RESPONSIBILITY DEVELOPMENT IN YOUNG MEN IN POSTSECONDARY SETTINGS: CONSTRUCT STRUCTURE AND CONTEXTUAL INFLUENCES

A Dissertation Presented

by

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ABSTRACT

RESPONSIBILITY DEVELOPMENT IN YOUNG MEN IN POSTSECONDARY SETTINGS: CONSTRUCT STRUCTURE AND CONTEXTUAL INFLUENCES

May 2019

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There is insufficient research on what responsibility is and how it develops. The present work reviewed research on responsibility development and proposed a construct structure that involves reliably meeting demands, accepting consequences for one's actions, and exhibiting a concern for others. This study used survey data from the Assessment of Character in the Trades Study (Johnson et. al. 2014), a longitudinal, mixed-methods investigation of character development in men (n = 213; mean age 18.76 years) in four postsecondary institutions to answer: (1) Is a three-factor model of responsibility empirically supported and replicable across time? (2) Do individuals differ in their development of responsibility and if so how? (3) Does educational setting impact trajectory membership? Though each of the three components of responsibility exhibited good internal consistency, exploratory factor analyses did not support a three-factor model. Latent class growth analyses revealed four statistically distinct trajectories of responsibility development. Multinomial regression analyses revealed that educational setting significantly predicted membership into trajectory classes. Implications, limitations, and future research directions are discussed.

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INTRODUCTION

Responsibility—the tendency to fulfill obligations, respect others, and accept consequences for one's actions—in young people is a widely valued quality. Adolescents and young adults in many developed and developing countries from Brazil to Eastern Europe (Arnett 2000; Arnett & Padilla-Walker, 2015; Dutra-Thomé, 2014; Nelson, 2009; Oleszkowicz, 2015) report increased responsibility as an essential character difference between themselves and fully realized adults. In the U.S., college students from diverse backgrounds in private, public, and community colleges similarly view responsibility as the distinguishing factor between individuals in early adulthood and fully realized adults (Katsiaficas, Suárez-Orozco, & Dias, 2015; Lowe, Dillon, Rhodes, & Zwiebach, 2013).

The colleges that serve such students similarly value responsibility. A survey of the mission statements of the institutions listed in the 2002 edition of Princeton Review's "*The Best 331 Colleges*" revealed that just under a third (28.5%) explicitly mention responsibility as a student learning goal (Meacham & Gaff, 2006). The individuals in such colleges also value responsibility development as a learning goal for students. A survey of students and campus professionals across 23 higher education institutions found that more than 90% of students, faculty, student affairs personnel, and academic administrators agree that teaching responsibility should be a major focus of their institution (Dey & Associates, 2008).

Despite uniform endorsement for the value of responsibility development in young people and a large number of higher education institutions aiming to teach responsibility to their students, there is insufficient research on how such development takes place or how it can be facilitated by educational settings. There is need for additional research on the construct and consequences of responsibility, as well as on the process of responsibility development in children, adolescents, and young adults. Although research on personality attributes such as conscientiousness link responsibility to positive outcomes such as improved high school and college grades and greater job attainment and income (Noftle & Robins, 2007; Roberts et al., 2007), few works empirically examine responsibility as a process that develops. Furthermore, despite responsibility's possible status as a marker of adulthood, few works address the phenomenon as it applies to young adults (Johnson et al., 2011). The relative absence of young adults as foci of empirical studies is particularly problematic given that many consider responsibility to be a defining characteristic of adulthood and, as mentioned, many colleges and universities, as well as other contexts of early adulthood (e.g., the military, apprenticeships) are explicitly committed to fostering responsibility in this age group (Dey & Associates, 2008). Moreover, ambiguity regarding the construct leaves practitioners little guidance for creating effective interventions.

The Association of American Colleges and Universities (AAC&U) and the John Templeton Foundation's Core Commitments Initiative provides an example of the need for research on the process of responsibility development. The Core Commitments Initiative attempts to refocus higher education on holistic student formation by promoting ideals of personal and social responsibility in classrooms and throughout campus life. As part of this initiative, an AAC&U survey of 23 member campuses revealed that, although over 90% of

students and staff agreed that responsibility should be a major focus of attention at their college or university, fewer than 50% of students and staff believed that responsibility currently was a focus of their institution (Dey & Associates, 2008). The survey thus highlights a discrepancy between what students and staff believe their institution should do and what they believe it actually does. Thus, practitioners in higher education settings seem to aspire to instill responsibility in their students, but do not believe they currently do so (or do so well enough), have limited information about how to improve their current efforts, and have no information about interventions that actually accomplish their intended goal.

Given the value that society as a whole, and higher education institutions in particular, place on responsibility development, as well as the associations between responsibility-related constructs and positive outcomes, it is important that researchers understand how young people develop responsibility and how this process can be facilitated by the settings that serve them. The present work aimed to address the existing gaps in the literature of responsibility development by focusing on young adult experiences in postsecondary education settings, by using longitudinal data, by addressing inconsistencies in the field regarding the definition and structure of the responsibility construct, and by identifying specific practices that may be associated with changes in individual levels of responsibility.

Multiple Definitions of Responsibility

A primary obstacle to research on responsibility is the inconsistent definition of the construct, and the consequent variation across studies of its development and effects. For example, Wood, Larson, and Brown (2009), in their study of adolescent responsibility development in youth programs, define responsibility as "the quality of being someone who

can be counted on to fulfill obligations" (p. 295). This definition implies a focus on behaviors, although it is vague about what those behaviors are. The phrasing also implies that responsibility is determined in relation to others, not by fulfilling obligations focused on the self, but rather by being counted on by others to fulfill obligations. In contrast, Hellison (2011), in his program for teaching responsibility to children and adolescents through physical activity, does not explicitly define responsibility, but uses it to refer to behaviors such as respecting others, giving one's best effort in an activity, cooperating with others, and staying on task (see Table 1). Here, responsibility refers to a wide variety of behaviors none of which overlap with the definition employed by Wood, Larson, and Brown (2009). Thus, the two groups of researchers, although they both purport to focus on responsibility development, are examining wholly separate phenomena.

Table 1

Levels of Responsibility in Hellison's (2011) Teaching Personal and Social Responsibility through Physical Education Model (TPSR)

Responsibility Level	Behavioral Markers
1. Respecting the rights and feelings of others	Self-control (avoid physically or emotionally hurting others), right to peaceful and democratic conflict resolution
2. Effort and cooperation	Self-motivation, exploration of effort and new tasks, getting along with others
3. Self-direction	Staying on task independently, setting goals for oneself, resisting peer pressure
4. Helping others and leadership	Caring and compassion, sensitivity and responsiveness, contributing to the well-being of others and the group
5. Transfer outside of the gym	Practicing responsibility in other areas of life, being a positive role model for others

Recreated based on similar table in Hellison, 2011, p. 21

Other researchers employ distinct terms to sub-divide the larger umbrella term of responsibility. For example, in their mixed methods study of how young adults define adulthood, Lowe, Dillon, Rhodes, and Zwiebach (2013) divide responsibility into two sub-types: responsibility for self and responsibility for others. The authors describe responsibility for self in regard to psychological experiences resulting from behaviors; as feeling autonomous, independent, and in control over one's life after taking on novel experiences. These experiences include making important decisions, such as purchasing a car or applying to college, as well as exercising self-regulation on a consistent basis by paying bills, cooking and cleaning for oneself, and meeting other life demands (e.g., attending work/school). The authors describe responsibility for others in regard to behaviors that revolve around meeting the needs of other people, being reliable for others, or being a leader. Examples of this other-oriented set of behaviors include parenting, babysitting, mentoring youth, helping friends financially, giving advice to others, or taking on positions of authority at one's workplace. The two kinds of responsibility—responsibility for self and responsibility for others—share the experience of taking on and fulfilling duties that carry meaningful consequences and differ only in regard to the people that are affected by those duties. However, not all researchers make this distinction or use the same terms when they do (see Table 2).

Table 2

Definitions of Responsibility in Extant Literature and Common Themes

Author & Year	Term Used	Definition Provided	Themes
Eccles & Gootman (2002)	Responsibility	"Sense of personal autonomy/responsibility for self"	• Responsibility Acceptance
Hellison (2011)	Personal Responsibility	Effort & Self-Direction: trying one's best, regulating one's behavior to stay on task, and setting goals for oneself	• Demand Responsibility • Responsibility Acceptance
	Social Responsibility	Respect & Participation/Cooperation	• Concern for Others
Hersh & Schneider (2005)	Personal & Social Responsibility (defined together)	"[is] the orchestration of humane caring, evaluative thinking, and determined action"	• Demand Responsibility • Concern for Others
Horrocks (1969)	Interior Responsibility	"…involves accepting responsibility for oneself in the sense that one should take care of oneself, be self-dependent, and assume responsibility for becoming the person one conceives oneself to be."	• Responsibility Acceptance
	Exterior Responsibility	"…involves responsibility to others as people, to institutions, and so on. It consists partly in taking upon oneself the function of seeing that something gets done and done well, and it is obviously an attribute of leadership."	• Demand Responsibility • Concern for Others

Lickona (1992)	Responsibility	"includes taking care of self and others, fulfilling our obligations, contributing to our communities, alleviating suffering, and building a better world"	• Demand Responsibility • Concern for Others
Long, Pantaléon, Bruant (2008)	Retrospective or Retroactive Responsibility	"a person (1) presenting him- or herself as the initiator of a situation or action, (2) giving reasons for the situation or action and (3) assuming its consequences"	• Responsibility Acceptance
	Contractual Responsibility	"commitment a person may have towards others…action is thus oriented towards seeking the means adapted to a goal"	• Demand Responsibility
	Empathic Responsibility	"concern for others"	• Concern for Others
Lowe, Dillon, Rhodes, Zwiebach (2013)	Responsibility for Self	"Feeling autonomous, independent, or separate from one's parents; feeling responsible for oneself; refusing help from others, or taking responsibility for self by asking for help; admitting guilt; making decisions independently."	• Demand Responsibility • Responsibility Acceptance
	Responsibility for Others	"Taking care of other people, including financial responsibility; giving advice to others; being a role model to others; being reliable for others; being less selfish and more giving."	• Concern for Others
McDonough et al. (2013)	Social Responsibility	"attitudes and initiative to respect the rights of others, being a responsible citizen, and avoiding violent and destructive behaviors"	• Concern for Others

