictors of societal mattering.

The Ecological Systems Theory (EST) posits that factors at different levels influence adolescent development, and the levels that most directly influence youth include the

community, school, family, and peer contexts (Bronfenbrenner, 1979). As such, factors across these contexts likely play an instrumental role in affecting adolescents' feelings of interpersonal and societal mattering. Yet, because the two types of mattering differ, the factors that contribute to youths' perceptions of each may also differ. Interpersonal mattering pertains to how important people perceive themselves to be to specific people in their lives. Thus, this type of mattering may be more likely to be influenced by specific relationship-oriented factors (i.e., factors focused on the interaction or dynamic between specific people). Societal mattering, on the other hand, may be influenced by broader, contextual factors (i.e., factors that describe a particular setting or environment) given that this type of mattering focuses on mattering to larger systems.

Relational Factors and Interpersonal Mattering

In general, findings from previous research support the idea that relational factors are important contributors of interpersonal mattering. For instance, among a sample of adults between the ages of 18 and 93, Lewis and Taylor (2009) found that greater support from family and friends predicted a higher sense of mattering to others. Furthermore, more strain in a relationship is significantly associated with lower perceptions of interpersonal mattering among adults (Schieman & Taylor, 2001). Additionally, married individuals report significantly higher levels of interpersonal mattering compared to those who are single (Schieman & Taylor, 2001; Taylor & Turner, 2001), which may further indicate that this type of mattering is influenced by relational factors.

Researchers studying mattering among adolescents in particular have also found support for interpersonal mattering being influenced by factors focused on the interaction or dynamic between specific people. In fact, among a sample of undergraduate students, Rayle and Chung (2007) found that greater social support from friends on campus was predictive of greater

perceptions of interpersonal mattering. Additionally, college students report a greater sense of mattering to others when they perceive that their romantic partner devotes time to them and when they feel incorporated into their partner's life (Mak & Marshall, 2001). For younger adolescents, greater acceptance from parents is associated with greater perceptions of mattering to parents, while greater parental control and emotional maltreatment from family members predict a lower sense of mattering to others (Flett, Goldstein, Pechenkov, Nepon, & Wekerle, 2016; Marshall, 2001).

Several other potential determinants of interpersonal mattering have not yet been explored. Parental involvement, for example, may be another relationship-oriented factor associated with greater perceptions of interpersonal mattering. Youth who have parents that are involved in their life may perceive that they are important to their parents, which is one of the three components of interpersonal mattering (Elliott et al., 2004). In contrast, a lack of parental involvement may demonstrate unimportance to adolescents. The level of communication between a parent and their child may also have implications for perceptions of interpersonal mattering. While this relationship has not yet been studied empirically, researchers have found that parent-child communication can influence an adolescent's self-concept (Kernis, Brown, & Brody, 2000), and mattering is one dimension of the self-concept (Rosenberg & McCollough, 1981). It is plausible that greater parent-child communication may signal to the child that they matter to their parents. When parents spend time asking their child about their day or how they are feeling, it may demonstrate to their child that they are the focus of their parents' attention (i.e., *awareness* component of interpersonal mattering) and that their parents are concerned about their life and wellbeing (i.e., *importance* component of interpersonal mattering).

Contextual Factors and Societal Mattering

Few researchers have studied factors that influence adolescents' perceptions of societal mattering. One of the closest bodies of research in this area is on sense of connectedness, which is most commonly characterized as youths' perceptions of feeling cared for, accepted, included, respected, and encouraged by groups or institutions (Goodenow, 1993; Whitlock, 2006; Whitlock, 2007). While the two concepts are related, societal mattering is more comprehensive in that it also measures individuals' perceptions of whether they make a difference or have an influence on the way things are in the world. Nevertheless, the literature on sense of connectedness may be helpful in identifying contextual correlates to societal mattering. For instance, in a sample of 8th, 10th, and 12th grade students, the likelihood of adolescents feeling cared for, trusted, and respected by adults in their community was influenced by their perceptions of whether activities existed in their community that allowed them to get involved (Whitlock, 2007). This finding suggests that opportunities for meaningful youth participation in their communities may be an important contextual factor affecting perceptions of societal mattering. When communities encourage youth involvement, youth may feel like their thoughts and actions are important to society and that they play a significant role in how the world is.

Another contextual factor that may contribute to adolescents' perceptions of mattering to society is the availability of resources for youth within their communities. In fact, through the use of focus groups, Whitlock (2007) found that when communities offer limited activities and resources specifically for youth, youth felt less connected to their community. A lack of community resources for youth may signal to adolescents that they are not important enough to invest in and that they are not valued members of society. Researchers have continuously demonstrated the importance of community resources, such as youth-focused community organizations, for adolescent development (e.g., McLaughlin, 2000). One way in which these

community resources may promote the healthy development of youth is by increasing perceptions of societal mattering.

In addition to community factors, societal mattering may also be influenced by school factors given that schools play a key role in adolescent development (for a review, see Osher, Kendziora, Spier, & Garibalidi, 2014). One such factor that may affect perceptions of societal mattering is the level of student input in decision-making at school. Youth may perceive themselves as important when they are involved in decision-making processes. By allowing student input regarding school policies or classroom activities, schools may indicate to youth that their voice matters. In contrast, when youth are deprived of opportunities to share in decision-making, they may be less likely to feel like they have a role in the way the world is. In fact, Mitra and Serriere (2012) contend that giving students a voice can increase their confidence in their ability to contribute to society, which may translate into greater perceptions of societal mattering.

Finally, support for autonomy at school may influence societal mattering. During adolescence, the need for autonomy increases (Steinberg, 2002). Researchers have found that support for autonomy has positive implications for adolescents. For instance, it is associated with greater academic engagement, better mental health, and less involvement in problem behaviors among adolescents (Eccles, Early, Fraser, Belansky, & McCarthy, 1997). Another way support for autonomy may have a positive effect on youth development is by increasing perceptions of societal mattering. It is plausible that when an adolescent's need for independence is supported within the school context, they may feel that their thoughts and perspective are valued and important, thus increasing their perception of societal mattering. On the other hand, when the school context is characterized as controlling, youth may not feel like their thoughts are

important and may not be provided the opportunity to make a difference in their school, and, as a result, have lower perceptions of societal mattering.

Influence of Rurality on Determinants of Interpersonal and Societal Mattering

In general, predictors of mattering have not been studied extensively, and the researchers who have explored factors influencing perceptions of mattering have focused on urban and suburban youth or college students. Yet, studying determinants of interpersonal and societal mattering among rural youth is important considering they comprise almost 20% of the youth population in the United States (U.S. Census Bureau, 2014). Additionally, findings from studies on urban and suburban youth, or even college students, cannot be generalized to youth living in rural areas, as the rural context creates different experiences for rural youth as compared to youth living in urban or suburban areas, or on college campuses. Specifically, rurality uniquely influences community, school, family, and peer contexts, and, consequently, may affect how these contexts influence interpersonal and societal mattering for rural youth.

To start, rural areas are isolated in many ways (e.g., by distance, technology, transportation, and communication), and this isolation can influence family and peer relationships. Dill and Myers (2001), for example, found that rural families lack social support due to isolation and this lack of support exacerbates the stress levels of parents, which further influences parenting practices (Guajardo, Snyder, & Petersen, 2009; McLoyd, 1990). In fact, rural parents tend to be less emotionally supportive and harsher than urban parents (Bornstein et al., 2008; Pinderhughes, Nix, Foster, & Hughes, 2001), and also display less involvement in their children's schooling compared to urban parents (Roscigno, Tomaskovic-Devey, & Crowley, 2006). Rural isolation also affects peer relationships by limiting opportunities for rural youth to interact with other youth (Gristy, 2012). As a result, perceptions of interpersonal mattering for

rural youth may be more strongly influenced by parent-related factors, such as parental involvement and parent-child communication, than by peer-related factors, such as friend support.

Rurality also shapes factors related to the school and community contexts. For instance, rural schools tend to have a high percentage of inexperienced or poorly prepared staff, inadequate resources, and poor facilities (Flores, 2007; Jerald & Ingersoll, 2002). These characteristics may decrease the capacity of rural schools to be able to implement policies and procedures conducive to positive youth development. Furthermore, rural communities have limited access to community resources such as recreation centers and health services (U.S. Department of Health and Human Services, 2011), and fewer community-based supports (O'Connell, Atlas, Saunders, & Philbrick, 2010). Overall, differences between rural and urban and suburban areas demonstrate that results from previous studies examining predictors of mattering may not generalize to youth living in rural areas. Thus, more research on the influences of interpersonal and societal mattering is needed among rural youth in particular.

Current Study

Relatively few researchers have examined predictors of interpersonal mattering and no researchers, to the best of my knowledge, have examined predictors of societal mattering among early adolescents, and this is particularly true for rural youth. Thus, this study seeks to fill these gaps in the literature. I explored how perceived relationship factors and perceived contextual factors at the community, school, peer, and family levels affect rural youths' perceptions of interpersonal and societal mattering.

During adolescence, parents and peers are two of the most influential socialization agents influencing youth (Brechwald & Prinstein, 2011; Prinstein & Dodge, 2008; Steinberg & Silk,

2002). As such, factors describing relationships with parents and peers likely influence adolescents' perceptions of interpersonal mattering in critical ways. With this in mind and taking into account previous research, I hypothesized that youth who reported greater support from friends, greater parental involvement, and more parent-child communication would also report higher perceptions of interpersonal mattering. Furthermore, given the amount of time youth spend at school and in the community, factors at these two levels can have profound effects on youth (Lenzi et al., 2012; Leventhal & Brooks-Gunn, 2000), and may be particularly salient contexts to explore in relation to adolescents' perceptions of societal mattering. Therefore, I also hypothesized that students who reported more positive perceptions regarding opportunities available for youth involvement in their community, availability of community resources, opportunities for student input in decision-making at school, and support for autonomy at school would report a greater sense of societal mattering.

Method

Research Context & Participants

Data for this study were collected through an anonymous, school-based survey focused on understanding the role of mattering in the lives of rural youth. Data were collected from 6th, 7th, and 8th-grade students from two middle schools in two rural towns in Michigan located about 10 miles apart. Both communities are low-income, predominantly White, and have a 12% unemployment rate, which is higher than the national average of 5.3% (Bureau of Labor Statistics, 2016). About 22% of families with children under the age of 18 years are living below poverty in one of the towns, and 31% of families with children under the age of 18 years are living below poverty in the other town (U.S. Census, 2015).

All 6th - 8th grade students from both schools were invited to participate. Of approximately 675 middle school students invited, 56% (N = 381; n = 172 from Middle School A and n = 209 from Middle School B) had parental consent and chose to participate. Notably, eight students had parental consent but chose not to participate, seven students had parental consent but were absent on the days of data collection, and 53 students had parents that did not want them to participate. The mean age of the 381 students that participated in the study was 13.35 (SD = 0.91) and 50.4% of participants were male, which is about the same as the percentage of males attending the schools where data were collected from (52% male; Michigan's Center for Educational Performance and Information [MCEPI], 2016). Additionally, about 50% of the sample self-reported receiving free or reduced lunch at school, with school-level data showing that about 58% of students attending these two schools are economically disadvantaged (MCEPI, 2016). In an effort to maintain anonymity of participants, data were not collected on race/ethnicity, but about 94% of students attending these schools identify as White (MCEPI, 2016).

Procedures

This study was approved by the University of Michigan Institutional Review Board. Written parental consent and electronic student assent were obtained prior to participation. Data were collected using self-administered electronic questionnaires created using Qualtrics survey software. To protect confidentiality among students, teachers were asked to leave the classrooms during data collection. Research staff helped students navigate to the electronic questionnaires and assisted students during the survey when they needed clarification on questions.

Participants completed the anonymous questionnaires during the spring semester of the 2016-2017 academic year. Data collection took place on two different days, one day per school.

During the survey administration, students who did not participate used an electronic tablet or computer to work on an electronic version of a worksheet that included grade-level appropriate and teacher-approved math and reading problems. Students with parental consent to participate and who gave youth assent used an electronic tablet or computer to complete the web-based survey during a 50-minute class period. The survey took approximately 30 minutes to complete ($M = 26.38$ minutes, $SD = 12.50$). Once students completed the survey, they were directed to a link to the electronic math and reading problems worksheet. Both schools received \$500 for participation in the study, but no students were remunerated. All students that brought back completed parental consent forms received a small treat (i.e., piece of candy or cinnamon roll) regardless of whether their parent agreed to allow them to participate.

Measures

For this study, I collected data measuring societal mattering, interpersonal mattering, perceived contextual factors, and perceived relationship factors. Demographic data were also collected. Table 1 shows the descriptive statistics and internal reliabilities for study variables.

Societal mattering. Societal mattering was measured using two subscales: School Mattering and Community Mattering. Each subscale was measured using nine items (i.e., 18 items total). Four of the items were revised from the societal mattering component of the Work Mattering Scale (Jung & Heppner, 2017), which is used to measure perceptions of societal mattering among adults specifically within a work environment. I tailored these items to measure the extent to which adolescents perceive they matter within their school and their community. The other five items were new items generated by analyzing the conceptual definition of societal mattering, reviewing the literature on societal mattering, and utilizing the professional review of four social and behavioral scientists. Sample items from this measure include, “I feel like I

matter to my [school/community],” and, “I have an influence on the way my [school/community] is.” Response options for each item ranged from 1 (*Strongly disagree*) to 5 (*Strongly agree*), with higher scores indicating a greater sense of societal mattering.

Societal mattering was specified as a second-order latent variable for data analysis with School Mattering and Community Mattering as first-order latent variables. The items measuring societal mattering within the school context were used as indicators for School Mattering, and the items measuring societal mattering within the community context were used as indicators for Community Mattering. This measurement model was supported by findings from a confirmatory factor analysis conducted in Study 1 (see Chapter 2). Yet, as suggested by Hall, Snell, and Foust (1999), instead of each subscale item being an indicator for its respective latent variable, I parceled the nine School Mattering items into three indicators and the nine Community Mattering items into three indicators. To parcel the nine items measuring School Mattering, I averaged three of the items to create the first indicator, another three items were averaged to create the second indicator, and the last three items were averaged to create the third indicator. The same process of parceling was used for the nine Community Mattering items. Parceling is a common measurement practice used with structural equation modeling (SEM; Little, Cunningham, Shahar, & Widaman, 2002). The main advantage of parceling, aside from a more parsimonious model, is that it reduces the chances for residuals to be correlated because fewer indicators are being used and because unique variances are smaller (MacCallum, Widaman, Zhang, & Hong, 1999).

Interpersonal mattering. Interpersonal mattering was assessed using the Mattering to Others Questionnaire (MTOQ; Marshall, 2001), which was specifically developed for use with early and middle adolescents. The MTOQ is an 11-item scale that measures adolescents’

perceptions of how important they feel to specific people in their lives (e.g., “I feel special to my [insert relationship].”), how noticed they feel to specific people in their lives (e.g., “My [insert relationship] notices my feelings.”), and how depended upon they feel to specific people in their lives (e.g., “I am missed by my [insert relationship] when I am away.”). For nine of the items, response options ranged from 1 (*Strongly disagree*) to 5 (*Strongly agree*). The other two items asked respondents to indicate where they would stand on a list, with 1 being the bottom of the list and 5 being the top of the list, if a specific person in their life made a list of things they think and care about. Researchers have demonstrated that the MTOQ has strong convergent and discriminant validity and high internal consistency reliability across diverse samples of adolescents (Marshall, 2001; Dixon-Rayle & Myers, 2004). In fact, Marshall (2001) reported Cronbach’s alphas of .93, .95, and .93 for perceived interpersonal mattering to mother, father, and friends, respectively.