Ochs & Izquierdo (2009)	Causal Responsibility	"[acknowledging] one's behavior leads to X"	• Responsibility Acceptance
	Moral Responsibility	"one is responsible as a self-regulating moral agent"	• Demand Responsibility
	Social Responsibility	"one's social position entails responsibility toward others for X"	• Concern for Others
Roberts et al. (2005)	Responsibility	"Individuals with high responsibility scores like to be of service to others, frequently contribute their time and money to community projects, and tend to be cooperative and dependable."	• Demand Responsibility • Concern for Others
Roberts et al. (2014)	Responsibility	The tendency to follow through with promises to others and follow rules that make social groups work more smoothly	• Demand Responsibility • Concern for Others
Salusky et al. (2014)	Responsibility	"The character trait of being someone who follows through with and completes obligations"	• Demand Responsibility
Winter (1992)	Responsibility	"Responsible people feel an inner obligation to do what is right. They are dependable and can be counted upon." "Self-Control, Awareness of consequences, owning one's behavior"	• Demand Responsibility • Responsibility Acceptance
Wood, Larson, Brown (2009)	Responsibility	"The quality of being someone who can be counted on to fulfill obligations"	• Demand Responsibility

Commonalities Across Definitions of Responsibility

Clearly, there is a diversity of views about what responsibility is, what thoughts and behaviors the construct encompasses, and how (or if) the construct should be decomposed. The extant studies seem to each shed light on a piece of this large and amorphous construct, but none illuminate it in its entirety. It is clear that responsibility is a multifaceted construct; therefore, a proximal task for the field is to develop a shared vocabulary that adequately addresses its multiple components. To that end, Table 2 lists the empirical studies that focus on responsibility and offer a unique definition, the term(s) they employed, and the common themes that cut across them. In reviewing the several definitions offered in the studies, commonalities do emerge. These commonalities cluster around three main themes: (1) regulating one's behavior to reliably meet demands; (2) assuming ownership for meeting or failing to meet demands and the consequences thereof; and (3) exhibiting concern for the welfare of other people. Each of these three themes contain multiple components that pertain to a variety of psychological constructs.

Meeting demands. The most cited theme among researcher definitions (Hellison, 2011; Horrocks 1969; Lickona, 1991; Long et al., 2008; Lowe, Dillon, Rhodes, & Zwiebach, 2013; Ochs & Izquierdo, 2009; Roberts et al., 2014; Salusky et al., 2014; Winter 1992; Wood, Larson, and Brown, 2009) is the idea that responsibility involves regulating one's behavior in a reliable or consistent manner to meet demands. Researchers describe this behavior as seeing that something is done and done well (Horrocks, 1969), being "dependable" or "reliable" (Salusky et al., 2014; Winter, 1992; Wood, Larson, and Brown, 2009), having a "tendency to follow through with promises" (Roberts et al., 2014, p. 1317), or "fulfilling our obligations" (Lickona, 1991, p. 68). In all of these cases, responsibility

involves employing some degree of self-control or self-regulation to fulfill a commitment, duty, or obligation.

As examples, Wood, Larson, and Brown (2009) offer instances of adolescents regularly attending program meetings, filing paperwork, completing art projects, or maintaining high grades in order to continue their extracurricular involvement. Researchers differ in regards to the provenance of these demands. For Ochs and Izquierdo (2009), their language and influences (Aristotle and Kant) suggest that they view responsibility as rooted in meeting self-imposed moral demands. For Hellison (2011), responsibility primarily means participating in an externally-imposed teacher-assigned demand within the parameters of a physical education activity. For others, the demands associated with responsible behavior originate in social relationships through externally-imposed commitments and promises (Long et al., 2008; Roberts et al., 2014). Thus, although there may be differences in the focus of responsibility-- a moral standard, a highly structured activity, or social commitments—the majority of researchers agree that responsibility involves a behavior: meeting a self-imposed or externally-imposed demand.

Accepting consequences. The second most cited theme across researcher definitions (Eccles & Gootman, 2002; Horrocks, 1969; Winter, 1992; Lowe, Dillon, Rhodes, & Zwiebach, 2013; Long et al., 2008; Ochs & Izquierdo, 2009) is that of accepting responsibility for the consequences of one's behavior (i.e., ownership). For a majority of researchers, responsibility involves the individual assuming ownership for (1) a demand, (2) doing whatever is necessary to meet it, as well as (3) accepting the consequences of either meeting or failing to meet that demand. Horrocks' (1969) definition of "interior responsibility" focuses on the first of the three components of ownership: "Interior

responsibility involves accepting responsibility for oneself in the sense that one should take care of oneself, be self-dependent, and assume responsibility for becoming the person one conceives oneself to be" (p. 125). For Horrocks (1969), each person must acknowledge that it is his/her duty, and no one else's, to keep healthy and behave in accordance with his/her ideal self. Similarly, in their definition of "responsibility for self," Lowe, Dillon, Rhodes, and Zwiebach (2013), use phrases such as "feeling responsible for oneself" to refer to the idea that each individual must accept his/her daily life demands as one's to fulfill and then work to meet them. One participant in their study offered an example of such a moment: "I often relied on my parents for material and financial things. Yet, getting a job meant taking more responsibility for my needs and interests" (Lowe, Dillon, Rhodes, & Zwiebach, 2013, p. 48).

Other researchers add that responsibility not only means accepting demands as one's own to complete and trying to complete them, but also "owning one's behavior" (Winter, 1992, p. 500) and accepting the consequences that one's behavior may bring about. In their study of adolescent sports behaviors, Long and colleagues (2008) emphasize this last point in defining "retrospective or retroactive responsibility" as "a person (1) presenting him- or herself as the initiator of a situation or action, (2) giving reasons for the situation or action and (3) assuming its consequences" (p. 522). As a model example of retroactive responsibility in practice, the authors cite the experience of Franck, a French teenager who regularly plays pick-up soccer games with other teens. "If there's a serious problem, an injury or something, you must take responsibility: you go and see his parents, you apologize if you caused it, and then you have to look into the insurance aspect." Franck's statement exemplifies ownership of behavior by admitting his role in causing injury to another and

accepting its consequences by facing the injured teens' parents and paying an insurance claim.

Concern for others. The third most cited theme across researcher definitions (Hellison, 2011; Horrocks, 1969; Lowe, Dillon, Rhodes, & Zwiebach, 2013; Long et al., 2008; McDonough et al., 2013; Ochs & Izquierdo, 2009; Roberts et al.; 2014; Winter, 1992) is a concern for the welfare of others. Captured in this theme are ideas of respecting others' rights, cooperating with peers, helping or caring for others, and following institutional rules (see Table 2). Researchers have employed distinct terms to differentiate this interpersonal manifestation of responsibility from responsibility that only affects the individual such as "exterior responsibility" (Horrocks, 1969), "responsibility for others" (Lowe, Dillon, Rhodes, & Zwiebach, 2013), or "social responsibility" (McDonough et al., 2013). Behaviors that exemplify this aspect of responsibility include taking care of children (one's own or those of others, e.g., babysitting for members of one's family), providing advice to others, working together with peers during group activities, refraining from causing physical or emotional harm to others, and following the rules of one's community (Hellison, 2011; Lowe, Dillon, Rhodes, & Zwiebach, 2013; McDonough et al., 2013). Rule-following as a component of responsibility is especially emphasized by researchers examining the construct in sports or physical education settings where playing a game by the rules, even in the absence of a referee, is particularly important for preserving harmony among players and maintaining the integrity of the game being played (Hellison, 2011; Long et al., 2008; McDonough et al., 2013).

Thus, although no two sets of authors agree on all of the facets of the responsibility construct and the specific thoughts and behaviors the construct includes, across the collection

of researchers examining responsibility in young people there are broad commonalities. There is some consensus that responsibility encompasses the following three components: 1. regulating one's behavior well enough to reliably meet demands; 2. assuming ownership for one's behavior and the consequences thereof; and 3. exhibiting a concern for the welfare of others. Although different researchers may include or differentially emphasize additional, more specific, sub-themes such as being a conscientious citizen (Horrocks, 1969; McDonough et al., 2013; Roberts et al., 2014), being independent from others (Hellison, 2011; Horrocks, 1969; Lowe, Dillon, Rhodes, & Zwiebach, 2013; McDonough et al., 2013), or following a moral standard (Ochs & Izquierdo, 2009; Winter, 1992) all of these subordinate ideas may all still be categorized within the basic superordinate structure of reliably meeting demands, owning behavior and consequences, and being concerned for others.

Creating a Uniform Vocabulary of Responsibility

As Table 2 shows, most researcher definitions pertain to one or two of the three themes outlined above. It may be useful, then, in the study of responsibility development, to adopt a uniform vocabulary that reflects these themes. Researchers could employ such a shared vocabulary to clarify the precise phenomena that a specific study examines. Such consistency across studies may be especially helpful in facilitating comparisons among the findings of specific works, evaluating whether a finding may generalize to a novel population and setting, and furthering scientific understandings of what may influence specific types of responsibility development.

As reflected also in Table 2, researchers are using specialized terms to sub-divide the construct of responsibility. The most commonly used sets of terms divide responsibility into

individual and interpersonal dimensions. For example, Hellison (2011) uses personal vs. social responsibility while Horrocks (1969) uses interior vs. exterior responsibility and Lowe, Dillon, Rhodes, and Zwiebach (2013) use responsibility for self vs. responsibility for others. Practitioners in higher education settings, most notably, the Association of American Colleges and Universities (AAC&U), also employ the terms of "personal responsibility" and "social responsibility," although the AAC&U invariably use the terms jointly to highlight their mutual dependence (AAC&U, 2016). The division between the individual and interpersonal is helpful for highlighting the theme of concern for others, but it fails to capture the idea of owning one's behavior and their consequences which are present in both individual and interpersonal manifestations of responsibility.

The three-part model of responsibility outlined here—meeting demands, accepting consequences, and having concern for others—captures all of the phenomena to which researchers refer with the term responsibility. At the same time, by dividing responsibility into distinct facets, with unique terms, researchers may achieve greater clarity and precision when designing studies and presenting findings. Thus, to capture all of the themes across extant researcher definitions and promote precision and clarity in future works, the study of responsibility development may benefit from adopting the following terms: demand responsibility, responsibility acceptance, and concern for others.

Combining the major themes of the responsibility research reviewed in Table 2, I propose the following definitions for demand responsibility, responsibility acceptance, and concern for others. Demand responsibility should be defined as keeping promises, fulfilling duties and obligations in a consistent, reliable, or dependable manner. Demand responsibility therefore necessitates regulating one's behavior to accomplish tasks. Responsibility

acceptance should be defined as acknowledging to oneself or others credit or blame for one's actions, and assuming the consequences of those actions. Responsibility acceptance may involve setting goals for oneself, or accepting externally-imposed goals, having a sense of personal autonomy, and making decisions independently (which may include deciding to seek help or advice from others). Last, concern for others should be defined as demonstrating respect for one's fellow humans, cooperating with peers/colleagues, avoiding intentionally causing harm to others, and following rules that help one's community thrive. In this context, "community" refers to any salient social group (e.g. neighborhood, family, ethnic group, professional association, school, or friend group). Thus, "following rules that help one's community thrive" may include actions such as non-violent civil disobedience that may violate laws, but help advance the goals of one's salient community (e.g., oppressed minority groups). Thus demand responsibility and concern for others focus on behaviors and responsibility acceptance is focused on beliefs. By employing these terms—demand responsibility, responsibility acceptance, and concern for others—researchers may attain greater precision in scientific work and avoid favoring any single set of culturally-specific values.

CHAPTER 2

EXISTING SCALES OF RESPONSIBILITY

A review of measures that assess responsibility reflects the definitional ambiguity described above. Searches through psychology databases such as PsycINFO as well as seminal resources on personality theory and assessment (Boyle, Matthews, & Saklofske, 2008) revealed six measures that explicitly focus on measuring, or include a subscale regarding, responsibility. The purpose of this review is not to evaluate in depth the psychometric properties or empirical support for the validity of each scale (see Table 3 for summary), but rather to compare their conceptualizations of responsibility.

Table 3

Existing Measures of Personal Responsibility

Measure Original Publication	No. of Items	Item Type	Cronbach's Alpha*	Times Cited**	Construct Emphases
California Psychological Inventory Gough, 1957	36 of 434	True/ False	.77 [.74]	41	Reliability/Dependability Concern for Others
Student Personal Responsibility Scale Singg & Ader, 2001	10	4-Pt. Likert	.74	3	Reliability/Dependability Rule-Following Honesty
Personal Responsibility Scale for Adolescents Mergler & Shield 2016	15	4-Pt. Likert	.81	0	Concern for Others Emotional Control Locus of Control Accountability Honesty
Contextual Self-Responsibility Questionnaire Watson, Newton, & Kim, 2003	15	4-Pt. Likert	.72	13	Concern for Others Perseverance Accountability
Personal and Social Responsibility Questionnaire Li, Wright, Rukavina, & Pickering, 2008	14	6-Pt. Likert	.80	14	Concern for Others Perseverance Goal-Setting
Student Responsibility in Physical Education Scale Hsu, Pan, Chou, & Lu, 2014	24	6-Pt. Likert	.82-.92	14	Concern for Others Perseverance Goal-Setting Rule-Following

*For multidimensional measures with responsibility subscales (CPI & JPI), Cronbach Alpha's in brackets represent the measure while non-bracketed figures represent the subscale
**Times cited uses Social Science Index and PsychInfo data; Reported as proxy for rate of usage

California Personality Inventory

The California Personality Inventory (CPI) was first published by Consulting Psychologists Press in 1956 to assess enduring everyday interpersonal themes, termed folk concepts in non-clinical populations. The current edition of the CPI includes 434 true or

false items which are divided into 20 scales (CPI 434, third edition; Gough & Bradley, 1996). Since its creation, the CPI has included a responsibility scale which is nested within a "normative orientation and values" cluster of scales. The CPI 434 responsibility scale is composed of 36 true or false items which measure the extent to which individuals are conscientious, considerate of others, reliable, dependable, and get things done. Sample items include "I like to be of service to others, I act according to my conscience, and I anticipate the needs of others." Because of copyright protections, the sample items mentioned here are analogues from the International Personality Item Pool's version of the CPI (Goldberg et al., 2006).

Comparing the CPI responsibility scale description and items with the researcher definitions of the construct reviewed above (see Table 2), the CPI seems to emphasize a concern for others but does not address the idea that responsibility involves accepting ownership for one's actions and their consequences or assess behavioral markers relating to reliably meeting demands. As such, although the CPI responsibility scale has demonstrated acceptable internal consistency (.77), the measure does not capture the entirety of the responsibility construct.

Student Personal Responsibility Scale

The SPRS-10 by Singg and Ader (2001) uses a 4-point Likert-type scale. Each item was rated 1 (most like me), 2 (somewhat like me), 3 (very little like me), or 4 (mostly unlike me). Items from this measure include "I turn all my assignments in on time; At home or at college I do my fair share of the household chores; When I borrow something, I fail to return it; I am often late for class or work; I miss appointments I have made if I'd rather not go; and I own up to my mistakes and apologize for them" (Singg & Ader, 2001, p. 333). At face

value, these items seem to reflect the three components of responsibility described in this review-- meeting demands reliably, accepting responsibility for one's actions and their consequences, and concern for others' well-being (e.g., helping with chores and being dependable for others).

Singg and Ader (2001) tested the internal consistency of the SPRS-10 using a sample of 280 college-aged, mostly white undergraduate students. The authors administered the SPRS-10 to all participants as well as the conscientiousness sub-scale of the NEO PI-R and the Rosenberg Self-Esteem Scale, and accessed the students' college grade point averages (GPA's). The alpha coefficient for the SPRS-10 was .74. The SPRS-10 showed a significant positive correlation with the conscientiousness subscale of the NEO PI-R (r (280) = .49, $p <$ .01). Last, the authors found significant positive correlations between the SPRS-10 and both the measure of self-esteem (r (280) = .23, $p <$ .01) and the students' GPA's (r (280) = .23, $p <$ .01). These results indicate that the SPRS-10 shows some promise as an internally valid measure of responsibility and as an externally valid measure with predictive capabilities for other important psychological and developmental outcomes.

Personal Responsibility Scale for Adolescents

Mergler and Shield (2016) developed the Personal Responsibility Scale for Adolescents by asking a focus group of Australian high school boys and girls to deconstruct personal responsibility into its constituent parts. Items were generated based on reviews of the focus group's discussion and then edited by an expert panel. The Personal Responsibility Scale for Adolescents (PRS-A) consists of 15 items using a 4-point Likert-type scale. Sample items in the PRS-A include "I think of the consequences of my actions before doing something; I want my actions to help other people; when I have done the wrong thing, I

accept the punishment; I have set goals and believe in working hard to meet them; and I often lash out when I am all stirred up." Mergler and Shield reported a Cronbach's alpha of .81 for the PRS-A based on a sample of 513 Australian high school students (mean age 14.74 years, *SD* = 1.17 years, 51.3% female).

Mergler and Shield (2016) conducted exploratory and confirmatory factor analyses and concluded that the PRS-A yielded a three factor solution which they termed personal accountability, behavioral and emotional control, and cognitive control. Reviewing the items comprising these three factors and comparing these factors to the three major themes emerging in researcher definitions of responsibility, the PRS-A seems to relate to aspects of being concerned for others and, as well, thoroughly explores acceptance of demands and consequences. However, the PRS-A does not assess the extent to which individuals reliably meet demands beyond one item asking about believing in setting goals and working hard to achieve them. Instead, the PRS-A focuses on assessing the extent to which individuals are in control of their emotions (e.g. "I often lose my temper and am unable to control my behavior") and control their decision-making and actions (e.g. "I can choose how I behave," "I choose how I respond in situations"). In addition, these items on emotional self-regulation and cognitive control seem devoid of specific behavioral markers or context. It is unclear what kinds of behavioral choices or situations it is asking about. Thus, although the Personal Responsibility Scale for Adolescents is unique in the extent to which it assesses acceptance of demands and consequences, it may also contribute to further construct confusion by emphasizing emotional self-regulation and locus of control- constructs which have large and distinct literatures of their own.

Measures Based on TPSR

The Contextual Self-Responsibility Questionnaire (CSRQ; Watson et al., 2003), the Personal and Social Responsibility Questionnaire (PSRQ; Li et al., 2008) and the Student Responsibility in Physical Education Scale (SRIPES; Hsu et al., 2014), were all based on Hellison's (2011) Teaching Personal and Social Responsibility (TPSR) program, a curriculum designed to teach youth responsibility through physical education in schools. Due to their shared origin, intended purpose, and understanding of responsibility, I will review these measures together.

The authors for all three measures examined the five levels of responsibility outlined in TPSR (see Table 1) and used those levels and their associated behavioral markers to create the items for each scale. The CSRQ uses a 4-point Likert-type scale. Sample items in the CSRQ include "I was concerned for others, I set goals, I participated even when I didn't want to, and I controlled my behavior" (Watson et al., 2003, p. 224). The PSRQ is a modified version of the CSRQ. It uses a 6-point Likert-type scale and has very similar items that mirror the TPSR levels of responsibility such as "I set goals for myself, I try hard, I respect others, and I want to improve." The SRIPES (Hsu et al., 2014), modified many of the questions in the PSRQ although it kept the 6-point Likert-type scale. The SRIPES includes items that again mirror the levels of responsibility described in TPSR such as "I set goals for myself, I cooperate with my classmates, I don't find excuses to be lazy, and I participate actively in activities" (Hsu et al., 2014, p. 503).