For this study, I used three referent versions of the MTOQ to assess interpersonal mattering: mattering to mother, mattering to father, and mattering to friends. For data analysis, interpersonal mattering was specified as a second-order latent variable with mattering to parents and mattering to friends as first-order latent variables. The items measuring mattering to mother and mattering to father were used as indicators for the mattering to parents latent variable. To create these indicators, I first averaged each item measuring mattering to mother with the respective item measuring mattering to father (e.g., score for “I feel special to my mother” was averaged with the score for “I feel special to my father”). This resulted in 11 items measuring mattering to parents. For participants that reported not having a mother or another person they considered to be their mother ($n = 49$), their score for each mattering to parents item reflected only mattering to father. Likewise, for participants that reported not having a father or another

person they considered to be their father ($n = 52$), their score for each mattering to parents item reflected only mattering to mother. Next, instead of using all 11 items measuring mattering to parents as indicators, I parceled these items into three indicators. To do so, I averaged four of the items to create the first indicator, another four items were averaged to create the second indicator, and the last three items were averaged to create the third indicator. The items measuring mattering to friends were used as indicators for the mattering to friends latent variable. Again, instead of using all 11 items measuring mattering to friends as indicators, I parceled these items into three indicators using the same method I used for creating the parceled indicators for mattering to parents.

Perceived contextual factors. Perceived contextual factors included opportunities for youth participation in the community, community resources, student input in decision-making at school, and support for autonomy at school.

Opportunities for youth participation in the community. Opportunities for youth participation was measured using two items from the Youth as Resources subscale of the Search Institute's Profile of Student Life: Attitudes and Behaviors survey (Leffert et al., 1998) and one newly developed item. One of the items from the Youth as Resources subscale is, "I am given a lot of chances to help make my community a better place in which to live." The newly developed item is, "People in my community invite me to get involved in my community." Response options for all three items ranged from 1 (*Strongly disagree*) to 4 (*Strongly agree*). Opportunities for participation was specified as an observed variable in this study. A mean composite score of the three items was created, with higher values indicating more perceived opportunities for participation. Among a sample of 6th-12th grade students, Leffert et al. (1998) reported good content validity for the two items from the Youth as Resources subscale.

Community resources. Participants' perceptions of resources within their community were measured using three items adapted from Swatt, Varano, Uchida, and Solomon's (2013) Neighborhood Resources scale and one newly developed item. The items from Swatt et al.'s (2013) measure were focused on assessing how frequently individuals use resources in their neighborhood. I adapted these items to instead measure participants' perception of the availability to use resources in their neighborhood. For instance, I changed the item, "How frequently do you go to a church in your neighborhood?" to "There are churches I can go to in my community." The newly developed item for this scale was, "There are organizations in my community that are focused on helping youth." Response options for each item ranged from 1 (*Strongly disagree*) to 5 (*Strongly agree*). This measure was specified as an observed variable in this study. I created a mean composite score of the four items, with higher values indicating more perceived resources in one's community. While researchers have not used this adapted measure previously, I found high internal reliability ($\alpha = 0.80$).

Student input in decision-making at school. Student input in decision-making at school was measured using a subscale from the well-established and validated Perceived School Climate Scale (Brand, Felner, Shim, Seitsinger, & Dumas, 2003). This measure included five items. An example item is, "Students get to help decide some of the rules in this school," with response options ranging from 1 (*Strongly disagree*) to 5 (*Strongly agree*). For this study, student input in decision-making at school was treated as an observed variable. A mean composite score of the five items was created, with higher values indicating more perceived opportunities for student input. A confirmatory factor analysis demonstrated that this measure held together as one factor with factor loadings of .49 or higher in a sample of middle school youth (Brand et al.,

2003). Furthermore, Brand et al. (2003) found that this measure had high internal reliability (above $\alpha = .70$) across gender, race/ethnicity, and grade level.

Support for autonomy at school. To measure students' perceptions of support for autonomy at school, I used five items from the Autonomy subscale of Tian, Han, and Huebner's (2014) Adolescent Students' Basic Psychological Needs at School Scale (ASBPNSS). An example item from this subscale is, "At school, I can decide for myself how to do things." Response options ranged from 1 (*Strongly disagree*) to 5 (*Strongly agree*). For this study, students' perceptions of support for autonomy at school was treated as an observed variable. A mean composite score of the five items was created, with higher values indicating greater perceived support for autonomy at school. A confirmatory factor analysis demonstrated that this subscale held together as one factor with factor loadings of .71 or higher in a sample of 7th-11th grade students (Tian et al., 2014).

Perceived relationship factors. Perceived relationship factors included parental involvement, parent-child communication quality, and friend support.

Parental involvement. Parental involvement was assessed using four items adapted from Simons-Morton and Crump's (2003) parental involvement scale. Students were asked to indicate how much their parent(s) or guardian(s) know about them, such as how they are doing at school and how they spend their time outside of school. Response options ranged from 1 (*Almost nothing*) to 3 (*A lot*), with higher scores indicating greater parental involvement. This variable was specified as an observed variable in data analysis. A mean composite score for the four items was created. Simons-Morton, Chen, Abroms, and Haynie (2004) found this measure to have high internal reliability ($\alpha = .81$) among a large, diverse sample of middle school students.

Parent-child communication. Parent-child communication level was measured using Su et al.'s (2013) parent-child communication scale. Participants were asked 10 questions about how frequently they talk to their parents about various topics including their daily life, academics, interpersonal interactions, safety, and emotional issues. Five questions focused on how frequently they talk about these topics with their mother (or someone they consider a mother figure), and five questions focused on how frequently they talk about these topics with their father (or someone they consider a father figure). Sample items include, "How frequently do you talk to your [mother/father] about your friends?" and, "How frequently do you talk to your [mother/father] about emotional issues?" Response options ranged from 1 (*Never*) to 4 (*Often*).

Parent-child communication was specified as an observed variable for data analysis and was calculated as a mean composite score of the 10 items. For participants that reported not having a mother or another person they considered to be their mother (n = 49), their composite score for parent-child communication quality only included the five items measuring father-child communication. Likewise, for participants that reported not having a father or another person they considered to be their father (n = 52), their composite score only included the five items measuring mother-child communication. Higher scores indicated a greater level of parent-child communication. In a large sample of rural children and adolescents, Su et al. (2013) reported a Cronbach's alpha of 0.65 for mother-child communication and 0.70 for father-child communication. For the current study, I found an internal reliability of 0.80 for mother-child communication and 0.83 for father-child communication.

Friend support. I measured friend support with five items from Procidano and Heller's (1983) perceived social support-friends (PSS-Fr) scale. Participants were asked, for example, if

they rely on their friends for emotional support and if their friends help them solve problems. Response options ranged from 1 (*Not true*) to 5 (*Very true*). For this study, friend support was specified as an observed variable. I calculated perceived friend support as the mean of the five items. Researchers have demonstrated this scale to have strong construct validity (Procidano & Heller, 1983) and high internal consistency reliability in different samples of adolescents ($\alpha = .82-.90$, Eisman, Stoddard, Heinze, Caldwell, & Zimmerman, 2015; $\alpha = .91$, Eskin, 1993). For the current study, I found an internal reliability of .91.

Demographics. For this study, I controlled for participants' sex, age, and SES. Participants were asked to report their sex as either male or female. Female was coded as 0 and male was coded as 1. For analysis, sex was dummy-coded: Female (0- *No*, 1- *Yes*) and Male (0- *No*, 1- *Yes*). Age was calculated using participants' reported month and year of birthday. SES was assessed with one item asking students to report their mother's highest level of education. Response options ranged from 1 (*8th grade or less*) to 7 (*graduate or professional school*). This variable was treated as a continuous variable with higher education indicating higher SES. For data analysis, each control variable was specified as an observed variable. It is important to note that I did not control for which school participants attended. This is because participants' did not differ on the variables of interest in this study based on the school they went to. Therefore, to keep my model as parsimonious as possible, I did not include this variable as a control.

Data Analytic Strategy

First, I conducted univariate descriptive statistics and Pearson correlations to examine distributions and bivariate relationships among study variables. Then, I tested the hypothesized relationships between perceived contextual factors with societal mattering and perceived

relationship factors with interpersonal mattering using structural equation modeling (SEM) with Mplus 7.3 (Muthén & Muthén, 2012).

The first step in testing my hypothesized relationships was to test my measurement model. I used confirmatory factor analysis (CFA) in Mplus to assess whether the parceled items were appropriate indicators of their respective first-order latent constructs, and whether the first-order latent constructs loaded onto their respective second-order latent constructs appropriately. In total, the SEM model tested for the CFA included four first-order latent constructs (i.e., School Mattering, Community Mattering, Mattering to Parents, and Mattering to Friends) each with three indicators and two second-order latent constructs (i.e., Societal Mattering and Interpersonal Mattering). To obtain an identifiable CFA solution, I fixed the variance for each latent construct to one. Maximum likelihood estimation was used to estimate parameters.

I assessed the factorial validity of the measurement model by evaluating the value and significance of the factor loadings as well as the overall model fit. Model fit was based on multiple indices including the following: the model chi-square test, the Comparative Fit Index (CFI; Bentler, 1990), the Root Mean Square Error of Approximation (RMSEA; Steiger, 1990), and the Standardized Root Mean Square Residual (SRMR). Additionally, because the model chi-square test is sensitive to sample size and the strength of the correlations in the model (i.e., the larger the correlations, the poorer the fit), I used the chi-square to degrees of freedom ratio test to assess model fit. The model was considered a good fit if the model chi-square test was non-significant (i.e., $p > .05$) or the chi-square to degrees of freedom ratio for the model was less than four (Kline, 2005), the CFI was greater than or equal to .95 (Hu & Bentler, 1999), the RMSEA was less than or equal to .06 (Hu & Bentler, 1999), and the SRMR was less than or equal to .08 (Hu & Bentler, 1999). I used the LaGrange Multipliers test (Aitchison & Silvey, 1958) to

improve the measurement model without fundamentally altering the basic structure of the model. Specifically, if the LaGrange Multipliers test indicated that the model could be improved by allowing indicators from the same latent construct to correlate, I allowed the indicators to correlate in the model. I did not allow indicators from different latent constructs to correlate.

I then tested my full model (i.e., measurement and structural model together). The structural model included direct paths from each perceived contextual factor to societal mattering as well as direct paths from each perceived relationship factor to interpersonal mattering. I also controlled for sex, age, and SES in my model by regressing these variables on societal mattering as well as interpersonal mattering. I also specified a correlation between societal mattering and interpersonal mattering in my model. Maximum likelihood estimation was used to estimate parameters. I assessed model fit using the same model fit criteria used for evaluating the measurement model. Statistical significance for individual pathways was also assessed.

Missing Data

To address missing data, I used full information maximum likelihood (FIML). FIML was used on all study variables with missing data. The advantage of using FIML for missing data, as opposed to multiple imputation, is that it produces a deterministic result rather than a different result each time. FIML works by estimating a likelihood function for each individual based on the variables that are present so that all the available data are used (Schlomer, Bauman, & Card, 2010).

Results

Descriptive Statistics

Table 3.1 provides descriptive statistics for all study variables and Table 3.2 presents the correlations between all measured continuous variables. Participants reported moderate levels of

societal mattering within the school and community contexts. Additionally, participants reported high levels of perceived mattering to parents, and moderately high levels of perceived mattering to friends. All scales that served as indicators for school mattering, community mattering, mattering to parents, and mattering to friends demonstrated acceptable skewness. Finally, 25% ($n = 97$) of participants had missing data for at least one variable of interest in this study.

Measurement Model

Figure 3.1 presents the results for the second-order CFA measurement model. The model fit statistics for this model were: $\chi^2 = 94.98$, $df = 48$, $p < .001$, CFI = .99, RMSEA = .05, and SRMR = .03. The chi-square to degrees of freedom ratio for this model was 1.98. These model fit indices indicated excellent fit of this model to the data. In addition, each of the parceled indicators loaded on their respective latent constructs. Standardized factor loadings were all statistically significant ($p < .001$) and ranged from 0.83 to 0.99. Furthermore, the first-order School Mattering and Community Mattering latent factors loaded onto a second-order Societal Mattering factor, and the first-order Mattering to Parents and Mattering to Friends latent factors loaded onto a second-order Interpersonal Mattering factor. These standardized loadings ranged from 0.52 to 0.95 and were all statistically significant ($p < .001$) as well.

Structural Model

Following a good-fitting measurement model, I examined the relationships between perceived contextual factors (i.e., opportunities for youth involvement in the community, community resources, student input in decision-making at school, and support for autonomy at school) and societal mattering as well as the relationships between perceived relationship factors (i.e., parental involvement, parent-child communication quality, and friend support) and interpersonal mattering. Figure 3.2 presents the results of this structural model. The model fit

statistics for this model were: $\chi^2 = 327.20$, $df = 147$, $p < .001$; CFI = .96; RMSEA = .06; SRMR = .09. The chi-square to degrees of freedom ratio was 2.23. Overall, these model fit indices indicated good fit of this model to the data. I found, however, that the SRMR value was greater than the .08 cutoff that is generally considered to indicate good model fit (Hu & Bentler, 1999). That being said, Schermelleh-Engel, Moosbrugger, and Müller (2003) suggest an SRMR value smaller than .10 can be interpreted as acceptable for model fit.

Results from testing my structural model demonstrate that after controlling for sex, age, and SES, each of the perceived contextual factors was associated with societal mattering. Specifically, perceiving greater community resources and more opportunities for youth involvement in one's community were associated with greater perceptions of mattering to society. Additionally, perceptions of more opportunities for student input in decision-making and greater support for autonomy at their school were associated with higher perceptions of societal mattering. Youth with higher SES were also more likely to perceive themselves as mattering to society. Age and gender were not related to societal mattering. Each of the perceived relationship factors was associated with interpersonal mattering. Greater friend support, better parent-child communication, and more parental involvement were associated with greater perceptions of interpersonal mattering. Of these three relationship factors, parent-child communication had the strongest influence on interpersonal mattering. Additionally, younger youth were more likely to report greater perceptions of interpersonal mattering. SES and gender were not related to interpersonal mattering. Overall, this model explained 55% of variance in participants' perceptions of societal mattering ($p < .001$) and 75% of variance in participants' perceptions of interpersonal mattering ($p < .001$).

Discussion

The results of this study help clarify the role of community, school, family, and peer factors in the development of early adolescents' perceptions of interpersonal and societal mattering. My results provide support for Rosenberg's (1985) argument that interpersonal and societal mattering are conceptually distinct constructs. This is evidenced by my findings that societal mattering and interpersonal mattering have different contributors, with interpersonal mattering influenced most by factors pertaining to the interaction or dynamic between specific people (i.e., relationship-oriented factors), and societal mattering influenced most by factors that describe a particular setting or environment (i.e., contextual factors). These results also reinforce Schlossberg's (1989) theory that interactions with individuals as well as policies and practices of institutions play important roles in individuals' perceptions of mattering.

My results also support EST as they suggest that schools and communities are particularly salient contexts for adolescents' perceptions of societal mattering. Notably, Bronfenbrenner (1979) suggests that these two contexts are important microsystem settings for adolescent development. This finding is also consistent with past research demonstrating that factors at the school and community levels can have profound influences on youth (Lenzi et al., 2012; Leventhal & Brooks-Gunn, 2000). My results also support the idea that parent and peer factors are relevant for adolescents' perceptions of interpersonal mattering. This finding is consistent with findings from other researchers who have found that relationships with parents and peers are the most influential during adolescence (Brechwald & Prinstein, 2011; Prinstein & Dodge, 2008; Steinberg & Silk, 2002).

With regard to interpersonal mattering, I expected and found that youth who reported greater parental involvement, better parent-child communication, and more support from friends also reported greater perceptions of mattering to others. Previous findings from researchers

corroborate these results. For instance, Marshall (2001) found parental acceptance predictive of a greater sense of mattering to mothers and fathers in a sample of undergraduates. Furthermore, Rayle and Chung (2007) found that greater social support from friends predicted greater perceptions of interpersonal mattering. Yet, my results differed from Rayle and Chung (2007) in that they found friend support to be the strongest predictor of interpersonal mattering compared to parental factors. I, on the other hand, found that parent-child communication and parental involvement both had a stronger influence on interpersonal mattering compared to friend support. This discrepancy may be due to differences in populations. Rayle and Chung (2007) studied college students, whereas my study was among rural adolescents. College students are often socializing with their peers every day, and spending much less time with parents. Rural youth, however, have fewer opportunities to connect with friends (Gristy, 2012), which may result in friend support being less influential than parent-related factors. Furthermore, this difference between my findings and Rayle and Chung's (2007) findings supports the idea that rurality may uniquely influence youths' perceptions of mattering due to differences in the community, school, family, and peer contexts. This demonstrates that rural youth may develop perceptions of mattering differently than urban and suburban youth, and highlights the importance of examining predictors of mattering among rural youth specifically.

Finally, as hypothesized, I found that more positive perceptions regarding opportunities for youth involvement in their community, availability of community resources, student input in decision-making at school, and support for autonomy at school were associated with greater perceptions of societal mattering. Although researchers have not explored these factors in relation to societal mattering previously, my findings are consistent with research on sense of connectedness (Whitlock, 2006; Whitlock, 2007). My findings suggest that when youth are

treated as autonomous individuals and are involved in decision-making processes and civic activities in their school and community, they are more likely to believe that their thoughts and actions are important to society and that they have an impact on society. These results support Mitra and Serriere's (2004) argument that giving students a voice can lead to gains in youth development. In fact, Eccles and Gootman (2002) argue that in order to promote positive development among youth it is critical to have opportunities in a community for youth to be involved and my findings support this.

Study Limitations

Several limitations to this study should be acknowledged. First, my sample was a convenience sample consisting of middle school students from two middle schools both within rural settings. Consequently, my findings may not be generalized to all rural youth or to urban and suburban youth. Additional research that explores influences on societal and interpersonal mattering among a more representative sample of rural youth as well as urban and suburban youth would be a useful direction for future research. Nevertheless, focusing on rural youth is also a unique contribution of this study because researchers studying mattering have focused mostly on urban and suburban adolescents or college students. In fact, understanding correlates to mattering for rural youth may be particularly critical given that rural contexts often have few community programs promoting positive youth development (Burd-Sharps & Lewis, 2017), and findings from this study may be helpful for developing such programs. Second, due to the cross-sectional design of this research study causal connections cannot be made. Although the data support a predictive hypothesis, it cannot be assumed that the perceived relationship and contextual factors precede adolescents' perceptions of mattering because temporality cannot be established. Future research using a longitudinal sample of adolescents is warranted and may

provide a better understanding of the true direction of these relationships. Third, selection bias may have been introduced into this study given that 44% of youth did not participate. Yet, I did find significant relationships in the hypothesized directions despite this potential bias, which suggests that these results are robust. Furthermore, I have no reason to believe that some groups of youth were less likely to participate in this study compared to other groups. The demographics of our sample reflect the demographics of the overall population from the two school districts. Fourth, for this study, interpersonal mattering was conceptualized as mattering to parents and friends, and did not include mattering to other specific individuals (e.g., siblings, grandparents, mentors). Furthermore, I conceptualized societal mattering as mattering within the school and community contexts although mattering within other systems that are a part of society (e.g., places of worship, places of employment) might also be relevant. Notably, however, measuring interpersonal mattering as mattering to parents and peers was appropriate given that parents and peers are the most salient socializing agents for adolescents (Brechwald & Prinstein, 2011; Prinstein & Dodge, 2008; Steinberg & Silk, 2002). Similarly, measuring societal mattering within the community and school contexts is appropriate for adolescents because these are the two most important microsystem settings for adolescent development (Bronfenbrenner, 1979). Nevertheless, future studies in which interpersonal and societal mattering are measured more comprehensively is warranted in order to help us understand ways to promote adolescents' perceptions of mattering. Finally, my measure of parent-child communication was focused specifically on the frequency of communication and did not assess the quality of the communication. Researchers have demonstrated the importance of both frequency and quality of communication for adolescent development (Blake, Simkin, Ledsky, Perkins, & Calabrese, 2001; Otten et al., 2007). It is plausible that the strong association I found between frequency of

parent-child communication and perceptions of interpersonal mattering may have been reduced had I included a measure of communication quality. As such, future research is needed to explore how both the frequency and the quality of communication between parents and their child influence perceptions of mattering.

Contributions and Implications

Despite these limitations, this research contributes significantly to the literature on mattering and highlights the role of community-, school-, parent-and peer-related factors on adolescents' perceptions of interpersonal and societal mattering. In fact, this is one of the first studies to examine determinants of mattering among rural youth, and is the only study, to the best of my knowledge, that explores factors contributing to youths' perceptions of societal mattering. It is important to identify factors associated with mattering considering that greater perceptions of mattering increase the likelihood of positive outcomes (e.g., Marshall, 2001) and reduces the likelihood of negative outcomes (e.g., Elliott et al., 2011) for adolescents.

Understanding these relationships may be especially beneficial for youth living in low-income, rural areas given that they have less access to positive youth development programs and other resources useful for healthy development compared to non-rural youth (Burd-Sharps & Lewis, 2017; U.S. Department of Health and Human Services, 2011). My findings suggest that practitioners interested in developing programs for rural youth focused on preventing risk behavior and promoting healthy development might consider strategies that enhance perceptions of mattering. Specifically, my findings reveal that efforts to enhance parent-child communication, parental involvement, and social support from friends are incredibly important for instilling positive perceptions of interpersonal mattering. Furthermore, programs seeking to increase perceptions of societal mattering should focus on increasing youth involvement in

decision-making processes, providing more opportunities for youth to have meaningful roles in the community, offering more youth-focused resources, and allowing for student voice at school.

In addition to helping inform the development of youth programs, findings from my study may also help guide future research. For instance, my findings provide researchers with preliminary results that can be used to identify important factors at the community, school, family, and peer levels to be measured objectively and examined in relation to mattering. My study examined youths' perceptions of factors across these levels, though exploring how objective measures shape interpersonal and societal mattering may offer information about additional points of intervention. Additionally, my findings suggest that a useful direction for future research is to examine how other community, school, peer, and family influences may relate to interpersonal and societal mattering. For example, my findings suggest parent-child communication is an important contributor of interpersonal mattering, thus it may be important to examine the influence of communication between youth and their friends on interpersonal mattering. Furthermore, my results indicate that youth believe they matter to society when they are given opportunities to make decisions at school, which may suggest that opportunities to make decisions within the community could also lead to greater perceptions of societal mattering.

Conclusion

Researchers have shown that interpersonal and societal mattering have important implications for adolescent development (see Chapter 2; Elliott, 2009; Marshall, 2001; Rosenberg & McCullough, 1981). In fact, by increasing youths' perceptions of mattering, we may be able to prevent negative mental health outcomes, including anxiety and depression (Dixon & Kurpius, 2008; Dixon, Scheidegger, & McWhirter, 2009; Flett et al., 2012), as well as

risk behaviors, such as violence, substance use, and non-violent delinquency (Elliott, 2009; Elliott et al., 2011; Lewis, 2016; Rosenberg & McCullough, 1981). Yet, limited research exists on how perceptions of mattering are fostered. Understanding how to promote a sense of mattering is imperative in order to develop effective interventions. This study begins to address this gap in the literature and identifies important relational and contextual factors that can be enhanced in an effort to foster greater perceptions of interpersonal and societal mattering among rural youth.

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TABLE 3.1 Descriptive statistics for study variables

Variable	N (%)	M (SD)	Range	α	Skew
Sex					
Female	189 (49.60)	--	--	--	
Male	192 (50.40)	--	--	--	
Age	380	13.35 (.91)	11.33-15.33	--	-.29
Socioeconomic Status (SES)	316	4.90 (1.60)	1.00-7.00	--	-.56
Societal Mattering					
School Mattering	377	3.11 (.81)	1.00-5.00	.91	-.24
Community Mattering	369	3.07 (.84)	1.00-5.00	.94	-.39
Interpersonal Mattering					
Mattering to Parents	342	4.15 (.68)	1.27-5.00	.94	-.87
Mattering to Friends	357	3.74 (.89)	1.00-5.00	.95	-.91
Perceived Contextual Factors					
Opportunities for Youth Participation	355	2.89 (1.03)	1.00-5.00	.88	-.05
Community Resources	345	3.61 (.89)	1.00-5.00	.80	-.65
Input in School Decision-Making	359	2.67 (.92)	1.00-5.00	.87	.11
Support for Autonomy at School	355	3.25 (.89)	1.00-5.00	.78	-.39
Perceived Relationship Factors					
Parental Involvement	365	2.64 (.39)	1.00-3.00	.64	-1.22
Parent-Child Communication	338	2.83 (.69)	1.00-4.00	.86	-.36
Friend Support	363	3.51 (1.17)	1.00-5.00	.91	-.47

TABLE 3.2 Bivariate correlations between continuous study variables

	1	2	3	4	5	6	7	8	9	10	11	12	13
1. School Mattering	--												
2. Community Mattering	.67**	--											
3. Mattering to Parents	.35**	.37**	--										
4. Mattering to Friends	.48**	.35**	.29**	--									
5. Opportunities for Youth Participation	.46**	.62**	.25**	.34**	--								
6. Community Resources	.40**	.35**	.31**	.29**	.47**	--							
7. Input in Decision-Making at School	.45**	.44**	.28**	.33**	.46**	.25**	--						
8. Support for Autonomy at School	.61**	.49**	.28**	.44**	.47**	.41**	.57**	--					
9. Parental Involvement	.34**	.24**	.37**	.26**	.16*	.22**	.19**	.26**	--				
10. Parent-Child Communication	.24**	.23**	.58**	.31**	.15*	.31**	.27**	.27**	.42**	--			
11. Friend Support	.32**	.23**	.22**	.70**	.23**	.27**	.18*	.32**	.23**	.29**	--		
12. Age	-.09	-.22**	-.16**	-.09	-.18**	-.06	-.14*	-.13*	.02	-.01	-.01	--	
13. SES	.17*	.10**	.12*	.04	.02	.09	-.01	.05	.10	.05	.04	-.06	--

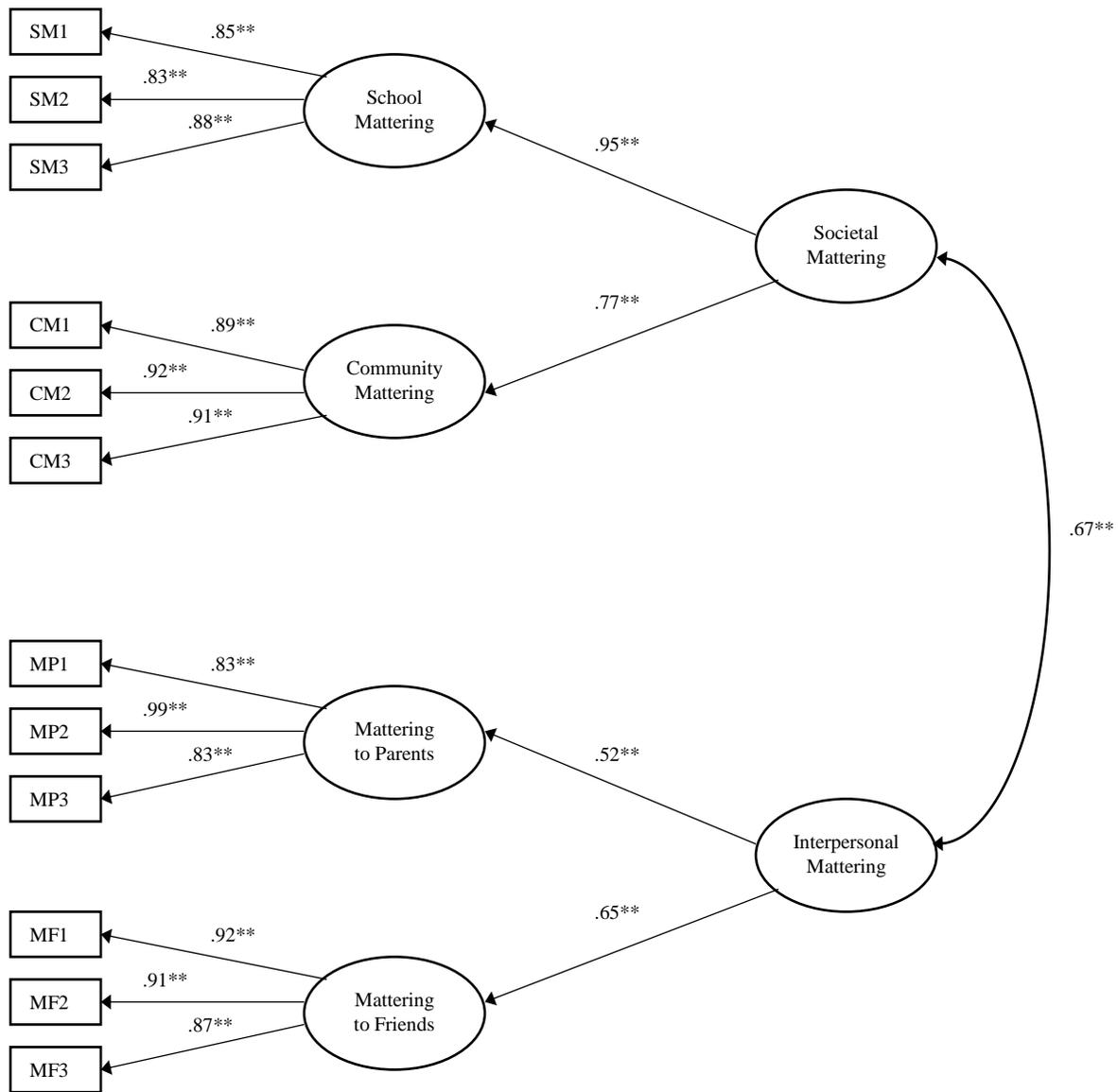


FIGURE 3.1 Results of second-order CFA measurement model for societal mattering and interpersonal mattering with standardized estimates.

Note: ** $p < .001$; error terms and correlations between indicators not shown. Correlation for MP1 with MP2: .43, $p < .001$.

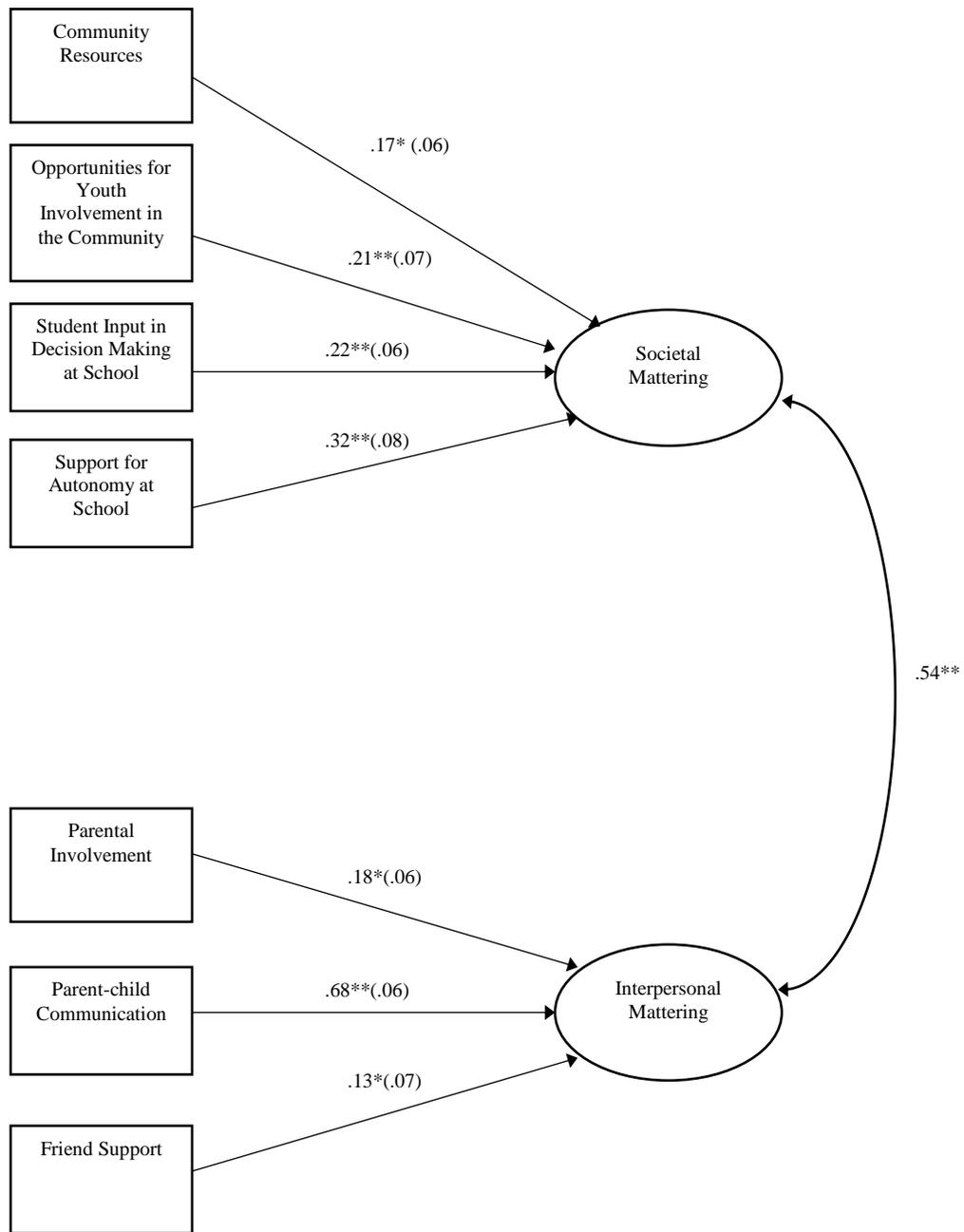


FIGURE 3.2 Results of structural model showing contributors of mattering with standardized coefficients and standard errors.