The items of the CSRQ, PSRQ, and SRIPES seem to capture one of the three components of responsibility described in this review-- being concerned for the well-being of others. This link is unsurprising because all three measures were created based on the

language and organization of Hellison's five levels of responsibility from TPSR (see Table 1), which explicitly emphasize displaying a concern for the well-being of others (e.g., respecting the rights and feelings of others). The CSRQ, PSRQ, and SRIPES also emphasize meeting demands, but only in the narrow context of classroom activities, by asking about the extent to which youth follow teacher instructions, stay on task, and participate in class activities with best effort. These behavioral markers lack the broader themes of meeting demands reliably such as following through on commitments, keeping promises, and completing work thoroughly and on time.

Hellison (2011) does clarify that one of the goals of TPSR is for teachers to gradually empower youth by shifting responsibility of class duties to them. This shift seems akin to the idea of ownership of behaviors and consequences. However, Hellison acknowledges that this goal is less explicit in the program manuals and teaching aids used to disseminate TPSR. As such, the CSRQ, PSRQ, and SRIPES, by focusing on the explicitly described levels of responsibility as defined by TPSR, seem to neglect the theme of owning one's behaviors and their consequences and being reliable or dependable, which other researchers emphasize.

In sum, the existing measures of responsibility seem to reflect the definitional disparities of the field. Each measure displays a preference for one aspect of responsibility over another, at times redefine themes for a specific purpose, and none of the measures capture all three of the broad themes described by researchers across the field (see Table 3).

CHAPTER 3

THE PROCESS OF RESPONSIBILITY DEVELOPMENT

Few studies have examined the process of responsibility development in early adulthood. Responsibility development is more commonly studied among children and adolescents. Thus, by necessity, this review will draw on studies with younger populations to inform possible young adult experiences. Six groups of researchers have examined the process(es) by which adolescents and young adults develop responsibility. First, Ochs and Izquierdo (2009) conducted a cross-cultural ethnographic study to compare how responsibility is learned in three different communities. Second, Johnson and colleagues (2011) conducted qualitative interviews with young adults after working as counselors in summer camps. Third, Wood, Larson, and Brown (2009) and, later, Salusky and colleagues (2014) conducted qualitative interviews with adolescents in after-school programs. Fourth, working with the AAC&U's Core Commitment Initiative, O'Neill (2013) provided case examples of college campuses that have begun to refocus classroom curricula and campus life activities to include themes of responsibility. Fifth, Hellison (2011) created a program aimed at fostering responsibility in children and adolescents based on his own experience as a physical activity educator. Last, McDonough and colleagues (2013) conducted surveys measuring social responsibility, belonging, autonomy-support, and leader emotional-support at the start and end of month-long sports-based summer camps. I will examine the works of

these six groups of researchers to summarize what each offers in regard to scientific understanding of how responsibility is developed.

Cross-Cultural Approaches to Fostering Responsibility

Ochs and Izquierdo (2009) offer three developmental stories, gleaned through ethnographic inquiry, to highlight differences in how children are taught and acquire responsibility. In brief, the authors describe scenes in which young children in a Peruvian tribe, the Matsigenka, and a Samoan community are trusted to complete adult chores as early as toddlerhood and harshly criticized when they fail to complete them. In contrast, vignettes of a Los Angelino (L.A.) family present parents pleading with adolescents to perform basic tasks of daily living and often taking over when their pleas are not heeded.

Ochs and Izquierdo claim the differences in behavior across culture stem from different foundational assumptions. They argue that, contemporary American culture values children not for their potential to accomplish meaningful work that aids the family's functioning, but rather for their worth as love objects. This fundamentally different perspective encourages parents to delay tasking children with chores until later ages and thus denies them opportunities to develop responsibility early on. In contrast, the Matsigenka and Samoan families not only view children as capable of important household work, but by default depend on children to do work and aid family functioning.

Furthermore, Ochs and Izquierdo argue that Matsigenka, Samoan, and L.A. families differentially prioritize efficiency and children's learning. Many L.A. parents stated that it takes them more time and effort to coax children to collaborate with household work than if they complete the tasks unassisted. Conversely, the Matsigenka and Samoan parents routinely ordered children to complete tasks instead of requesting help, and allowed children

to falter, work slowly, and learn through trial and error. Parents intervened with short verbal admonishments or corporal punishments only when risk of bodily harm was great or children refused to comply. These differences in parenting practices are also related to fundamentally different cultural assumptions about the fragility or resilience of children, their role in the family, and what constitutes effective parenting (e.g., instilling culturally congruent values versus protection from distress).

Across the three cultures examined by the researchers, the examples of what constitutes responsible and irresponsible behavior fit the three-part model proposed in this proposal. The Peruvian children working to feed the fishing party, the Samoan children cooperating to repair the thatched roof, and the American teenagers getting ready for school were all meeting (or attempting to meet) demands in a consistent manner, accepting the consequences of meeting or failing to meet the demands, and working to maintain the welfare of the other members of the group. Although the process of responsibility development began at different ages and unfolded with varying levels of success across the three communities, the steps were the same: provide children with demands that affect the welfare of others and allow them to experience the consequences of meeting or failing to meet those demands.

Based on similar ethnographic research (see Rogoff, Correa-Chávez, & Silva, 2011), Rogoff (2014) developed a model, *Learning by Observing and Pitching In* (LOPI), to describe the practices of indigenous-heritage communities. Some of the defining features of the LOPI model include learners contributing meaningfully to their learning environments, nonverbal and parsimonious verbal guidance from community members, and feedback focused on task mastery rather than task success (Rogoff, 2014). Coppens, Silva, Ruvalcaba,

Alcalá, López, and Rogoff (2014) argue that learning environments (familial, academic, or extracurricular) that implement LOPI practices may effectively foster developmental benefits such as "alertness, perspective-taking, concern for others, self-regulation, and planning" (p. 155). Given that concern for others may be an essential component of responsibility and that self-regulation, planning, and alertness are often involved in completing tasks (i.e., demand responsibility), it is likely that the LOPI model may be an effective framework for structuring environments to foster responsibility.

Responsibility Development Through Practice

The literature on responsibility development is dominated by child- and adolescent-focused research that centers on extracurricular settings. Johnson and colleagues (2011) is an exception, in that they conducted semi-structured interviews with 20 young adults (12 women, 8 men; ages 18 to 28) working as counselors in eight residential summer camps in New England and New Jersey. The participants shared a consensus that the intensity and extended duration of the child-care duties at summer camp helped or perhaps obligated them to behave responsibly (i.e., accept duties and consequences, be concerned with the well-being of their wards, and meet the demands of caring for them). Participants shared that the knowledge of being solely liable for the safety and happiness of their campers motivated them to persevere through fatigue and frustration and complete their duties. Beyond the motivating nature of having to ensure the safety of campers, the study does not provide insights into what camp administrators, supervisors, or peers did to help participants through the process of assuming the role or responsible caregiver.

The works of Wood, Larson, and Brown (2009) and Salusky and colleagues (2014) both examined responsibility development among adolescents in multiple after-school

programs through semi-structured interviews with youth and program leaders. The programs varied in regard to urban and rural locations, whether adolescents were paid to participate, and their content focus—performance arts, media arts, leadership, and community service. Across both studies, a fifth of the adolescent participants reported changing in regards to responsibility and attributed this change to repeatedly meeting the everyday demands and expectations of their program.

Program characteristics that may foster responsibility. Comparing extracurricular programs with the highest and lowest rates of responsibility change suggest that motivating adolescents to accept program demands and persist to meet them seemed to depend on four key characteristics: emphasizing youth ownership, a priori structure, high expectations, and accountability (Wood, Larson, and Brown, 2009). First, the authors noted that the leaders in the three high responsibility programs repeatedly emphasized youth ownership, not only by explicitly stating this requirement to the participants, but also by encouraging them to make important decisions about what work would be carried out and how. Second, in the high responsibility programs, youth had clearly delineated roles (e.g., actor, cameraperson, lighting director, committee chair). Their work was guided by a priori structure rules and deadlines. In some cases, adolescents and their parents signed contracts outlining expectations at the start of their participation. In contrast, leaders in the low responsibility programs would improvise rules, change deadlines, and modify expectations on a week-by-week or moment-to-moment basis. As such, the demands for youth were not always clear at any given moment.

Third, the leaders in the high responsibility programs held high expectations of youth. Leaders viewed the adolescents as capable of performing difficult and meaningful work and

communicated this belief to the adolescents. Leaders did not present goals to youth as optional or the quality of work as negotiable. However, the impact of setting high expectations for adolescents was rooted in the fourth characteristic of the programs with most success in fostering responsibility-- accountability. Youth in the high responsibility programs knew what was demanded of them and also knew the associated consequences. For example, teenagers in a theater production program knew that if they missed rehearsals or if their grades fell below certain standards, they would be cut from the production. Teenagers also knew that if they did not complete tasks, the tasks would go unfinished. In other words, adult leaders did not rescue youth for failing to meet demands regardless of the consequences to the success of the group as a whole. In contrast, leaders in the low responsibility programs would compensate for poor quality or missing work from youth by completing tasks themselves. These actions insured the success of the group projects but deprived individual adolescents of the opportunity to learn responsibility by experiencing the consequences of their actions.