Note: * $p < .05$, ** $p < .001$; measurement model and covariate paths not shown. Societal mattering and age: $-.07 (.05)$, $p = .17$; sex (female reference group): $.06 (.05)$, $p = .23$; SES: $.13 (.05)$, $p < .05$.

Interpersonal mattering and age: $-.22 (.05)$, $p < .001$; sex: $.07 (.06)$, $p = .25$; SES: $.05 (.06)$, $p = .41$.

CHAPTER 4

Study 3: Exploring Pathways from Interpersonal and Societal Mattering to Rural

Adolescents' Risk Behavior

During adolescence, engagement in risk behaviors such as violent or aggressive behavior, substance use, and non-violent delinquency becomes more common. In fact, in a nationally representative sample of middle school students in grades 6th-8th, 44% reported having been in a physical fight in the past year (CDC, 2015). Furthermore, according to Center for Behavioral Health Statistics and Quality (2016), 20% of youth between the ages of 12 and 20 have reported drinking alcohol within the past 30 days and 13% have reported binge drinking within the past 30 days. In 2015, more than 9% of middle school youth in the U.S. reported having ever used marijuana in their lifetime (CDC, 2015), and this percentage continues to increase (Swartzendruber, Haardörfer, Sales, Windle, & Brown, 2018). Theft and other non-violent acts of delinquency are common among youth as well, with the average age of onset for shoplifting, vandalism, burglary, and theft occurring during adolescence (Harris, 2013). In fact, in the United States in 2016, the number of arrests for theft among youth age 15 and under was 29,321 (U.S. Department of Justice, 2016).

Engaging in risk behavior as an adolescent has several negative consequences. For instance, almost 600,000 young people between the ages of 10 and 24 are treated annually in emergency departments for violence-related injuries, costing an estimated \$16 billion in medical and other expenses (CDC, 2014). Additionally, engaging in risk behavior increases an

adolescent's likelihood of facing adversity in multiple domains such as their physical health and psychosocial adjustment (Guerra & Bradshaw, 2008). Marijuana use among adolescents, for example, influences their short-term memory, making it challenging to learn and do well in school (Volkow, Baler, Compton, & Weiss, 2014). Engaging in risk behavior during adolescence also has important negative implications for health and well-being later in life. In fact, Bender and Losel (2011) found that aggressive behavior during middle school was predictive of delinquency, violence, aggression, and undesirable life outcomes during adulthood even after controlling for known risk factors (e.g., negative family environment, externalizing and internalizing problems). Similarly, individuals that use substances during adolescence are more likely to experience substance abuse and dependency as adults compared to those who do not use substances during adolescence (Flory, Lynam, Milich, Leukefeld, & Clayton, 2004; Stone, Becker, Huber, & Catalano, 2012).

Risk Behavior and Rural Youth

In the past, engaging in risk behavior has often been painted as a problem among urban youth and has been considered less prevalent among rural youth (Scaramella & Keyes, 2001). Yet, researchers suggest that the rates of risk behaviors between rural and urban youth are actually converging. Biggar Jr., Chen, & Forsyth (2016), for example, found that the rates of motor vehicle theft are equal for rural and urban sixth to tenth grade youth. In other cases, the prevalence of certain behaviors among rural youth has surpassed that of non-rural youth. In fact, researchers have found that rural youth are more likely to use smokeless tobacco and cigarettes, binge drink, and use illicit substances compared to non-rural youth (Aronson, Feinberg, & Kozlowski, 2009; Coomber et al., 2011; Gfroerer, Larson, & Colliver, 2007; Hanson et al., 2009; Lambert, Gale, & Hartley, 2008). Additionally, in comparison to suburban and urban youth, a

higher percentage of rural adolescents have carried a gun, knife, or other weapon to school and in the community (Atav & Spencer, 2002). Given these increases in risk behavior among rural youth and considering the severity of the consequences of engaging in such behaviors, research to understand problem behavior among this population is needed. In fact, efforts to identify positive factors that could also be a focus of prevention would be most useful (Kretman, Zimmerman, Morrel-Samuels, & Hudson, 2009; Lerner, Alberts, Jelicic, & Smith, 2006).

Mattering

Mattering is the extent to which an individual feels important to others in their life and to society more broadly (Rosenberg & McCullough, 1981). Rosenberg (1985) identified two types of mattering: interpersonal and societal. Interpersonal mattering is specifically in relation to how much an individual feels they matter to the specific people in their lives (e.g., parents, peers; Rosenberg & McCullough, 1981). Interpersonal mattering has three components: 1) *awareness*, or the extent to which others know we exist, 2) *importance*, or the extent to which we believe those close to us are concerned about us, and 3) *reliance*, or the extent to which those close to us rely on us. Societal mattering is the idea that we are important to society as a whole and feel as though our thoughts and actions make a difference in the world (DeForge & Barclay III, 1997; Rosenberg, 1985). These two types of mattering are in fact distinct constructs despite the fact that they both incorporate an interpersonal component and both focus on an individual's perception of how important they feel (George & Park, 2014; Rosenberg, 1985; Chapter 2; Chapter 3).

Mattering is a construct that is especially salient during adolescence given that it is an important dimension of the self-concept (i.e., an individual's beliefs about themselves; Rosenberg & Kaplan, 1982). During adolescence, youth are tasked with figuring out who they are and how

they perceive themselves. In other words, they are in the process of developing their self-concept (Rosenberg, 1985). Consequently, adolescence is a period in which individuals are often reflecting upon how much they matter. As a result, perceptions of mattering become more influential during this stage of development.

Mattering and Youth Risk Behavior

Mattering is particularly influential when it comes to youth risk behavior. The Theory of Marginality and Mattering (TMM) suggests that when individuals believe they matter to significant others and to society, they are less likely to have favorable attitudes toward any behavior that may threaten the security mattering provides to them (Elliott, 2009; Schlossberg, 1989). In other words, a sense of mattering provides us with the motivation to behave in ways that help us maintain the level of significance and importance we feel to others and larger institutions. Thus, youth who believe they matter are less likely to engage in negative behaviors because doing so may threaten their status in others' lives and society (Elliott, 2009).

Findings from researchers studying the relationship between mattering and youth outcomes support TMM's hypothesis. For instance, male high school students with greater perceptions of mattering had less favorable attitudes toward using violence (Elliott, Cunningham, Colangelor, & Gelles, 2011). Additionally, greater perceptions of mattering are associated with less violent behavior and lower likelihood of carrying a weapon on a regular basis (Elliott et al., 2011; Rosenberg & McCullough, 1981). With respect to substance use, Elliott (2009) found that adolescents who report greater perceptions of mattering to their family report higher rates of illicit drug use and binge drinking, after controlling for a host of other variables (e.g., age, sex, religiosity). Mattering also has an influence on non-violent delinquency. Youth who report below average perceptions of mattering are twice as likely to vandalize property compared to youth

who report average and above average perceptions of mattering (Elliott, 2009). Finally, greater perceptions of mattering to family reduce adolescents' likelihood of dealing illegal or stolen goods (Elliott, 2009). This empirical evidence indicating links between mattering and youth risk behavior stems exclusively from researchers focused on interpersonal mattering. Yet, my findings from Chapter 2 provide preliminary evidence that societal mattering is associated with less involvement in risk behaviors including aggression, substance use, and non-violent delinquency.

Mediators Between Mattering and Risk Behavior

Despite theoretical and empirical support of a relationship between mattering and youth risk behavior, few researchers have investigated the pathways through which interpersonal mattering influences risk behavior (for exception, see Elliott et al., 2011), and no researcher has studied mediators between societal mattering and risk behavior. This is problematic because, while interventions focused on fostering youths' sense of mattering may help prevent risk behavior, the development of such interventions requires an understanding of the mechanisms through which increasing perceptions of mattering leads to a reduction in risk behavior (Dalkin, Greenhalgh, Jones, Cunningham, & Lhussier, 2015). Just as an oncologist must understand the process by which chemotherapy helps treat cancer, social scientists need to have an idea about how intervention inputs lead to outputs, or, in this case, how mattering influences risk behavior. Given that interpersonal and societal mattering are distinct constructs (George & Park, 2014; Rosenberg, 1985; Chapters 2; Chapter 3), it is plausible that these two types of mattering influence youth outcomes, such as risk behavior, in different ways. Thus, research that examines how each type of mattering influences risk behavior could provide useful information for what to focus on in a prevention program.

Interpersonal Mattering, Self-Regulation, and Risk Behavior

When Rosenberg and McCullough (1981) first introduced the concept of interpersonal mattering, they argued that this construct has particularly important implications for psychological processes. Specifically, interpersonal mattering influences how youth think and make decisions. When individuals feel as though they matter to people close to them and that those close to them are dependent upon them, they are more likely to think about the consequences of their behavior (Elliott, Kao, & Grant, 2004; Rosenberg & McCullough, 1981; Rosenberg, 1985). As such, one potential pathway through which interpersonal mattering may affect risk behavior is self-regulation, which is an internal control mechanism that governs an individual's behavior.

While researchers have not previously tested the potential mediating effect of self-regulation on the relationship between interpersonal mattering and risk behavior, concepts from Social Cognitive Theory (SCT) and TMM provide theoretical support. According to SCT, self-regulation is the most proximal predictor of behavior (Bandura, 1991), and one of the ways in which a person self-regulates their behavior is by first considering outcome expectations, or the perceived costs and benefits of behaving a certain way (Bandura, 1989). When individuals assess outcome expectations of a behavior, they not only think about personal consequences (e.g., would I be disappointed in myself?), they also consider the social consequences (e.g., would my family be disappointed?; Bandura, 1989, 1991). Thus, interpersonal mattering may affect a person's self-regulation by influencing outcome expectations.

TMM suggests that when individuals believe they matter, they are less likely to have favorable attitudes toward any behavior that may threaten the security mattering provides to them (Elliott, 2009). In fact, this is supported by findings demonstrating that male high school

students with higher perceptions of mattering had less favorable attitudes toward using violence (Elliott et al., 2011). In connecting concepts from SCT and TMM, it is plausible that adolescents with greater perceptions of interpersonal mattering may better self-regulate to avoid engaging in risk behavior because they perceive that the social consequences of engaging in such behaviors (e.g., disappointing the people they matter to) outweigh the benefits. On the contrary, youth with low perceptions of mattering to others may have no incentive to avoid negative behaviors.

It is well cited in the literature that self-regulation is related to involvement in risk behavior. For instance, using longitudinal data, Brody and Ge (2001) found that greater behavioral self-regulation predicted less alcohol use in a sample of early adolescents. Additionally, results from an experimental study demonstrated that youth were more likely to engage in aggressive behavior after completing tasks that depleted their ability to self-regulate compared to before these tasks were completed (DeWall, Baumeister, Stillman, & Gailliot, 2007). Finally, youth who have difficulty self-regulating their behavior are at an increased risk for engaging in crime during adolescence and later into adulthood (Fine, Baglivio, Cauffman, Wolff, & Piquero, 2018; Meldrum, Barnes, & Hay, 2015; Monahan, Steinberg, Cauffman, & Mulvey, 2009).

Societal Mattering, Civic Engagement, and Risk Behavior

The mechanism through which societal mattering influences youth risk behavior may differ from that of interpersonal mattering; it may not work through a psychological process like self-regulation. In comparison to feeling important to specific people, feeling important to society may not have as strong of an influence on youths' outcome expectations regarding engagement in certain behaviors. For adolescents, the thought of disappointing people they see on a regular basis, such as parents or friends, may be harder to cope with compared to

disappointing something as broad as society. Instead, the mechanism through which societal mattering works may be behavioral.

TMM theorizes that when individuals feel like they matter, they are more likely to engage in prosocial behavior (Schlossberg, 1989), and I argue that this may be particularly true for societal mattering. It is plausible that when youth feel they are valued and important to society and that they have a voice in the world, they may feel more inclined to contribute and give back to society through volunteerism and other forms of civic engagement. On the contrary, youth who feel marginalized by society and as though their thoughts and actions do not make a significant difference in the world may see no point in contributing to society. Thus, societal mattering may affect adolescents' engagement in risk behavior by influencing the extent to which they participate in civic engagement activities. Despite a lack of studies testing this relationship between societal mattering and civic engagement, researchers have found that giving young people an opportunity to participate in decision-making promotes civic involvement (Ballard & Syme, 2016). Additionally, more opportunities for involvement in decision-making is associated with greater perceptions of societal mattering for adolescents (see Chapter 3). Taken together, these findings suggest that youth who report greater perceptions of societal mattering may be more likely to be civically engaged compared to youth with low perceptions of societal mattering, and as a result, may engage in less risk behavior.

Several researchers have demonstrated a strong association between civic engagement and youth risk behavior. For instance, Li, Bebiroglu, Phelps, Lerner, and Lerner (2008) found that 8th grade students were less likely to use substances and engage in delinquent behavior if they reported higher levels of civic engagement. Findings from another study indicated that youth who reported moderate frequency of civic participation are less likely to use substances,

bully, and be involved in physical fights compared to youth who reported no involvement in civic activities (Vieno, Nation, Perkins, & Santinello, 2007).

Current Study

I sought to address important gaps in the literature by examining mechanisms by which interpersonal and societal mattering influence risk behavior among rural youth. Specifically, I tested self-regulation as a mediator between interpersonal mattering and youth risk behavior. Furthermore, I tested civic engagement as a mediator between societal mattering and risk behavior because when youth feel they are important to society and that they can make a difference in the world, they may be more motivated to behave in a way that gives back to society. I expected to find that interpersonal and societal mattering are indirectly related to youth outcomes through self-regulation and civic engagement, respectively. In other words, I hypothesized that higher perceptions of interpersonal mattering would be associated with increased self-regulation and societal mattering would be associated with increased civic engagement, which would in turn be associated with less risk behavior.

Method

Research Context & Participants

Data for this study were collected through an anonymous, school-based survey focused on understanding the role of mattering in the lives of rural youth. Data were collected from students in grades 6 through 8 from two middle schools in two rural towns in Michigan located about 10 miles apart. Both communities are low-income, predominantly White, and have a 12% unemployment rate, which is higher than the national average of 5.3% (Bureau of Labor Statistics, 2016). About 22% of families with children under the age of 18 years are living below

poverty in one of the towns, and 31% of families with children under the age of 18 years are living below poverty in the other town (U.S. Census, 2015).

All 6th - 8th grade students from both schools were invited to participate. Of approximately 675 middle school students invited, 56% (N = 381; n = 172 from Middle School A and n = 209 from Middle School B) had parental consent and chose to participate. Notably, eight students had parental consent but chose not to participate, seven students had parental consent but were absent on the days of data collection, and 53 students had parents that did not want them to participate. The mean age of the 381 students that participated in the study was 13.35 (SD = 0.91) and 50.4% of participants were male, which is about the same as the percentage of males attending the schools where data were collected from (52% male; Michigan's Center for Educational Performance and Information [MCEPI], 2016). Additionally, about 50% of the sample self-reported receiving free or reduced lunch at school, with school-level data showing that about 58% of students attending these two schools are economically disadvantaged (MCEPI, 2016). In an effort to maintain anonymity of participants, data were not collected on race/ethnicity, but about 94% of students attending these schools identify as White (MCEPI, 2016).

Procedures

This study was approved by the University of Michigan Institutional Review Board. Written parental consent and electronic student assent were obtained prior to participation. Data were collected using self-administered electronic questionnaires created using Qualtrics survey software. To protect confidentiality among students, teachers were asked to leave the classrooms during data collection. Research staff helped students navigate to the electronic questionnaires and assisted students during the survey when they needed clarification on questions.

Participants completed the anonymous questionnaires during the spring semester of the 2016-2017 academic year. Data collection took place on two different days, one day per school. During the survey administration, students who did not participate used an electronic tablet or computer to work on an electronic version of a worksheet that included grade-level appropriate and teacher-approved math and reading problems. Students with parental consent to participate and who gave youth assent used an electronic tablet or computer to complete the web-based survey during a 50-minute class period. The survey took approximately 30 minutes to complete ($M = 26.38$ minutes, $SD = 12.50$). Once students completed the survey, they were directed to a link to the electronic math and reading problems worksheet. Both schools received \$500 for participation in the study, but no students were remunerated. All students that brought back completed parental consent forms received a small treat (i.e., piece of candy or cinnamon roll) regardless of whether their parent agreed to allow them to participate.

Measures

For this study, I collected data measuring societal mattering, interpersonal mattering, civic engagement, self-regulation, and engagement in risky behavior. Demographic data were also collected. Table 1 shows the descriptive statistics and internal reliability for study variables.

Societal mattering. Societal mattering was measured using two subscales: School Mattering and Community Mattering. Each subscale was measured using nine items (i.e., 18 items total). Four of the items were revised from the societal mattering component of the Work Mattering Scale (Jung & Heppner, 2017), which is used to measure perceptions of societal mattering among adults specifically within a work environment. I tailored these items to measure the extent to which adolescents perceive they matter within their school and their community. The other five items were new items generated by analyzing the conceptual definition of societal

matter, reviewing the literature on societal mattering, and utilizing the professional review of four social and behavioral scientists. Sample items from this measure include, “I feel like I matter to my [school/community],” and, “I have an influence on the way my [school/community] is.” Response options for each item ranged from 1 (*Strongly disagree*) to 5 (*Strongly agree*), with higher scores indicating a greater sense of societal mattering.

Societal mattering was specified as a second-order latent variable for data analysis with School Mattering and Community Mattering as first-order latent variables. The items measuring societal mattering within the school context were used as indicators for School Mattering, and the items measuring societal mattering within the community context were used as indicators for Community Mattering. Yet, as suggested by Hall, Snell, and Foust (1999), instead of each subscale item being an indicator for its respective latent variable, I parceled the nine School Mattering items into three indicators and the nine Community Mattering items into three indicators. To parcel the nine items measuring School Mattering, I averaged three of the items to create the first indicator, another three items were averaged to create the second indicator, and the last three items were averaged to create the third indicator. The same process of parceling was used for the nine Community Mattering items. Parceling is a common measurement practice used with structural equation modeling (SEM; Little, Cunningham, Shahar, & Widaman, 2002). The main advantage of parceling, aside from a more parsimonious model, is to reduce the chances for residuals to be correlated by having fewer indicators used and having smaller unique variances (MacCallum, Widaman, Zhang, & Hong, 1999). This measurement model was supported by findings from confirmatory factor analyses conducted in Study 1 (see Chapter 2) and Study 2 (see Chapter 3).

Interpersonal mattering. Interpersonal mattering was assessed using the Mattering to Others Questionnaire (MTOQ; Marshall, 2001), which was specifically developed for use with early and middle adolescents. The MTOQ is an 11-item scale that measures adolescents' perceptions of how important they feel to specific people in their lives (e.g., "I feel special to my [insert relationship]."), how noticed they feel to specific people in their lives (e.g., "My [insert relationship] notices my feelings."), and how depended upon they feel to specific people in their lives (e.g., "I am missed by my [insert relationship] when I am away."). For nine of the items, response options ranged from 1 (*Strongly disagree*) to 5 (*Strongly agree*). The other two items asked respondents to indicate where they would stand on a list, with 1 being the bottom of the list and 5 being the top of the list, if a specific person in their life made a list of things they think and care about. Researchers have demonstrated that the MTOQ has strong convergent and discriminant validity and high internal consistency reliability across diverse samples of adolescents (Marshall, 2001; Dixon-Rayle & Myers, 2004). In fact, Marshall (2001) reported Cronbach's alphas of .93, .95, and .93 for perceived interpersonal mattering to mother, father, and friends, respectively.

For this study, I used three referent versions of the MTOQ to assess interpersonal mattering: mattering to mother, mattering to father, and mattering to friends. For data analysis, interpersonal mattering was specified as a second-order latent variable with mattering to parents and mattering to friends as first-order latent variables. The items measuring mattering to mother and mattering to father were used as indicators for the mattering to parents latent variable. To create these indicators, I first averaged each item measuring mattering to mother with the respective item measuring mattering to father (e.g., score for "I feel special to my mother" was averaged with the score for "I feel special to my father"). This resulted in 11 items measuring

matter to parents. For participants that reported not having a mother or another person they considered to be their mother (n = 49), their score for each mattering to parents item reflected only mattering to father. Likewise, for participants that reported not having a father or another person they considered to be their father (n = 52), their score for each mattering to parents item reflected only mattering to mother. Next, instead of using all 11 items measuring mattering to parents as indicators, I parceled these items into three indicators. To do so, I averaged four of the items to create the first indicator, another four items were averaged to create the second indicator, and the last three items were averaged to create the third indicator. The items measuring mattering to friends were used as indicators for the mattering to friends latent variable. Again, instead of using all 11 items measuring mattering to friends as indicators, I parceled these items into three indicators using the same method I used for creating the parceled indicators for mattering to parents. This measurement model was supported by findings from a confirmatory factor analysis (CFA) conducted in Study 2 (see Chapter 3).

Civic engagement. To measure civic engagement, I used a shortened version of the Civic Engagement subscale developed specifically for middle school youth by Bobek, Zaff, Li, and Lerner (2009). The original subscale included nine items, though I only used six of the items to measure civic engagement for this study. Specifically, I did not include items asking about school-related behaviors (e.g., participation in student council). This was for two reasons: 1) participation in school activities does not necessarily reflect civic engagement (Sherrod, 2007) and, 2) researchers have suggested that civic engagement extends beyond the school (Camino & Zeldin, 2002). Thus, participants in this study were asked to indicate how often during the past 12 months they have engaged in civic behaviors outside of the school, such as spending time volunteering and helping out at their church. Response options ranged from 1 (*Never*) to 4

(Often). For data analysis, civic engagement was specified as an observed variable. A mean composite score of the six items was created with higher values indicating greater civic engagement. Researchers that have used this scale in the past have found it to be reliable ($\alpha = .73$) and have strong construct validity (Bobek et al., 2009; Voight & Torney-Purta, 2013). For instance, CFA among a diverse sample of 8th grade students demonstrated that the items in this scale held together as one factor (Bobek et al., 2009).

Self-regulation. Self-regulation was measured using four items modified from a measure previously used by Ford and Collins (2013). The original scale measured daily self-regulation, however, the current measure was adapted to measure self-regulation more broadly. For example, an item from the original measure is, “Overall, I felt like I had a lot of willpower today,” and, for this study, I changed the item to, “Overall, I feel like I have a lot of willpower.” Response options ranged from 1 (*Strongly disagree*) to 5 (*Strongly agree*). For this study, self-regulation was specified as an observed variable. A mean composite score was calculated, with higher scores indicating greater levels of self-regulation. Ford and Collins (2013) found these items to have acceptable internal reliability ($\alpha = .68$) among a sample of adolescents.

Risk behavior. My dependent variable for this study was risk behavior. It was specified as a latent construct with three observed variables: 1) substance use, 2) aggression, and 3) non-violent delinquency. Substance use was measured using five items from the Monitoring the Future study (Johnston, O’Malley, Bachman, & Schulenberg, 2011). Participants were asked to indicate how often within the past 30 days they used the following substances: cigarettes; chewing tobacco, snuff, or dip; cigars, cigarillos, or little cigars; marijuana; and beer, wine, or liquor. Response options for each item ranged from 1 (*I have used before, but not within the past 30 days*) to 5 (*everyday*). Participants were coded as 0 for an item if they reported having never

used that substance in their lifetime. A sum composite score of the five items was created with higher values indicating greater substance use.

Aggression was measured using Orpinas and Frankowski's (2001) Aggression Scale. This scale includes 11 items measuring the frequency of aggressive behavior within the past month. For example, students were asked to indicate how often they have threatened to hurt or to hit someone. Response options ranged from 0 (*Never*) to 5 (*5 or more times*). A sum composite score was calculated with higher scores indicating more aggressive behavior. The psychometrics of this scale have been tested among two samples of 6th-8th grade students and, in both studies, the researchers found the scale to have strong construct validity and high internal reliability ($\alpha = .87$ for both studies) across genders and grade-levels (Orpinas & Frankowski, 2001).

Non-violent delinquency was assessed with five items from a scale previously used by Zimmerman, Salem, and Notaro (2000) and Stoddard, Zimmerman, and Bauermeister (2012). Participants were asked to indicate how often they engaged in the following delinquent behaviors during the past month: taken something not belonging to you, gone into some house or building when you weren't supposed to be there; damaged school property on purpose; set fire to someone's property on purpose; and gotten into trouble with police because of something you did. Response options ranged from 0 (*Never*) to 5 (*5 Times or More*). A mean composite score was calculated with higher scores indicating more non-violent delinquency. In previous studies using this scale among adolescents, researchers found the scale to have a Cronbach's alpha above .80 (Zimmerman et al., 2000, Stoddard et al., 2012).

Demographics. For this study, I controlled for participants' sex, age, and SES. Participants were asked to report their sex as either male or female. Female was coded as 0 and male was coded as 1. For analysis, sex was dummy-coded: Female (0- No, 1- Yes) and Male (0-

No, 1- Yes). Age was calculated using participants' reported month and year of birthday. SES was assessed with one item asking students to report their mother's highest level of education. Response options ranged from 1 (*8th grade or less*) to 7 (*graduate or professional school*). This variable was treated as a continuous variable with higher education indicating higher SES. For data analysis, each control variable was specified as an observed variable. It is important to note that I did not control for which school participants attended. This is because participants' did not differ on the dependent variable in this study based on the school they went to. Therefore, to keep my model as parsimonious as possible, I did not include this variable as a control.

Data Analytic Strategy

First, I conducted univariate descriptive statistics and Pearson correlations to examine distributions and bivariate relationships among study variables. Then, I tested my hypothesized mediation model using structural equation modeling (SEM) in Mplus 7.3 (Muthén & Muthén, 2012).

Prior to testing my hypothesized mediation model, I created and tested a measurement model using confirmatory factor analysis (CFA). Specifically, my measurement model assessed whether the observed variables and parceled items were appropriate indicators of their respective first-order latent constructs, and whether the first-order latent constructs loaded onto their respective second-order latent constructs appropriately. In total, the SEM model tested for the CFA included five first-order latent constructs (i.e., School Mattering, Community Mattering, Mattering to Parents, Mattering to Friends, and Risk Behavior) each with three indicators and two second-order latent constructs (i.e., Societal Mattering and Interpersonal Mattering). To obtain an identifiable CFA solution, I fixed the variance for each latent construct to one. Maximum likelihood estimation was used to estimate parameters.

I assessed the factorial validity of the measurement model by evaluating the value and significance of the factor loadings as well as the overall model fit. Model fit was based on multiple indices including the following: the model chi-square test, the Comparative Fit Index (CFI; Bentler, 1990), the Root Mean Square Error of Approximation (RMSEA; Steiger, 1990), and the Standardized Root Mean Square Residual (SRMR). Additionally, because the model chi-square test is sensitive to sample size and the strength of the correlations in the model (i.e., the larger the correlations, the poorer the fit), I used the chi-square to degrees of freedom ratio test to assess model fit. The model was considered a good fit if the model chi-square test was non-significant (i.e., $p > .05$) or the chi-square to degrees of freedom ratio for the model was less than four (Kline, 2005), the CFI was greater than or equal to .95 (Hu & Bentler, 1999), the RMSEA was less than or equal to .06 (Hu & Bentler, 1999), and the SRMR was less than or equal to .08 (Hu & Bentler, 1999). I used the LaGrange Multipliers test (Aitchison & Silvey, 1958) to improve the measurement model without fundamentally altering the basic structure of the model. Specifically, if the LaGrange Multipliers test indicated that the model could be improved by allowing indicators from the same latent construct to correlate, I allowed the indicators to correlate in the model. I did not allow indicators from different latent constructs to correlate.

I then tested my full measurement and structural model to determine whether societal mattering indirectly affected risk behavior through civic engagement as well as whether interpersonal mattering indirectly influenced risk behavior through self-regulation. My structural model included both direct and indirect paths from societal mattering and interpersonal mattering to risk behavior. The indirect path from societal mattering to risk behavior was through civic engagement, and the indirect path from interpersonal mattering to risk behavior was through self-regulation. I controlled for sex, age, and SES in my model by regressing them on risk behavior. I

also specified a correlation between societal mattering and interpersonal mattering. Maximum likelihood estimation was used to estimate parameters. As suggested by Shrout and Bolger (2002), I used bootstrapping to test the indirect effects. I assessed model fit using the same model fit criteria used for evaluating the measurement model. Statistical significance for individual pathways was assessed also. Finally, I assessed how much variance in risk behavior was accounted for in the model by looking at the R^2 value.

Missing Data

To address missing data, I used full information maximum likelihood (FIML). FIML was used on all study variables with missing data. The advantage of using FIML for missing data, as opposed to multiple imputation, is that it produces a deterministic result rather than a different result each time. FIML works by estimating a likelihood function for each individual based on the variables that are present so that all the available data are used (Schlomer, Bauman, & Card, 2010).

Results

Descriptive Statistics

Table 4.1 provides descriptive statistics for all study variables and Table 4.2 presents the correlations between all measured continuous variables. About 25% of participants reported having used at least one type of substance in their lifetime, and 23.6% reported having engaged in at least one non-violent delinquent act within the past 30 days. Furthermore, 86% of participants reported having committed at least one aggressive behavior within the past month, with 43% having committed at least one aggressive behavior five times or more within the past month. On average, participants indicated rarely engaging in civic behaviors. Finally, participants reported moderate levels of self-regulation, moderate levels of societal mattering

within the school and community contexts, high levels of perceived mattering to parents, and moderately high levels of perceived mattering to friends.

All scales that served as indicators for school mattering, community mattering, mattering to parents, and mattering to friends demonstrated acceptable skewness. The distributions for two of the scales (i.e., substance use and non-violent delinquency) used as indicators for risk behavior, however, were skewed above 2.0. Therefore, I conducted log transformations of these two indicator variables and ran my measurement model and structural model using the log-transformed variables. Yet, the results from the models using the log-transformed variables were virtually the same as the results using the original non-transformed variables. Therefore, for ease of interpretation, I used the original variables for data analysis. This decision was consistent with how other researchers have handled skewed risk behavior variables (e.g., Caldwell, Kohn-Wood, Schmeelk-Cone, Chavous, & Zimmerman, 2004; Hsieh et al., 2014). Finally, 23% ($n = 88$) of participants had missing data for at least one variable of interest in this study.