In a follow-up qualitative study, Salusky and colleagues (2014) largely confirmed the findings of Wood, Larson, and Brown (2009) and expanded on them by finding that youth believed that changes in responsibility are contingent upon taking on demands voluntarily, experiencing strain from those demands, and persevering through the strain. Combining the two studies, successful responsibility development in extracurricular settings occurs when youth are repeatedly given clear demands with expectations set high and the rules and consequences established in advance. These demands must be taken on voluntarily, produce some level of strain, and be communicated to adolescents in a way that emphasizes their agency and ownership. Additionally, the youth must be allowed to experience the positive

consequences associated with meeting demands as well as the negative consequences of failing to meet demands, regardless of the impact on adult leaders, other participants, or the program as a whole (Salusky et al., 2014; Wood, Larson, & Brown, 2009). Reflected in the process of responsibility development are the three components of responsibility: the opportunity for youth to take on and carry out demands in a consistent manner, internalizing an undisputed ownership of those demands and their associated consequences, and being concerned about how meeting or failing to meet those demands impacts the welfare of others.

Teaching Responsibility Explicitly

Responsibility development was not a primary goal or purposeful effort for either the families studied by Ochs and Izquierdo (2009), the camps employing the counselors studied by Johnson and colleagues (2011) or any of the programs in the Wood, Larson, and Brown (2009) and Salusky and colleagues (2014) studies. Rather, responsibility development was a welcome side effect of routinely carrying out family or program activities. The works of O'Neill (2013) and Hellison (2011) focused on how explicitly responsibility may be taught.

Explicit responsibility instruction in higher education. As mentioned previously, the AAC&U, with the support of the John Templeton Foundation, is carrying out a campaign to shift baccalaureate educations towards a holistic model that emphasizes responsibility development (AAC&U, 2004, 2016). As part of this initiative, O'Neill (2013) documented the efforts of 23 AAC&U member institutions aimed to meet the AAC&U's call to action. Through reviews of program proposals and interviews with key members of reform initiatives, O'Neill found that the institutions under study created a variety of curricular and extracurricular reforms to change the entire climate of their campuses. These reforms included shifting emphases in general education, advising, orientation programming, and

first-year programs as well as responsibility--specific assignments in courses with high-enrollments. Some colleges developed new capstone courses focused on ethics, peer-mentoring programs, and online platforms to engage in responsibility-related discussions. These efforts were supported by professional development seminars, collaborations between faculty and student affairs staff, and faculty-to-faculty consulting programs.

O'Neill (2013) did not detail all reforms, but instead provided illustrative examples, some of which I summarize here. For instance, the University of Central Florida (UCF) changed its disciplinary procedures for academic integrity violations. Instead of merely punishing students for integrity violations like plagiarism, UCF students had to take a non-credit academic integrity seminar and retake the original course. This procedure thus provides students with an opportunity to learn about owning one's behavior and its consequences. Alternatively, California State University at Northridge (CSUN) provided a more preventative intervention for teaching ownership of behaviors and fostering concern for others. CSUN incorporated writing prompts into its foundational writing seminars that asked students to reflect on the potential consequences (to themselves and others) of cheating in college. The examples of responsibility interventions described by O'Neill mostly focus on providing explicit instruction to students about responsibility or ethics as part of an academic course. Initiatives revolving around resident life or extracurricular activities are absent from this list. It is also important to note that O'Neill's (2013) work represents a useful starting point for reform in higher education; however, systematic assessment of the efficacy of the discussed strategies is needed.

Explicit responsibility instruction in extracurricular settings. Hellison's program, Teaching Personal and Social Responsibility (TPSR), unlike the programs examined by Wood, Larson, and Brown (2009) or Salusky and colleagues (2014), provides direct instruction about responsibility and asks youth to reflect on how they implement those lessons within and out of a school-based physical education setting. Though Hellison does not provide a definition of responsibility, nor does he specify what differentiates personal and social responsibility, he does provide five goals that responsibility encompasses and several behavioral markers for each goal, also referred to as levels (see Table 1). The TPSR intervention is distinct from standard physical education in that each session of physical activity opens and closes with some instruction on the levels of responsibility.

The TPSR model has been widely implemented in school physical education settings as well as in extracurricular after-school or summer camp physical activity settings (Hellison, 2011). Its effectiveness is a topic of debate among academics and practitioners (Hellison & Walsh, 2002). Hellison and Walsh (2002) reviewed 26 studies examining TPSR efficacy. Of the 26 studies, 6 were published in peer-reviewed research journals, 21 were case studies, 9 relied solely on qualitative interview data or observations from individuals administering the TPSR interventions, and all predate the validated measures of responsibility already discussed here. The review thus offers little to no empirical evidence for TPSR efficacy. More recent studies of TPSR also rely heavily on qualitative data from participants and/or intervention leaders, have small sample sizes, and do not use validated measures of responsibility (Hemphill, Templin, Wright, 2015; Melendez & Martinek, 2015; Walsh, Ozaeta, & Wright, 2010; Wright & Burton, 2008). Practitioner TPSR manuals also cite anecdotal evidence as proof of the program's effectiveness instead of systematic research

(Hellison, 2011). Thus, the extant literature evaluating the effectiveness of TPSR shows little empirical support for increases in responsible youth behaviors following participation in TPSR and no empirical evidence suggesting harm.

Integration of Insights from TPSR

Although the clinical effects of TPSR may be uncertain, the insights that the TPSR model offers for responsibility development are still valuable. Chiefly, compared to the work of Wood, Larson, and Brown (2009) and Salusky and colleagues (2014), findings reported from studies of the TPSR program suggest that explicit lessons on responsibility may be effectively incorporated into extracurricular programming. TPSR findings also suggest that open discussions about responsibility and guided reflection, much like the university practices outlined by O'Neill (2013), may be sufficient to foster positive changes in self-reported responsibility. This finding contrasts with the difficulty and strain that Salusky and colleagues (2014) posit is necessary for responsibility development. However, both settings are highly structured in that they have consistent rules and consequences for following or disobeying rules. Both settings provide regular feedback to teenagers about their performance and encourage youth to take ownership for their behaviors and their consequences. Both types of setting provide adolescents with a circumscribed task to carry out (a physical activity versus a structured role or duty) and, in most cases, the tasks that adolescents must carry out are social; the tasks affect and are affected by other youth in the group. Thus, both models of responsibility development through extracurricular activities follow the basic superordinate structure of responsibility-- asking young people to meet a demand in a reliable manner, own their actions and accept their consequences, and exhibit concern for the well-being of those around them.

The Importance of Relationships for Responsibility Development

Last, McDonough and colleagues (2013) examined how relationships with peers and adults affected the development of social responsibility in two sports-based summer day-camps. The authors administered self-report surveys of social responsibility, belonging, leader emotional support, and autonomy-support to 479 adolescents at the start and end of month-long camps. McDonough and colleagues (2013) found that the sense of belonging of youth significantly and positively predicted changes in social responsibility above and beyond the variance accounted for by initial levels of social responsibility. There were no significant main effects for leader emotional support or autonomy-support, but there was a significant, albeit small ($R^2 = .01$, $p < .05$) interaction effect between leader emotional support and autonomy support, such that changes in social responsibility were positively associated with autonomy-support only for youth reporting high levels of leader emotional support.

The finding that the positive relations between autonomy-support and changes in social responsibility were only significant when leaders were more emotionally supportive offers some support for the assertion of Salusky and colleagues (2014) that responsibility is best developed when demands are taken on voluntarily, or at least when adolescents feel that leaders listen to their points of view, validate their experiences, and offer them choices in how activities are performed (i.e., experience high levels of autonomy-support). Experiencing high levels of autonomy-support is also consistent with a core tenant of TPSR, that leaders respect and recognize the individuality of youth, their opinions, and their capabilities to make decisions for themselves (Hellison, 2011). However, it seems that this

effect only occurs when youth also feel that they can rely on adult leaders to provide emotional support.

Summary of Works Regarding the Process of Responsibility Development

The findings of the literature pertinent to how responsibility develops indicates that the process of responsibility development seems to require a task, rules to carry it out, and opportunities for feedback once the task is completed (or the deadline is passed). There is some disagreement on whether this process must be an entirely voluntary undertaking or experienced as challenging in order to bring about responsibility development (Salusky et al., 2014). In either case, the youth must experience meaningful consequences for meeting or failing to meet the demands (Johnson et al., 2011; Ochs & Izquierdo, 2009; Salusky et al., 2014; Wood, Larson, & Brown, 2009).

These consequences may be natural effects of one's actions (e.g., being rained on after failing to help patch a roof; Ochs & Izquierdo, 2009), social consequences (e.g., disappointing leaders or peers; Wood, Larson, and Brown, 2009) or more artificially imposed disciplinary strategies (e.g., losing physical activity time for showing disrespect; Hellison, 2011). After meeting demands and experiencing consequences, it is unclear whether and to what extent explicit instruction and guided reflection on one's enactments of responsibility (Hellison, 2011; O'Neill, 2013) are required for or aids its development. However, among researchers of responsibility development, there is a consensus that this process is best facilitated when individuals feel a sense of belonging in their program (McDonough et al., 2013), feel respected, listened to, trusted and emotionally supported by program leaders (Hellison, 2011; McDonough, 2013; Wood, Larson, & Brown, 2009), and feel that they have

agency in or ownership over program content (Hellison, 2011; Salusky et al., 2014; Wood, Larson, & Brown, 2009).

Responsibility Development through a Relational Developmental Systems Metatheory

The literature on responsibility is consistent in its emphasis on the importance of the context surrounding the individual. Few researchers propose that responsibility simply emerges with age or that people are born with a finite and fixed amount or level of responsibility. Instead, the works reviewed above all assert that responsibility is malleable and fostered through social relationships, routine, and structure (Hellison, 2011; Ochs & Izquierdo, 2009; McDonough et al., 2013; Salusky et al., 2014; Wood, Larson, & Brown, 2009). This view of character attributes, as a plastic phenomenon, and of the context as a component of the character development process, is consistent with the relational developmental systems (RDS) metatheory (Overton, 2015).

When applied to character development the RDS metatheory suggests that character attributes, such as responsibility, develop through "mutually beneficial relations… between person and context and, in particular, between the individual and other individuals that comprise his or her context" (Lerner & Callina, 2014 p. 323). This approach to character, and its methodological implications, stands in marked contrast with traditional views of personality theorists that contend that "personality traits are more or less immune to environmental influences" (McCrae et al., 2000, p. 175).