Measurement Model

Figure 4.1 presents the results for the CFA measurement model. The model fit statistics for this model were: $\chi^2 = 169.10$, $df = 80$, $p < .001$, CFI = .98, RMSEA = .06, and SRMR = .04. The chi-square to degrees of freedom ratio for this model was 2.11. These model fit indices indicated good fit of this model to the data. In addition, each of the parceled indicators for societal mattering at school and in the community loaded on their respective latent constructs. The substance use, aggression, and non-violent delinquency scale indicators each loaded on to the Risk Behavior latent construct. The standardized factor loadings for these indicators were all statistically significant ($p < .001$) and ranged from 0.40 to 0.99. Furthermore, the first-order School Mattering and Community Mattering latent factors loaded onto a second-order Societal

Mattering factor, and the first-order Mattering to Parents and Mattering to Friends latent factors loaded onto a second-order Interpersonal Mattering factor. These standardized loadings ranged from 0.55 to 0.93 and were all statistically significant ($p < .001$) as well.

Mediation Model

Following a good-fitting measurement model, I tested a mediation model in which I included the direct pathways from societal mattering and interpersonal mattering to risk behavior, as well as the indirect pathway from societal mattering to risk behavior through civic engagement and the indirect pathway from interpersonal mattering to risk behavior through self-regulation. The model fit statistics for this model were: $\chi^2 = 334.49$, $df = 149$, $p < .001$; CFI = .96; RMSEA = .06; SRMR = .06. The chi-square to degrees of freedom ratio was 2.24. Overall, these model fit indices indicated good fit of this model to the data. Greater societal mattering was associated with higher levels of civic engagement, and civic engagement was associated with less risk behavior in a one-tailed test, though did not reach statistical significance in a two-tailed test. Additionally, the direct pathway from societal mattering to risk behavior was non-significant. Greater interpersonal mattering was associated with higher levels of self-regulation, and higher levels of self-regulation was associated with less involvement in risk behavior. Again, the direct pathway from interpersonal mattering to risk behavior was non-significant.

Given that both of the direct effects were non-significant, I tested a mediation model in which these two direct paths were removed and only the indirect pathways were specified. The model fit statistics for this model were: $\chi^2 = 339.66$, $df = 151$, $p < .001$; CFI = .96; RMSEA = .06; SRMR = .07. The chi-square to degrees of freedom ratio was 2.25. Overall, these model fit indices also indicated good fit of this model to the data. Furthermore, a chi-square difference test indicated that this model without the direct pathways fit the data equally well to the model with

the direct pathways included ($\Delta\chi^2 = 5.17, \Delta df = 2, p > 0.05$). Thus, I retained this more parsimonious model that excluded the direct pathways as my final model. Figure 4.2 presents the results of this final structural model.

Results from my final structural model demonstrate that after controlling for sex, age, and SES, societal mattering was associated with greater civic engagement ($\beta = .49, SE = .05, p < .001$). Civic engagement, however, was not significantly associated with risk behavior in a two-tailed test ($\beta = -.10, SE = .06, p = .098$), but was significant in a one-tailed test ($p = .05$) as I hypothesized. I also tested the indirect effect of societal mattering on risk behavior via civic engagement using a bootstrap estimation approach with 500 samples (Shrout & Bolger, 2002). The results indicated the indirect effect coefficient failed to reach statistical significance using a two-tailed test ($\beta = -.05, SE = .03, p = .08, 95\% CI = [-.13, .07]$), but was significant in a one-tailed test (95% CI for one-tailed test = $[-.12, -.004]$). Results from this model also show that greater perceptions of interpersonal mattering were associated with greater self-regulation ($\beta = .64, SE = .05, p < .001$), and greater self-regulation was associated with less involvement in risk behavior ($\beta = -.42, SE = .06, p < .001$). This indirect effect of interpersonal mattering on risk behavior through self-regulation was statistically significant ($\beta = -.27, SE = .05, p < .001, 95\% CI = [-.42, -.19]$). Finally, while age was not associated with risk behavior ($\beta = .03, SE = 0.06, p > .05$), I found that higher SES was associated with greater risk behavior ($\beta = .15, SE = .06, p = .02$) and males were more likely to engage in risk behavior compared to females ($\beta = .12, SE = 0.06, p = .04$). Overall, this model explained 24% of variance in participants' civic engagement ($p < .001$), 41% of variance in participants' self-regulation ($p < .001$), and 25% of variance in participants' risk behavior ($p < .001$).

Sensitivity Analysis

Given the cross-sectional nature of this study, I tested my mediation model in reverse to see whether the data fit the reversed model better or equally as well compared to my original hypothesized model. More specifically, I tested a mediation model in which I included the indirect pathway from risk behavior to societal mattering through civic engagement and the indirect pathway from risk behavior to interpersonal mattering through self-regulation. Like I did for my original hypothesized model, I controlled for age, sex, and SES in this reversed model. The model fit statistics for this model were: $\chi^2 = 472.57$, $df = 157$, $p < .001$; CFI = .93; RMSEA = .07; SRMR = .12. The chi-square to degrees of freedom ratio was 3.01. A chi-square difference test indicated that my original hypothesized model fit the data significantly better compared to this reversed model ($\Delta\chi^2 = 132.91$, $\Delta df = 6$, $p < 0.001$).

Discussion

The results from this study help clarify the role of interpersonal and societal mattering in adolescent development. Overall, my results provide support for TMM, which posits that when youth believe they matter, they are more likely to engage in prosocial behaviors and avoid engaging in negative behaviors (Elliott, 2009; Rosenberg & McCullough, 1981; Schlossberg, 1989). My results support the idea that youth with greater perceptions of mattering to others may perceive that the costs of engaging in risk behaviors outweigh the benefits, and as a result are better able to self-regulate to avoid engaging in such behaviors. Although I did not find a direct effect between interpersonal mattering and risk behavior, I did find an indirect effect in that greater perceptions of mattering to parents and friends were associated with better self-regulation, and better self-regulation was associated with less involvement in risk behavior. This indirect effect of interpersonal mattering on risk behavior through self-regulation aligns with Bandura's (1991) argument that self-regulation is the most proximal predictor of behavior.

My finding that societal mattering is indirectly associated with less risk behavior by promoting civic engagement further supports TMM. This finding may suggest that when youth feel they are valued by society and that their presence makes a difference in the world, it may instill a desire to make positive contributions to the world. In fact, this is consistent with findings demonstrating that a greater sense of societal mattering within the workplace is associated with a stronger commitment to one's work organization (Jung & Heppner, 2017). Similar to what I found, Jung and Heppner's (2017) finding also reflects the idea that individuals are more likely to be engaged when they feel they are valued and important to larger systems. Furthermore, my finding that greater civic engagement is associated with less risk behavior is consistent with others who have found that youth who are more engaged in civic activities are less likely to use substances, bully, and engage in delinquent behavior (Li et al., 2008; Vieno et al., 2007).

Finally, my results support the findings from previous researchers who have found that risk behavior is particularly prevalent among rural youth (Aronson et al., 2009; Atav & Spencer, 2002; Biggar Jr. et al., 2016; Coomber et al., 2011; Gfroerer et al., 2007; Hanson et al., 2009; Lambert et al., 2008). This is evidenced by the high percentage of youth in my study who reported engaging in risk behaviors. In fact, about 25% of youth in my sample reported having used at least one substance in their lifetime, which is higher than the national average for early adolescents (Miech et al., 2017). These results highlight the need for researchers to focus more attention on rural youth and to identify ways to promote the healthy development of youth in rural communities.

Study Limitations

Several limitations to this study should be acknowledged. First, my sample included students from only two middle schools both within rural settings. Consequently, my findings

may not be generalized to all rural youth. Additional research that explores influences on societal and interpersonal mattering among a more representative sample of rural youth would be a useful direction for future research. Nevertheless, focusing on rural youth is also a unique contribution of this study because researchers studying mattering have focused mostly on urban and suburban adolescents or college students.

Second, due to the cross-sectional design, causal connections cannot be made. Although the data support a predictive hypothesis, temporality cannot be established. Thus, it cannot be assumed that: 1) interpersonal and societal mattering precede self-regulation and civic engagement, and 2) self-regulation and civic engagement precede risk behavior. The results from my sensitivity analysis, however, demonstrated that a model in which my hypothesized pathways were reversed did not fit the data well and was a significantly worse model compared to my hypothesized model. Nevertheless, future research using a longitudinal sample of adolescents is warranted and may provide a better understanding of the true direction of these relationships.

Third, about 44% of invited youth did not participate in this study. This nonresponse may have introduced bias into my study in that youth at highest risk for engaging in substance use, aggression, and non-violent delinquency may have been less likely to participate in my study because they are less likely to be in school compared to youth at lower risk for engaging in such behaviors (Smit, De Zwart, Spruit, Monshouwer, & Van Ameijden, 2002). Yet, I did find significant relationships in the hypothesized directions despite this potential bias, which suggests that the results are robust. Furthermore, I have no reason to believe that some groups of youth were less likely to participate in this study compared to other groups. The demographics of our sample reflect the demographics of the overall population from the two school districts.

Fourth, the association I found between civic engagement and risk behavior as well as the indirect effect of societal mattering on risk behavior through civic engagement did not reach statistical significance using two-tailed tests. Yet, I did find these effects to be significant using one-tailed tests. While some researchers argue that one-tailed tests are rarely ever appropriate (Lombardi & Hurlbert, 2009), others argue that one-tailed tests are more powerful than two-tailed tests and should be used any time a researcher has a hypothesis where the expected effect lies in a certain direction (Cho & Abe, 2013; Jones, 1952). Thus, given that I had directional hypotheses, my use of one-tailed tests was appropriate.

Fifth, my measure of self-regulation had limited reliability, though comparable to that reported for the original version (Ford & Collins, 2013). This is not a peculiarity of the scale we used in this study. In fact, self-regulation is a construct that is difficult to measure in a reliable and valid way (Panadero, Klug, & Jarvela, 2016). Nevertheless, the items we used to measure self-regulation in this study may need to be reworded in subsequent studies to improve reliability. A sixth limitation was that my measures of interpersonal and societal mattering were not as comprehensive as they could have been. I conceptualized interpersonal mattering as mattering to parents and friends, and did not include mattering to other specific individuals (e.g., siblings, grandparents, mentors). Furthermore, societal mattering was conceptualized as mattering within the school and community contexts, although mattering within other systems that are a part of society (e.g., places of worship, places of employment) might also be relevant. Notably, however, measuring interpersonal mattering as mattering to parents and peers was appropriate given that parents and peers are the most salient socializing agents for adolescents (Brechwald & Prinstein, 2011; Prinstein & Dodge, 2008; Steinberg & Silk, 2002). Similarly, measuring societal mattering within the community and school contexts is appropriate for

adolescents because these are the two most important microsystem settings for adolescent development (Bronfenbrenner, 1979). Nevertheless, future studies in which interpersonal and societal mattering are measured more comprehensively is warranted.

Contributions and Implications

These limitations notwithstanding, the current study adds to our understanding of the effects of mattering on adolescent development in several useful ways. To start, this was one of the first studies to examine potential pathways through which mattering influences risk behavior. Most researchers have only examined the main effects of mattering. Notably, this is the only study that included both interpersonal and societal mattering and risk behavior, as the few researchers that have explored this relationship focused exclusively on interpersonal mattering. Interventions enhancing perceptions of interpersonal and societal mattering have the potential to help youth develop positively (Elliott, 2009; Elliott et al., 2011; Rosenberg & McCullough, 1981; Rosenberg, 1985; Schlossberg, 1989). Yet, the development of such interventions requires an understanding of the mechanisms through which the intervention will affect the intended outcome (Dalkin et al., 2015). Thus, my findings suggest that efforts to enhance adolescents' sense of interpersonal and societal mattering may help prevent risk behavior.

Furthermore, I found that youth with greater perceptions of societal mattering engaged with their environment more often than youth with lower perceptions of societal mattering. Considering how important civic engagement is for positive youth development (Lerner, 2004), my findings suggest that developing programs that seek to enhance youths' perceptions of societal mattering may help them become involved citizens as adults. Programs that apply a youth-driven approach may be the most effective for enhancing perceptions of societal mattering, as these types of programs offer more experiences with decision-making compared to

other types of youth programs (Larson, Walker, & Pearce, 2005; Lewis- Charp, Yu, Sengouvanh, & Lacoé, 2003), and more opportunities for decision-making is associated with greater perceptions of societal mattering for youth (see Chapter 3).

Another unique contribution of this study is that I explored the effects of interpersonal and societal mattering on risk behavior among rural youth. The majority of researchers have studied mattering in samples of urban and suburban adolescents or college students. My focus on rural youth is important because youth living in low-income, rural areas have less access to youth development programs and other resources useful for promoting healthy development and preventing risk behaviors compared to non-rural youth (Burd-Sharps & Lewis, 2017; U.S. Department of Health and Human Services, 2011). Yet, such programs and resources are needed for rural youth considering the prevalence of risk behavior among this population is the same or greater compared to urban and suburban youth (Aronson et al., 2009; Atav & Spencer, 2002; Biggar Jr. et al., 2016; Coomber et al., 2011; Gfroerer et al., 2007; Hanson et al., 2009; Lambert et al., 2008). Therefore, the insight that my findings provide for intervention development is particularly useful, as practitioners can use my findings to help develop positive youth development programs for rural adolescents.

My findings also help guide future research. First, civic engagement may not be the sole mediator between societal mattering and risk behavior, so future research that explores other possible mediators may be informative. One potential mediator worth investigating is purpose in life. Greater perceptions of societal mattering may lead to more engagement in civic activities, further promoting a greater purpose in life, which may ultimately lead to less involvement in risk behavior. Researchers suggest that activities such as volunteering can serve as sources of purpose in life (Malin, Ballard, & Damon, 2015; Koshy & Mariano, 2001; Piquart, 2002), and it is well

established that having a purpose is associated with less involvement in risk behavior among adolescents (Abramoski, Pierce, Hauck, & Stoddard, 2018; Hurd, Stoddard, Bauermeister, & Zimmerman, 2014). Additionally, while I focused on risk behavior as the outcome of interest for this study, future research that examines pathways by which interpersonal and societal mattering influence other outcomes such as academic achievement and mental health would be useful.

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TABLE 4.1 Descriptive statistics for study variables

Variable	N (%)	M (SD)	Range	α	Skew
Sex					
Female	189 (49.60)	--	--	--	
Male	192 (50.40)	--	--	--	
Age	380	13.35 (.91)	11.33-15.33	--	-.29
Socioeconomic Status (SES)	316	4.90 (1.60)	1.00-7.00	--	-.56
Societal Mattering					
School Mattering	377	3.11 (.81)	1.00-5.00	.91	-.24
Community Mattering	369	3.07 (.84)	1.00-5.00	.94	-.39
Interpersonal Mattering					
Mattering to Parents	342	4.15 (.68)	1.27-5.00	.94	-.87
Mattering to Friends	357	3.74 (.89)	1.00-5.00	.95	-.91
Civic Engagement	366	2.17 (.65)	1.00-4.00	.72	.13
Self-Regulation	373	3.50 (.79)	1.25-5.00	.67	-.40
Youth Risk Behaviors					
Aggression	360	12.44 (12.39)	0.00-55.00	.89	1.57
Non-violent Delinquency	359	0.76 (2.58)	0.00-25.00	.83	6.66
Substance Use	358	1.00 (2.77)	0.00-25.00	.86	4.69

TABLE 4.2 Bivariate correlations between continuous study variables

	1	2	3	4	5	6	7	8	9	10	11
1. School Mattering	--										
2. Community Mattering	.67**	--									
3. Mattering to Parents	.35**	.37**	--								
4. Mattering to Friends	.48**	.35**	.29**	--							
5. Civic Engagement	.39**	.46**	.23**	.23**	--						
6. Self-Regulation	.55**	.38**	.36**	.32**	.31**	--					
7. Aggression	-.22**	-.24**	-.16**	-.19**	-.18**	-.35**	--				
8. Non-violent Delinquency	-.18**	-.30**	-.13*	-.13*	-.18**	-.26**	.50**	--			
9. Substance Use	-.14**	-.19**	-.13*	-.04	-.13*	-.24**	.29**	.43**	--		
10. Age	.24**	.23**	.58**	.31**	-.07	-.05	.02	.05	.19**	--	
11. SES	.32**	.23**	.22**	.70**	.08	.12*	.08	.07	-.04	-.06	--

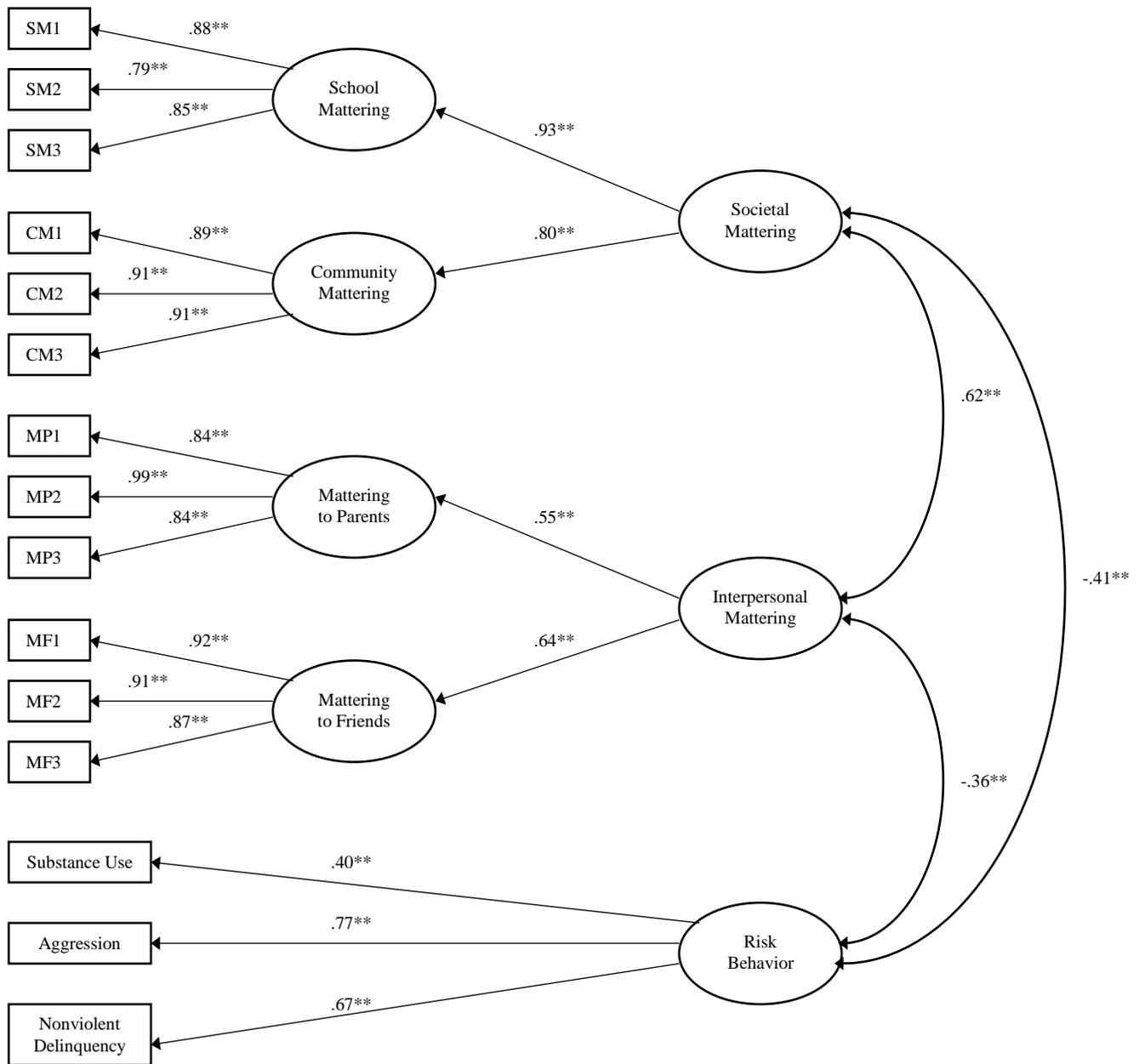


FIGURE 4.1. Results of measurement model for societal mattering, interpersonal mattering, and risk behavior with standardized estimates.
 Note: ** $p < .001$; error terms and correlations between indicators not shown. Correlation for MP1 with MP3: .42, $p < .001$; SM2 with SM3: .23, $p < .05$; nonviolent delinquency with substance use: .24, $p < .05$.

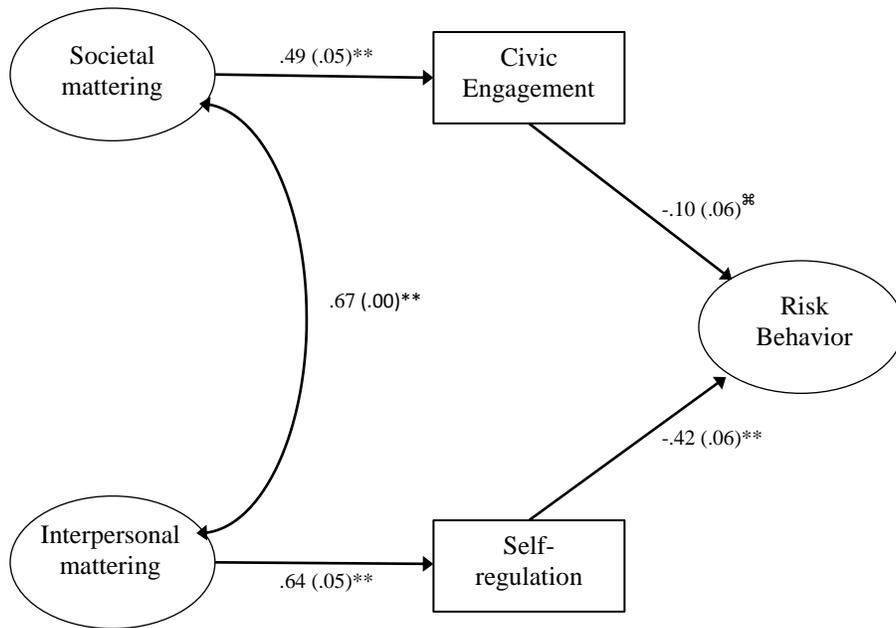


FIGURE 4.2. Standardized coefficients and standard errors for parameters of the structural equation model for final mediation analysis without direct pathways included.

Note: * $p < .05$, ** $p < .001$, * $p < .05$ using one-tailed test; measurement model and covariate paths not shown. Risk behavior and age: $.03 (.06)$, $p = .66$; sex (female reference group): $.12 (.06)$, $p = .04$; SES: $.15 (.06)$, $p = .02$.

CHAPTER 5

Discussion

Adolescent development is influenced by many factors, one of them being adolescents' perceptions of mattering. Mattering refers to an individual's sense that they are significant in the world and to the people in their lives and they somehow make a difference (Rosenberg & McCullough, 1981; Rosenberg, 1985). Mattering is categorized into two types: interpersonal and societal (Rosenberg, 1985). Interpersonal mattering is specifically in relation to how much an individual feels they matter to specific people in their lives (e.g., parents, peers; Rosenberg & McCullough, 1981). Societal mattering refers to the idea that we are important to society as a whole and that our thoughts and actions can make a difference in the world (DeForge & Barclay III, 1997; Rosenberg, 1985). The Theory of Marginality and Mattering (TMM) theorizes that when individuals feel as though they matter it motivates them to engage in behaviors that provide a personally and socially rewarding path through life, and to avoid engaging in behaviors that would threaten a rewarding life (Schlossberg, 1989). Thus, TMM suggests that when individuals believe they matter to significant others (interpersonal mattering) and to society (societal mattering), they are more likely to engage in prosocial behaviors and less likely to engage in risk behaviors (Elliott, 2009).

Researchers have demonstrated that mattering is a separate construct from other psychological constructs such as self-esteem, purpose in life, and sense of connectedness, and contributes to adolescent development independently from these constructs. An individual's

perception of whether they matter to society and whether they have the power to make a change in the world provides a foundation for their self-esteem, but the two constructs are separate (Dixon & Kurpius, 2008; Elliott, 2009; Marshall, 2001; Rosenberg & Kaplan, 1982; Rosenberg, 1985; see Chapter 2). In fact, Rosenberg (1985) found that even after controlling for self-esteem, adolescents' perceptions of mattering to their parents significantly influenced psychological well-being. The development of perceptions of mattering is mostly a cognitive process even though the effect may be on behavior. Conversely, the development of self-esteem is both a cognitive and affective process (Rosenberg & Kaplan, 1982). Mattering is also distinct from having a purpose in life (George & Park, 2014, 2016, 2017). Having a purpose in life is defined as being directed and motivated by valued life goals (Battista & Almond, 1973; Klinger, 1977; McKnight & Kashdan, 2009). Furthermore, Damon, Menon, and Bronk (2003) suggest that having a purpose in life includes having a "desire to make a difference in the world" (p. 121). It is plausible that societal mattering is a contributor to having a purpose in life. When we feel as though society counts on us, we may be more motivated to set goals to help make a difference in society and work towards those goals, thus giving us a greater purpose in life. Finally, mattering differs from a sense of belonging or connectedness (Dixon-Rayle, 2005; Schlossberg, 1989), which is defined as feeling accepted, included, and encouraged by groups or institutions (Goodenow, 1993). While societal mattering and sense of connectedness are related, societal mattering is more comprehensive in that it also measures whether an individual believes they can make a difference or have an influence on the way things are in the world.

Despite the important and unique role mattering has in adolescent development, several gaps in the literature remain. First, researchers have mainly focused on mattering during middle adolescence (e.g., high school students), late adolescence (e.g., college students), and even

adulthood (e.g., adults in the workforce, retired adults); very few have studied mattering among early adolescents such as students in middle school. Understanding perceptions of mattering among middle school students is particularly important given that middle school is a transitional phase of life. According to Schlossberg (1989), transitions in life are often characterized by feeling isolated and vulnerable, but feeling as though we matter can reduce these feelings.

Second, the researchers who have studied mattering during adolescence have focused mostly on urban and suburban adolescents and college students (e.g., Dixon, Scheidegger, & McWhirter, 2009; Marshall, 2004; Rosenberg & McCullough, 1981). Few researchers have studied mattering among rural youth (for exception, see Watson, 2017). Findings from studies on urban and suburban youth cannot be generalized to youth living in rural areas as the rural context uniquely influences community, school, family, and peer contexts. For instance, rural communities have less social capital compared to urban communities (O'Hare & Johnson, 2004), and, compared to urban families, families living in rural areas have less access to transportation, health care, child care, and other useful resources (Evans, 2003; Vernon-Feagans, Gallagher, & Kainz, 2010). Furthermore, schools in rural areas tend to be smaller in size, have fewer teachers and support staff, fewer curricular and extra-curricular offerings, and spend less per student compared to urban and suburban schools (McCracken & Barcinas, 1991). These differences may have important implications for rural youths' perceptions of interpersonal and societal mattering.

Third, while researchers have started exploring the relationship between interpersonal mattering and adolescent development (Elliott, 2009; Elliott et al., 2011; Lewis, 2016; Rosenberg & McCullough, 1981; Taylor & Turner, 2001), the role of societal mattering in adolescent development has not been studied. In fact, no well-validated measure of societal mattering for youth exists. Given that interpersonal and societal mattering are distinct constructs, they may

influence development in different ways. Yet, without a measure of societal mattering, this relationship cannot be explored.

Another limitation of previous research on mattering is that few researchers have focused on predictors of mattering. Most researchers studying mattering have focused on mattering as the independent variable, as opposed to the dependent variable of interest. This lack research on factors contributing to youths' perceptions of mattering poses substantial problems with regard to intervention development. Given how important mattering is for the positive development of youth, mattering can be intervened upon as a way of promoting better health and well-being and preventing risk behaviors. Yet, in order to do so, it is necessary to understand how to enhance feelings of mattering among adolescents.

Lastly, a limited amount of research has been conducted on the mechanisms through which mattering influences adolescents' health and well-being. Instead, researchers have focused mostly on the main effects of mattering on developmental outcomes. This is problematic because, while interventions focused on fostering youths' sense of mattering may promote positive development and prevent negative outcomes, the development of such interventions requires an understanding of the mechanisms through which mattering may lead to a reduction in risk behavior (Dalkin, Greenhalgh, Jones, Cunningham, & Lhussier, 2015). Additionally, given that interpersonal and societal mattering are conceptually distinct constructs (George & Park, 2014; Rosenberg, 1985; Chapter 2; Chapter 3), it is plausible that these two types of mattering influence risk behavior through different pathways.

In this dissertation, I sought to address these gaps in knowledge in important ways. First, I studied mattering among rural middle school students. Second, I developed and tested a societal mattering scale for youth in order to better understand the unique role societal mattering may

have in adolescent development (Study 1). Third, I examined predictors of mattering and investigated whether interpersonal and societal mattering are influenced by different predictors (Study 2). Finally, I explored potential pathways through which mattering influences youths' risk behavior and tested whether interpersonal and societal mattering influence risk behavior through separate mechanisms (Study 3). The overarching goal of my dissertation was to contribute to our understanding of mattering and adolescent development among rural youth.

Summary of Findings

Study 1: Development and Validation of a Societal Mattering Scale for Youth

The purpose of my first dissertation study was to develop and test the psychometric properties of a societal mattering scale for youth. More specifically, I developed a scale to measure perceptions of societal mattering within the community and school contexts. The societal mattering scale developed as part of this study is the first empirical measure of societal mattering developed specifically for youth.

Findings from this study provided psychometric support for a second-order, two-factor, 18-item Societal Mattering Scale, and provided evidence that measuring societal mattering within the community and school contexts is appropriate for adolescents. This aligns with Bronfenbrenner's (1979) argument that these two contexts are the most important microsystem settings for this population. My results from this study also supported Rosenberg's (1985) argument that societal mattering and interpersonal mattering are related, but distinct constructs. This finding demonstrates the importance of studying societal mattering as a separate construct from interpersonal mattering. Finally, I found that greater perceptions of societal mattering are correlated with less risk behavior, greater purpose in life, and higher self-esteem. These findings corroborate the Theory of Marginality and Mattering (TMM), which posits that youth are less

likely to experience negative outcomes and more likely to experience positive outcomes when they feel they matter to others and society (Rosenberg & McCullough, 1981; Rosenberg, 1985; Schlossberg, 1989).

This study was important because it provided researchers with a useful tool for studying the role of societal mattering in adolescent development. Multiple measures exist for measuring interpersonal mattering for youth (e.g., Elliott et al., 2004; Marshall, 2001), yet none exist for societal mattering. Without a validated measure, researchers are unable to examine whether societal mattering influences adolescent development in a similar or different way than interpersonal mattering.

Study 2: Examining Contextual and Relational Predictors of Societal and Interpersonal Mattering Among Rural Youth

My second dissertation study was focused on exploring how perceived relationship factors and perceived contextual factors at the community, school, peer, and family levels affect rural youths' perceptions of interpersonal and societal mattering. This study was one of the first to examine determinants of mattering among rural youth. Furthermore, to my knowledge, this is the only study to explore factors contributing to youths' perceptions of societal mattering.