Within RDS, context and individual are mutually constructing. The individual influences the surrounding environment, and simultaneously, the environment influences the individual. RDS holds character to be a product of the individual ⇔ context relation and not a separable and independent "trait" residing within a particular individual. Classic studies in

social psychology, such as Milgram's (1963) experiment on obedience to authority, and Darley and Batson's (1973) good Samaritan experiments, all provide striking examples of how an individual's immediate context is a powerful predictor of character behaviors. Thus, RDS metatheory indicates that an examination of how a specific character attribute develops over time should take into account the interactions between the individual and his or her context.

CHAPTER 4

THE PRESENT WORK

In keeping with the RDS perspective, this work examined the structure of responsibility, how this attribute may develop in trade school and college students, and the extent to which contextual characteristics influence this development, including its direction and rate of change. This study used data from the Assessment of Character in the Trades (ACT) Study (Johnson et. al. 2014). The ACT study was a longitudinal, mixed-methods investigation of character development in postsecondary institutions. Researchers collected survey and interview data from students, alumni, teachers, and administrators once a year for three years at two trade schools, a community college, and a state college in greater Philadelphia.

The ACT Study data set was ideal for addressing the gaps in the responsibility development literature for several reasons. First, the number and variety of character development measures administered to participants allowed for a robust exploration of the structure of responsibility (i.e., do items on meeting demands, owning behavior, and concern for others show internal consistency). Second, the longitudinal nature of the data (three time points of data collection) enabled an examination of changes in responsibility. Third, the unique education settings where data was collected (The Williamson College of Trades, a

technical college, a community college, and a state college) offered opportunities to assess the extent to which contextual variation influence individual attributes.

The Williamson College of the Trades

Founded in 1888, the Williamson College of the Trades (WC) provides free education in the trades to financially disadvantaged young men. Every year, WC accepts approximately 100 students who are male, have graduated high school or received a Graduate Equivalency Diploma, are ages 17 to 19 years at entry, and whose family incomes are at or below 250% of the U.S. poverty line. Students must also be in good health, unmarried, without children, and legal residents of the U.S. Once accepted, students must attend full-time for three years and reside on campus during weekdays (Sunday evening to Friday afternoon at a minimum). Students at WC can pursue diplomas in carpentry or masonry or associates degrees in construction technology; horticulture, landscaping, and turf management; machine tool technology; paint and coatings technology; or power plant technology. Students also take academic classes on professional skills such as speech, business, and computers.

In addition to professional education, character development is central to the WC model. WC aims to instill every student with the values of faith, integrity, diligence, excellence, and service. To that end, the WC curriculum explicitly teaches these values during instruction and the resident life environment incorporates numerous features intended to promote good character. For example, students adhere to fixed daily schedules that include mandatory attendance to a 6:45AM flag-raising ceremony, daily morning chapel service, evening study hours, and a uniform lights-out time for all students (10:30PM). Students are expected to reflect WC values at all times through professional dress (slacks,

shirt, and suit or sports coat). WC also espouses a strict code of conduct which uses a violation system that removes campus privileges based on the number of violation points accrued and issues community service work hours for specific infractions. For example, a student would receive four hours of service work (to be completed over the course of a week) for any of the following: late to any campus activity, littering, failure to complete a course assignment, dress code violation, or use of profanity. The code of conduct also includes a zero-tolerance policy banning the use of alcohol or drugs on or off campus. This policy is enforced using periodic drug testing and may result in the immediate scholarship termination and dismissal of a student. Thus, through curriculum, highly structured schedules, high expectations of professionalism, and a strict code of conduct, WC attempts to create an environment for students to focus on their studies, practice campus values, and become upstanding craftsmen dedicated to service.

The WC postsecondary education setting is unique. Its highly structured environment and climate focused on high levels of character make it ideally suited to test the assertions of previous research on contextual influences on responsibility development. Specifically, as with Hellison's (2011) TPSR program and the AAC&U's Core Commitment Initiative to promote personal and social responsibility (AAC&U, 2016; O'Neill, 2013), WC incorporates explicit instruction on responsibility at the level of campus climate. Responsibility (and other character constructs) is taught in classroom curricula, athletics, dorm life, and church services. Furthermore, as with the programs examined by Wood, Larson, and Brown (2009), WC has a consistent a priori structure with clear rules, high expectations of students, and systems of accountability for behavior with impactful consequences. Thus, WC is

implementing many best practices of responsibility development, which make it an ideal setting for studying the phenomenon.

Comparison Schools

Three schools were selected as comparisons for the WC sample. Comparison Schools (CS), and the samples within each of them, were selected to be demographically similar to WC students. Thus, although the CS sample is apt for examining how character develops in young, low-SES, men in different postsecondary institutions, the CS sample is not necessarily representative of all students in each CS site. The three CS data collection sites were: "Technical College," "Community College," and "State College."

Technical College. Technical College is a trade school in central Pennsylvania of approximately 350 students (72% male). It offers 15 associates degrees in science and applied science. Most students (97%) attend full time and commute to classes, although some (<5%) live on campus. Twenty-nine participants in the CS sample (24.3%) were from Technical College.

Community College. Community College is a school in the greater Philadelphia area of about 10,000 students (44% male). It offers 58 degrees which include associates in sciences, arts, and certificate programs. All students commute to classes, 45% are enrolled full time, and a large percentage are older than "traditional college age." Due to these characteristics, a small proportion of Community College students met inclusion criteria--males between 18 and 25 who were enrolled in school full time. Fifty-four participants in the CS sample (45.3%) attended Community College.

State College. State College is also in the greater Philadelphia area, has about 1,600 students (58% male). State College is a branch campus of a large state university system. It offers 15 bachelors and associates degrees. Most students commute to attend classes and 86% attend full time. State College was identified by ACT Study collaborators as a likely alternative to prospective WC students. Thirty-six participants in the CS sample (30%) attended State College.

In contrast to WC, the CS sites do not exemplify the best practices of responsibility development to the same degree. The CS sites do not routinely incorporate explicit instruction on responsibility into class curricula or extracurricular activities. Although the CS sites do have a priori rules, routines, and consequences for student behaviors, the structures are less rigid and the consequences are more rarely experienced than in WC. For example, in WC, being late to class results in four hours of campus work, whereas disciplinary measures in the CS sites only occur for more egregious offenses such as repeatedly failing courses or engaging in academic dishonesty. Thus, the sharp contrast between the daily structure and instructional foci of WC and the CS sites should provide a range of contextual experiences useful to assess whether there is a significant effect of college context on patterns of student responsibility development.

Research Questions

Using this data set, I sought to answer the following questions: (1) Is the proposed three-factor model of responsibility empirically supported? If so, is it supported across multiple waves of collected data, i.e., is the structure of the construct replicable across time? (2) Do individuals differ in their development of responsibility? If so, what kinds of trajectories of change occur during three years of postsecondary school study? (3) Does

educational setting account for variance in trajectory membership? In other words, does attending a particular school provide meaningful information about whether and how a participant's responsibility will change (or stay the same) over a span of three years?

CHAPTER 5

METHOD

For a more detailed description of ACT Study data collection procedures, participants, and measures, see Johnson and colleagues (2014). The information presented here focuses on the portions of the ACT Study data set to be used in this work.

Participants

Two-hundred and thirteen young male adults across the three sites of data collection (94 WC; 119 CS) completed surveys during three waves of data collection. As mentioned above, the student body of WC, which was the primary focus of the ACT study, exclusively comprises men between the ages of 18 and 25 years who were enrolled in school as full-time students. As such, to gain a comparable sample at the comparison schools, participants were only included in the study if they were male, between 18 and 25 years old, and enrolled in school full time. Table 4 shows demographic information of the sample as well as comparison tests between the WC and CS sub-samples.

Table 4

Demographic Information for ACT Study Sample

	Full Sample *(N = 213)*	WC *(N = 94)*	CS *(N = 114)*	Comparison
Mean age (SD)	18.76 (1.39)	18.33 (.61)	19.05 (1.67)	t (1, 198) = 3.69, p<.001
Race				χ^2 (2) = 16.17, p<.001
% White	65.4	80.0	53.8	
% Other	7.9	12.6	26.9	
% Missing	26.7	7.4	19.3	
Parent Education				χ^2 (5) = 7.91, p<.161
% Less than high school	4.7	1.2	7.6	
% High school or GED	38.1	45.2	32.4	
% 2-year degree	12.7	10.7	14.3	
% Some college	13.8	13.1	14.3	
% 4-year degree	19.6	21.5	18.1	
% Graduate degree	11.1	8.3	13.3	

Reproduced from Johnson et al. 2014
WC = Williamson School Sample
CS = Comparison Sample (Trade School, Community College, and State School)

Procedure

At WC, the entire freshman class was invited to take part in the study and given time during orientation activities to complete the first set of surveys on school computers. Students were assured that participation was voluntary and confidential. Of the 100 students in the class, 95 completed the survey. At the three comparison school sites, administrators sent emails to students who met recruitment criteria: male, full-time students, ages 18 to 25. At Technical College, 29 students (20%) out of 145 individuals meeting criteria completed the survey. At State College, 36 students (18%) out of 200 individuals meeting criteria completed the survey. At Community College, recruitment emails could not be limited by age, thus emails were sent to 2,000 male, full-time students, not all of whom met age criteria. Although 54 participants completed surveys at this school, calculating a response rate using

these two numbers would not accurately reflect the percentage of eligible students choosing to participate in the study.

All surveys were administered on school or personal computers, and took 45 minutes, on average, to complete. Participants were asked to verify eligibility criteria (gender, age, full-time status) and then to read and to sign a consent form before completing the surveys. After study completion, students received a $20 gift card and were entered into a drawing for an additional $125 gift card as compensation for their time.