I found that youth who reported greater parental involvement, better parent-child communication, and more support from friends also reported greater perceptions of mattering to others. Additionally, my findings demonstrated that more positive perceptions regarding opportunities for youth involvement in their community, availability of community resources, student input in decision-making at school, and support for autonomy at school were associated with greater perceptions of societal mattering. These results suggest that societal mattering and interpersonal mattering may have distinct contributors, with interpersonal mattering influenced most by factors pertaining to the interaction or dynamic between specific people (i.e.,

relationship-oriented factors), and societal mattering influenced most by factors that describe a particular setting or environment (i.e., contextual factors). These findings offer further support that, while related, interpersonal and societal mattering are in fact different types of mattering.

This study contributes significantly to the literature by beginning to identify factors associated with mattering, which is critical considering that greater perceptions of mattering increase the likelihood of positive outcomes (e.g., Marshall, 2001) and reduces the likelihood of negative outcomes (e.g., Elliott et al., 2011) for adolescents. Therefore, findings from this study offer important insights for practitioners interested in developing programs for rural youth focused on enhancing perceptions of mattering as a way to prevent risk behavior and promote healthy development.

Study 3: Exploring Pathways from Interpersonal and Societal Mattering to Rural Adolescents' Risk Behavior

In my third dissertation study, I examined mechanisms by which interpersonal and societal mattering influence risk behavior among rural youth. Specifically, I tested self-regulation as a mediator between interpersonal mattering and youth risk behavior and I tested civic engagement as a mediator between societal mattering and risk behavior. This was one of the first studies to examine potential pathways through which mattering influences risk behavior. Most researchers have only examined the main effects of mattering. Additionally, this is the only study that included both interpersonal and societal mattering and risk behavior, as the few researchers that have explored this relationship focused exclusively on interpersonal mattering.

I found that greater perceptions of interpersonal mattering were indirectly associated with less involvement in risk behavior by improving youths' self-regulation. This finding supports the idea that youth with greater perceptions of mattering to others may perceive that the costs of engaging in risk behaviors outweigh the benefits, and as a result are better able to self-regulate to

avoid engaging in such behaviors. I also found that societal mattering is indirectly associated with less risk behavior by promoting civic engagement, which suggests that when youth feel they are valued by society and that their presence makes a difference in the world, it may instill a desire to make positive contributions to society. Overall, my results from this study support TMM's premise that when youth believe they matter, they are more likely to engage in prosocial behaviors and avoid engaging in negative behaviors (Elliott, 2009; Rosenberg & McCullough, 1981; Schlossberg, 1989).

By understanding the mechanisms through which interpersonal and societal mattering influence risk behavior among rural youth, practitioners are better able to design and implement programs focused on preventing risk behavior for this population. This is an important contribution of this study because youth in rural areas have fewer opportunities to participate in positive youth development programs, and the variety of youth programs available to rural youth is more limited compared to the variety of programs available to youth living in suburban or urban areas (Brown, Swanson, & Barton, 2003; Lutfiyya, Lipsky, Wisdom-Behounek, & Inpanbutr-Martinkus, 2007; Moore, et al., 2010). The need for positive youth development programs and prevention programs for rural youth is high considering the prevalence of risk behavior among this population is the same or greater compared to non-rural youth (Aronson et al., 2009; Atav & Spencer, 2002; Biggar Jr. et al., 2016; Coomber et al., 2011; Gfroerer et al., 2007; Hanson et al., 2009; Lambert et al., 2008).

Limitations

Limitations of my three dissertation studies should be acknowledged. First, the data used for each of the three studies were from the same sample of students from two rural middle schools in Michigan. Therefore, the results from my studies may not be generalizable to all rural

youth. Yet, youth from low-income, rural areas are an understudied population in the mattering literature, as most researchers studying mattering among adolescents have focused on urban and suburban youth or college students. Furthermore, studying mattering among rural youth may be particularly beneficial as promoting perceptions of mattering may be a promising way to prevent involvement in risk behaviors, which is important considering the prevalence of risk behavior among this population is the same or greater compared to urban and suburban youth (Aronson et al., 2009; Atav & Spencer, 2002; Biggar Jr. et al., 2016; Coomber et al., 2011; Gfroerer et al., 2007; Hanson et al., 2009; Lambert et al., 2008). Nevertheless, research that explores societal and interpersonal mattering among a more representative sample of rural youth would be a useful direction for future research.

Second, about 44% of invited youth did not participate in my dissertation study, which may have introduced bias into my study. While the percentage of males and females in my sample closely reflected the overall population from the two school districts, my sample was slightly higher SES than what would have been expected given my sampling population. About 50% of my sample reported receiving free or reduced lunch at school, while school-level data show that about 58% of students in the two school districts receive free or reduced lunch (MCEPI, 2016). Additionally, students in 8th grade were more likely to participate in my study compared to students in 6th and 7th grades. This may have been because older students were more likely to bring their parental consent forms home compared to younger students as evidenced by a higher percentage of 8th graders bringing consent forms back compared to 6th and 7th graders in my study. These discrepancies between my sample and the population my sample was drawn from poses generalizability issues in which my results may only be generalizable to higher SES 8th-grade students.

Third, given the cross-sectional nature of the data used for my three studies, causal inferences cannot be made because temporality cannot be established. Thus, for Study 2, it cannot be assumed that the perceived relationship and contextual factors precede adolescents' perceptions of mattering. Likewise, for Study 3, it cannot be assumed that interpersonal and societal mattering precede self-regulation and civic engagement, or that self-regulation and civic engagement precede risk behavior. Yet, these studies are a critical initial step in examining predictors of mattering and how mattering may operate to prevent risk behavior. Future longitudinal research examining these relationships would be a useful next step to deepen our understanding of the role mattering plays in reducing risk of negative outcomes such as substance use, aggression, and non-violent delinquency.

Fourth, the data used in this dissertation are self-reported data, which are susceptible to social desirability bias (Huang, Liao, & Chang, 1998). The questionnaires used for this dissertation, however, were self-administered, which has been shown to decrease social desirability bias in answers to questions on sensitive topics including violent behavior and substance use (Tourangeau & Yan, 2007). Additionally, my reliance on self-report data was necessary given I collected data on participants' perceptions. Notably, some researchers suggest that the use of non-self-report data to measure constructs inherently perceptual may not be appropriate (Chan, 2009).

Finally, while I measured interpersonal and societal mattering across multiple domains (i.e., interpersonal mattering to mother, father, and friends; societal mattering within the community and school contexts), both constructs could have been measured more comprehensively. Mattering to siblings, grandparents, and mentors may be particularly important to measure for a more comprehensive assessment of youths' perceptions of interpersonal

matter. Additionally, perceptions of mattering within other systems that are a part of society, such as places of worship or places of employment, might also be relevant when measuring societal mattering. Notably, however, my measures of interpersonal and societal mattering used in this dissertation are broader than most. Interpersonal mattering is most often measured across one or two relationships, whereas I have assessed this construct across three relationships. Furthermore, societal mattering has never been measured among youth prior to this dissertation, and, thus, my measure of societal mattering is a good starting point. Nevertheless, future studies in which interpersonal and societal mattering are measured more comprehensively is warranted in order to help us expand our understanding regarding the role of mattering in the lives of youth.

Overall Contributions

Findings from my dissertation studies have important theoretical contributions. First, while the Theory of Marginality and Mattering (TMM) has been used to inform studies examining the role of interpersonal mattering in individuals' health and well-being, my findings suggest that TMM is also applicable to societal mattering and can be used to inform studies that examine societal mattering in relation to healthy development. Prior to my dissertation studies, it was empirically unclear whether societal mattering played a unique role in adolescent development apart from interpersonal mattering. Results from my dissertation, however, demonstrate that societal mattering is associated with less risk behavior even after accounting for the influence of interpersonal mattering, which suggests that societal mattering does uniquely influence adolescent development. This highlights that the affects of both types of mattering on adolescent development should be considered independently moving forward.

Second, my dissertation results expand upon TMM by identifying factors that influence interpersonal and societal mattering. TMM posits that those who perceive they matter are more

likely to develop favorably compared to those who do not perceive themselves to matter, yet, prior to this dissertation, little was known about how perceptions of mattering are fostered. My results provide us with some understanding as to why some adolescents may have low perceptions of interpersonal and societal mattering while other adolescents have high perceptions of mattering. Furthermore, my findings demonstrate that contributors of interpersonal mattering are different than contributors of societal mattering. It is possible for youth to feel as though they matter to their parents and friends, but feel as though they do not matter to society, and vice versa. Thus, efforts to foster perceptions of mattering must be multifaceted and future research exploring additional predictors of mattering should examine interpersonal and societal mattering separately.

Finally, the findings from my dissertation expand TMM even further by identifying mediators through which interpersonal and societal mattering influence adolescent development. TMM posits that there is a connection between mattering and health and well-being, but does not theorize the pathway through which this connection works. I found that the mechanism by which interpersonal mattering influences risk behavior (i.e., through self-regulation) actually differs from the mechanism by which societal mattering influences risk behavior (i.e., through civic engagement). As such, my research provides a more nuanced understanding of the relationship between mattering and adolescent development and highlights that youth risk behavior prevention efforts focused on promoting perceptions of mattering will work in different ways depending upon the type of mattering being fostered.

Implications for Practice

The findings from my dissertation studies have important implications for the development of interventions for low-income, rural youth, which is especially beneficial given

this population has less access to youth development programs and other resources useful for healthy development compared to non-rural youth (Burd-Sharps & Lewis, 2017; U.S. Department of Health and Human Services, 2011). Overall, my results suggest that developing programs focused on fostering positive perceptions of interpersonal and societal mattering may be helpful for promoting prosocial behavior and preventing risk behavior among rural youth.

Based on my dissertation findings, perceptions of interpersonal mattering can be enhanced using efforts to improve parent-child communication, increase parental involvement, and foster greater social support from friends. Furthermore, increasing youth involvement in decision-making processes, providing more opportunities for youth to have meaningful roles in the community, offering more youth-focused resources, and allowing for student voice at school may be useful strategies to implement as part of programs seeking to increase perceptions of societal mattering.

As highlighted by my results, factors across the community, school, family, and peer contexts play an instrumental role in affecting rural youths' perceptions of interpersonal and societal mattering. Thus, the most promising approach to enhancing perceptions of mattering, and ultimately preventing risk behavior among rural youth, may be through the implementation of multilevel interventions. At the community level, city and town councils could consider incorporating a youth advisory board or community organizations could encourage and assist adolescents in implementing a youth-led campaign. Such programs would provide youth with more opportunities to have meaningful roles in the community. School-level strategies for enhancing perceptions of mattering may include adding a service-learning component to the school curriculum or allowing students to help develop school and classroom policies. These school-level strategies would give students more of a voice at school and may be particularly

effective for rural youth given that they do not require youth to have transportation, which is often a barrier for this population (Dew, Elifson, & Dozier, 2007; Edwards, Torgerson, & Sattem, 2009). At the family level, providing opportunities for parents and their children to engage in prosocial activities together may foster youths' perceptions of interpersonal mattering. For example, it may be beneficial for schools to initiate community volunteer days in which students and their parents are invited to come together to give back to their community through volunteerism. Opportunities such as these could help to increase parents' involvement in their children's lives. Finally, formal or informal peer support programs may be a useful approach for increasing positive perceptions of mattering to others. One way to implement a peer support program could be through the use of mobile phone applications, which have been found to be particularly effective for youth (McColl, Rideout, Parmar, & Abba-Aji, 2014). Such programs may help youth to feel supported by their peers and may also help them to feel needed by their peers.

In addition to developing programs to increase perceptions of societal mattering by offering more opportunities for youth to be involved in decision-making processes and have meaningful roles in schools and communities, it may also be important to inform youth about opportunities and resources that already exist. My dissertation findings suggest that it is an adolescent's perception of whether opportunities and resources exist that matters. Even if these opportunities and resources exist, if an adolescent does not know about them or does not recognize their existence, they are still less likely to believe they matter to society. Additionally, youths' perceptions may be based on comparisons to other individuals. Even if the same opportunities exist, if an adolescent perceives they have fewer opportunities to be involved in their community compared to someone from a different community, they may question whether

they really matter to society. For these reasons, it may be important for school personnel and community organizations to properly advertise programs that are currently in place and to highlight opportunities for youth to have a voice.

Future Research Directions

The results from my three studies offer several directions for future research. First, although I examined the pathways through which interpersonal and societal mattering influence youth risk behavior, it is also important to investigate the influences of each type of mattering on other outcomes. While interpersonal mattering has been studied in relation to various outcomes including suicide ideation (Elliott, Colangelo, & Gelles, 2005), academic achievement (Rayle & Chung, 2007; Lemon & Watson, 2011), and mental health (Marshall, 2004), researchers have not studied how societal mattering relates to such outcomes among youth. Furthermore, it would be beneficial to investigate the mechanisms through which interpersonal and societal mattering influence other outcomes. Considering I found that each type of mattering influenced risk behavior through different pathways, it is plausible they affect other outcomes differently as well. This dissertation is one of the few that examined mediators between mattering and outcomes and the results suggest that more research on these pathways for various outcomes would be a useful direction for future research.

A second potential direction for future research is to examine mattering in the context of resilience theory. Specifically, it would be beneficial to study the protective effects of societal and interpersonal mattering. According to Zimmerman and Arunkumar (1994), protective factors interact to buffer an individual from the negative effects of risk exposure. It is possible that greater perceptions of interpersonal and societal mattering may buffer the negative effects of various risk factors such as the negative influence of peers and exposure to parental drug use or

family conflict. It would be interesting to examine whether one type of mattering has a stronger protective effect compared to the other, or to study the protective-protective effects of interpersonal and societal mattering (i.e., they enhance each other's effects to improve an outcome more than either one individually). Additionally, few researchers have studied sex differences and mattering. It is plausible that, depending on the risk factor, the buffering effect of mattering may differ between males and females. The negative influence of delinquent peers is greater for males compared to females (Mears, Ploeger, & Warr, 1998; Piquero, Gover, MacDonald, & Piquero, 2005), and as a result, males may need to perceive exceptionally high levels of mattering in order for mattering to buffer against the influence of negative peers. On the other hand, female adolescents report significantly greater levels of anxiety and depression compared to male adolescents (Burt & Stein, 2002; Whalen, Jamner, Hender, & Delfino, 2001), thus females may need to have exceptionally high perceptions of mattering in order for mattering to lessen the negative effects of anxiety and depression. Understanding such sex differences may offer important insights for practitioners.

Another opportunity to expand upon the findings from my dissertation is to examine how perceptions of interpersonal and societal mattering may affect behavioral and psychological outcomes across time. Findings from my dissertation demonstrate that youths' perceptions of interpersonal and societal mattering are associated with behavior cross-sectionally. Yet, it is still unknown whether the effects of interpersonal and societal mattering are long-lasting. Future research is warranted that examines whether perceptions of interpersonal and societal mattering during adolescence influence behavior and psychological wellbeing during adulthood. Furthermore, it would be useful to study how perceptions of interpersonal and societal mattering change over time. Schlossberg (1989) posits that individuals' perceptions of mattering are lower

during times of transition (e.g., starting middle school, graduating from high school, retiring), however this hypothesis has not yet been tested. Thus, future research using a growth curve modeling approach would be useful, as this would provide insights about the trajectories of individuals' perceptions of interpersonal and societal mattering over time.

Finally, it is important for researchers to study mattering in other samples of rural youth. For this dissertation, I focused on youth from two rural towns that have similar characteristics and are within close proximity, but rural areas across the United States are not homogenous and can vary in important ways. For instance, in highly rural areas, fewer employment opportunities exist, which often causes greater parental stress for families living in these areas (Scaramella & Keyes, 2001). On the other hand, rural areas adjacent to urban areas have lower levels of poverty and more opportunities for economic mobility (Lambert et al., 2008). Furthermore, the racial and economic segregation that persists in the rural southern part of the United States causes individuals living in these areas to have less access to opportunities to participate in school and community activities (Chenoweth & Galliher, 2004). These differences in geographical regions may cause youth to have different opportunities to develop a sense of mattering. Thus, research that explores mattering among a more diverse sample of rural youth would be useful.

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