Measures

The ACT study measures assessed several constructs of interest to the researchers as well as to study stakeholders, such as WC administrators. For example, measured constructs include commitment to school, entrepreneurship, faith behaviors, diligence, dependability, integrity, health and risk-taking behaviors, optimism, and love for humanity. Only measures used in this work will be described in detail below. For more information on all ACT study measures see Johnson and colleagues (2014).

Responsibility. To assess participants' levels of responsibility and capture the three facets of responsibility outlined above (demand responsibility, responsibility acceptance, and concern for others), this work created an ad hoc 17-item scale from the measures used in the ACT dataset. The 17 items, their thematic groupings, and their measures of origin are listed in Table 5. Items were chosen by this author based on their conceptual adherence to the definitions of demand responsibility, responsibility acceptance, and concern for others proposed in this work. Item selection was also guided by similarity between items in this dataset and items in existing responsibility measures. What follows are descriptions of the measures from which these 17 items were drawn.

Table 5

Responsibility-Related Items, Thematic Groupings, and Measures of Origin

Thematic group Item	Measure of origin
Reliably meeting demands	
1. I am reliable 2. My friends can depend on me 3. People can trust me to do what is right 4. People can count on me to do what I promise	Dependability measure developed by ACT Study team (Johnson et al., 2014)
5. When faced with obstacles, I usually increase my efforts 6. I stick to my goals and projects even in face of great difficulties	Tenacious Goal Pursuit Scale (Brandstädter, Wentura, & Rothermund, 1999)
Accepting responsibility for one's actions and their consequences	
7. I accept responsibility for my actions when I make a mistake or get in trouble	Measure of Positive Youth Development (Bowers et al., 2010)
8. Accepting responsibility for my actions when I make a mistake or get in trouble [is not at all to extremely important to me]	Profiles of Student Life, Attitudes and Behaviors (Benson, Leffert, Scales, & Blyth, 1998)
9. I tell the truth 10. I never cheat 11. I am a very honest person	Self-Description Questionnaire (Marsh, 1984)
Exhibiting concern for others	
12. I feel a responsibility to reduce pain and suffering in the world	Great-Love-Compassion Scale (Warren 2009)
13. I want to make the world a better place to live 14. When I see someone being taken advantage of, I want to help them 15. When I see someone being picked on, I feel sorry for them 16. When I see another person who is hurt or upset, I feel sorry for them	Measure of Positive Youth Development (Bowers et al., 2010)
17. Speaking up for equality (everyone should have the same rights and opportunities) [is not at all to extremely important to me]	Profiles of Student Life, Attitudes and Behaviors (Benson, Leffert, Scales, & Blyth, 1998)

Dependability. An eight-item scale was developed by the ACT Study team based on extensive review of character development literature (for example, Lerner & Callina, 2014; Sokol, Hammond, & Berkowitz, 2010). This measure was reduced to four items based on results of exploratory factor analysis during wave 2 of data collection. The measure assesses to what extent participants perceive themselves as dependable through items such as "People can count on me to do what I promise." Participants responded to each item on a 5-point Likert scale where 1 is *strongly disagree* and 5 is *strongly agree*. Cronbach's alpha in the validation sample was .89 (Johnson et al., 2014). Four items from this measure were used for the responsibility measure (see Table 5).

Diligence. The ACT study team created its measure of diligence by choosing six items from the 15-item Tenacious Goal Pursuit scale (Brandstädter, Wentura, & Rothermund, 1999) based on results from the Young Entrepreneurs Study (Weiner, Geldhof, & Lerner, 2011). This measure assesses the extent to which participants believe they persevere through difficulties to achieve a goal. Items include phrases such as "I stick to my goals and projects even in the face of great difficulties." Participants responded to each item on a 5-point Likert scale where 1 is *strongly disagree* and 5 is *strongly agree*. Cronbach's alpha in the validation sample was .79 (Johnson et al., 2014). Two items from this measure were used for the responsibility measure (see Table 5).

Positive youth development. The ACT study team used a very short form of a measure developed to examine whether participants demonstrate markers of positive youth development as described by the Lerner and Lerner Five C's Model of Positive Youth Development (Bowers et al., 2010; Lerner et al., 2005). This model defines positive youth development in terms of competence, confidence, character, connection, and caring. Sample

items corresponding to each of the five C's include "I do very well in my class work at school," "I really like the way I look," "I hardly ever do things I know I shouldn't do," "I have a lot of friends," and "when I see someone who is hurt or upset, I feel sorry for them." Participants responded to each item on a 5-point Likert scale where 1 is *strongly disagree* and 5 is *strongly agree*. Cronbach's alpha for this measure has not been reported. Five items from this measure were used for the responsibility measure (see Table 5).

Integrity. The measure of integrity used in the ACT study is comprised of six items from the Profiles of Student Life: Attitudes and Behaviors scale (PSL-AB; Leffert et al., 1998). In the ACT study, integrity refers to the tendency to adhere to one's personal ethics despite social pressure to the contrary. A sample integrity item is "doing what I believe is right, even if my friends make fun of me." The integrity items use a 5-point Likert scale, ranging from "*Not at all important*" as an anchor for a response of 1 and "*Extremely Important*" for a response of 5. Cronbach's alpha in the validation sample was .81 (Johnson et al., 2014). Two items from this measure were used for the responsibility measure (see Table 5).

Honesty. The measure of honesty consists of four items from the Self-Description Questionnaire III (SDQ-III) Instrument's honesty subscale (Marsh & O'Neill, 1984). In the ACT study, honesty refers to an individual's tendency to speak truthfully and not cheat or lie. The honesty subscale uses items such as "I tell the truth." Participants responded to each item on a 5-point Likert scale where 1 is *strongly disagree* and 5 is *strongly agree*. Cronbach's alpha in the validation sample was .70 (Johnson et al., 2014). Three items from this measure were used for the responsibility measure (see Table 5).

Love. Love was assessed in the ACT study using six items of the 9-item Great Love-Compassion scale (Warren, 2009). In the ACT study, love refers to the belief that all human beings deserve to have freedom and joy and minimal pain and suffering in their lifetimes. The present study used the following item from this measure: "I feel a responsibility to reduce pain and suffering in the world" (see Table 5). Participants responded to each item on a 5-point Likert scale where 1 is *strongly disagree* and 5 is *strongly agree*. Cronbach's alpha in the validation sample was .78 (Johnson et al., 2014).

Proposed Analytic Plan

Before addressing any of the research questions, I computed descriptive statistics (e.g., means and standard deviations) for the responsibility measure and all demographic variables of interest for all three waves of data. were computed. I conducted tests of univariate and multivariate normality for all variables. I identified and removed outliers as needed when I found violations of normality, skewness < 1.5 or kurtosis < 3.0, in any of the variables, or when I found a violation of multivariate normality (Mardia's coefficient < 1.96; Tabachnick & Fidell, 2007).

Missing data. I addressed missing data was by first calculating the percentage of cases with missing data for each variable. I then conducted independent *t* tests and chi-square tests to examine whether significant differences existed between complete and incomplete cases. In addition, I used full-information maximum likelihood (FIML) estimation with robust standard errors were via the MLR estimator in Mplus (Muthén & Muthén, 1998-2015) to account for missing data and non-normality. MLR adheres to the assumption that data are missing-at-random, uses all of the data present in the sample to estimate model parameters,

and allows variables included in the analyses to be related to patterns of missing data (McKnight, McKnight, Sidani, & Figueredo, 2007).

Comparison of attrition sample. I conducted chi-square and independent-sample *t*-tests to determine whether differences exist between participants who completed all three waves of data collection and those who did not. I noted differences in the results and discussion sections and evaluated them during the interpretation of results.

Fit of three-factor responsibility model to data. I computed Cronbach's alphas at each wave of data collection to assess internal consistency of the proposed measure. Then, to examine whether the proposed three-part model of responsibility is supported empirically (research question 1), I conducted exploratory factor analyses (EFA) for each wave of data using the 17-items that I hypothesized to be conceptually related to responsibility. I then gauged model fit using standard goodness of fit criteria (i.e., root mean square error of approximation [RMSEA] < .06, comparative fit index [CFI] and Tucker-Lewis index [TLI] > .95) (Hu & Bentler, 1999).

Identifying trajectories of responsibility change. To answer whether responsibility levels change for different groups of participants based on contextual influence (research question 2) I performed latent class growth analysis (LCGA) to identify latent trajectories of responsibility across the three waves of data collection in the WC and CS samples. LCGA is ideally suited for this question because, as a person-centered technique, LCGA provides information about how individuals change independent of the overall group.

I entered data from the responsibility latent variable model from the EFA from Waves 1, 2 and 3 into the trajectory model. I then compared models with varying numbers of latent class trajectories using methods suggested by Jung and Wikrama (2008). Specifically,

Bayesian information criteria (BIC) values were taken into account. Lower values should indicate a better fit between the data and the model. I computed the Lo, Mendell and Rubin (2001) likelihood ratio statistic and bootstrap likelihood ratio tests to determine model fit. Last, I used posterior probabilities (the probability that each participant would be assigned to each trajectory group), averaged group member probabilities (the average of posterior probabilities of participants assigned to each trajectory group, with values between .70 and .80 indicating good fit), and issues of parsimony and interpretability (Andruff et al., 2009) to decide which model of trajectories best fits the data. I performed this LCGA procedure for all participants across all sites.

After selecting the model with the best fit to the data, I created names for each trajectory group that captured the pattern of increase, decrease, multi-directional change, or lack of change across the three time points of data collection. I then reported the number and percentage of participants from the WS and CS samples within each trajectory, averaged group member probabilities, and average responsibility scores within each trajectory and for each wave.

Differences in trajectory types and rates of membership across settings. Once I selected the trajectory model that best represented the data, I conducted a series of analyses to determine whether age or educational setting predicted trajectory membership (Research Question 3). I conducted hierarchical multinomial regression analyses o determine whether and to what extent enrollment in different educational settings (WC vs. CS) predicted trajectory membership.

CHAPTER 6

RESULTS

Descriptive Statistics

I computed means and standard deviations for the responsibility measure and participant age at each of the three waves of data collection (see Table 6). I also computed racial identification percentages and percent reporting free lunch receipt in high school (as a proxy for SES) for each wave (see Table 6).

Table 6

Demographic Statistics by Wave and Sample

	Wave 1			Wave 2			Wave3		
	Full	WS	CS	Full	WS	CS	Full	WS	CS
N	206	93	113	110	54	56	96	65	31
Mean Age (SD)	18.80 (1.38)	18.41 (.64)	19.08 (1.67)	19.81 (1.40)	19.38 (.59)	20.23 (1.80)	21.74 (1.34)	21.36 (.65)	22.55 (1.96)
Race									
%White/ Caucasian/ Euro-American	68.4	79.8	55.5	77.1	89.1	64.8	79.2	61.7	58.1
%Black/ African-American	8.25	9.6	6.7	5.5	5.5	5.6	6.3	4.3	6.5
%Other	13.1	3.2	20.1	17.5	5.5	29.7	14.5	3.2	35.6
%Missing	9.71	6.4	11.8	0	0	0	0	0	0
%Free Lunch	27.9	28.2	22.7	30.0	30.9	13.4	27.1	24.6	8.4
Mean Responsibility Score (SD)	4.10 (.53)	4.17 (.39)	4.04 (.61)	4.04 (.51)	4.04 (.46)	4.04 (.56)	4.06 (4.4)	4.12 (.44)	3.95 (.44)

Attrition Analysis

Of the 213 students eligible to participate in all three waves of data collection, 6 (2.8%) did not complete any items relevant to this study, 206 (96.7%) completed wave one data, 111 (52.1%) completed wave two data, and 97 (45.5%) completed wave three data. However, attrition did not occur linearly. Seventy-five participants (35.2%) completed wave one data only, 35 (16.4%) completed data for waves one and two, one (0.5%) completed data for waves two and three, 21 (10.0%) completed data for waves one and three, and 75 (35.2%) completed data for all three waves.

The results of *t* tests and chi-square tests on demographic variables and the ad hoc responsibility measure found no differences between participants who completed any two waves of data and those who completed only one (see Table 7). Similar comparisons between participants who completed all three waves of data and those who did not (including those that completed none) revealed only one significant difference (see Table 7). A chi-square test of independence showed that participants from the Williamson School sample were more likely to complete all three waves of data collection than those from the Comparison School sample X^2 (1, N = 213) = 23.84, p = .000.

Table 7

Results of Attrition Analysis

Variable	t/X^2	*df*	M. Diff.	SE	95% C.I.
Participants who completed only Time 1 (*n* = 75) vs. those who completed any two (*n* = 57)					
Age	-0.77	120	-0.20	0.26	-0.71 – 0.31
School Sample	0.14	1			
Race	7.35	7			
Free Lunch	0.57	2			
Responsibility Time 1	-2.12	129	-0.21	0.10	-0.41 – -0.01
Participants who completed all three waves (*n* = 75) vs. those who did not (*n* = 138)					
Age	-0.75	198	-0.15	0.204	-0.56 – 0.25
School Sample	23.84*	1			
Race	7.83	8			
Free Lunch	0.37	2			
Responsibility Time 1	1.18	204	0.09	0.08	-0.06 – 0.23
Responsibility Time 2	-0.74	109	-0.08	0.10	-0.28 – 0.13
Responsibility Time 3	0.74	95	0.08	0.12	-0.13 – 0.29

*p = .000

Normality

I examined univariate normality of the responsibility measure for each wave of data collection. Table 8 displays the means, standard deviations, and the univariate skewness and kurtosis coefficients for the responsibility measure at all three waves. I found a violation of normality at wave one (kurtosis > ±3; Tabachnik & Fidell, 2007). Closer inspection using a box plot revealed a single outlier at more than three quartiles below the mean of the responsibility measure at wave one. The outlying case completed only one wave of data and answered all items with the lowest possible value. Suspecting low participant effort, I removed the outlier. I recalculated descriptive data (see Table 8) and found no violations of normality (skewness <±1.5, kurtosis <±3; Tabachnik & Fidell, 2007).

Table 8

Means, Standard Deviations, and Univariate Skewness and Kurtosis of Responsibility Measure at all Three Time Points

Variable	N	Mean	SD	Skewness	Kurtosis
Responsibility Time 1	206	4.10	0.53	-1.39	6.06
Responsibility Time 1 with Outlier Removed	205	4.11	0.48	-0.60	1.38
Responsibility Time 2	110	4.04	0.51	-0.24	-0.42
Responsibility Time 3	96	4.07	0.44	-0.18	0.46

Internal Consistency

I calculated Cronbach's alphas for all responsibility items at each wave of data collection. At Time 1 (with two missing items), the responsibility measure produced a Cronbach's alpha coefficient of 0.82; Time 2 yielded a Cronbach's coefficient of 0.91; Time 3 yielded a Cronbach's coefficient of 0.88. Using George and Mallery's (2003) criteria of interpretation, the proposed responsibility items exhibited good internal consistency.

Exploratory Factor Analysis

At Time 1 of data collection, two items of the proposed model were not included in participant surveys. One missing item was "I want to make the world a better place to live" which was hypothesized to be a part of the "concern for others" facet of the overarching responsibility construct. The other missing item was "I accept responsibility for my actions when I make a mistake or get in trouble" which was hypothesized to be a part of the "responsibility acceptance" facet of the overarching responsibility construct. An EFA of Time 1 data yielded no acceptable models. A 3-factor model approached but did not meet criteria for marginal fit (RMSEA = 0.08, 90% confidence interval = 0.06-0.10; CFI = 0.88; TLI = 0.80).

Time 2 and Time 3 data included all 17 items of the proposed responsibility model. An EFA at Time 2 yielded a 7-factor model with marginal fit (RMSEA = 0.058, 90% confidence interval = 0.00-0.09; CFI = 0.98; TLI = 0.93). An EFA at Time 3 yielded a 7-factor model with acceptable fit (RMSEA = 0.00, 90% confidence interval = 0.00-0.06; CFI = 1.00; TLI = 1.02). I inspected factor loadings for each item in the Time 2 and Time 3 models, and observed the configuration of loadings to be inconsistent with those that would be expected under the hypothesized three-class model. Table 9 displays factor loadings for the Time 3 data 7-factor model. The factor loadings for this model were also problematic since many items cross-loaded onto multiple factors, many items displayed low factor loadings across all factors, some items displayed factor loadings greater than one, and some items displayed negative factor loadings.

Table 9

Factor Loadings for 7-Factor Model of Time 3 Data

	Factor Loading						
Item	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Theorized Factor 1: Demand Responsibility							
I am reliable	**.67**	.53	.09	.25	.53	.45	.16
My friends can depend on me	**.86**	.38	.14	.27	.55	.52	.30
People can count on me to do what I promise	.53	**.71**	.06	.37	.25	.38	.15
People can trust me to do what is right	.39	.58	.05	.35	**.69**	.50	.19
When faced with obstacles, I usually increase my efforts	.30	**.79**	.13	.27	.25	.41	.29
I stick to my goals and projects even in face of great difficulties	.35	**.76**	.07	.17	.40	.41	.21
Theorized Factor 2: Responsibility Acceptance							
I accept responsibility for my actions when I make a mistake or get in trouble	.64	**.65**	.10	.32	.34	.60	.15
Accepting responsibility for my actions when I make a mistake or get in trouble [is not at all to extremely important to me]	.53	.38	.04	.15	.30	.30	.22
I tell the truth	.31	.38	.05	**1.02**	.32	.35	-.02
I never cheat	.11	.24	.01	.39	.30	.33	.28
I am a very honest person	.36	.31	.09	.58	**.81**	.44	.18
Theorized Factor 3: Concern for Others							
When I see someone being picked on, I feel sorry for them	.27	.54	.17	.25	.41	**.67**	.31
When I see another person who is hurt or upset, I feel sorry for them	.39	.35	.21	.30	.42	**.94**	.30
When I see someone being taken advantage of, I want to help them	.39	.40	.32	.08	.42	**.77**	.47
I want to make the world a better place to live	.17	.24	.23	.07	.25	.40	**.75**
Speaking up for equality (everyone should have the same rights and opportunities) [is not at all to extremely important to me]	.13	.11	**1.56**	.02	.13	.39	.27
I feel a responsibility to reduce pain and suffering in the world	.07	.05	.05	-.09	.06	.15	**.65**

To simplify and strengthen the responsibility scale, I removed items with low factor loadings (<.70), factor loadings greater than one, and negative factor loadings. This process left eight items to be analyzed. I then re-run EFA's on all time points. This process generated no acceptable models for Time 1 or Time 2. An EFA of Time 3 yielded a 3-factor model with acceptable fit (RMSEA = 0.00, 90% confidence interval = 0.00-0.08; CFI = 1.00; TLI = 1.08). Table 10 displays the factor loadings for the Time 3 data 3-factor model with only the eight items with high factor loadings (.70 < x < 1.00) from the Time 3, 7-factor model. I computed Cronbach's alphas for this shortened measure. At Time 1, this measure produced a Cronbach's alpha coefficient of 0.77; Time 2 yielded a Cronbach's coefficient of 0.88; Time 3 yielded a Cronbach's coefficient of 0.84. Using George and Mallery's (2003) criteria of interpretation, the shortened responsibility measure exhibited good internal consistency.

Table 10

Factor Loadings for 3-Factor Model of Time 3 Data with Only High Factor Loading Items from Time 3, 7-Factor Model

	Factor Loading		
Item	**1**	**2**	**3**
Theorized Factor 1: Demand Responsibility			
My friends can depend on me	**.83**	.37	.55
People can count on me to do what I promise	.52	**.63**	.36
When faced with obstacles, I usually increase my efforts	.29	**.89**	.42
I stick to my goals and projects even in face of great difficulties	.42	**.72**	.40
Theorized Factor 2: Responsibility Acceptance			
I am a very honest person	**.55**	.31	.39
Theorized Factor 3: Concern for Others			
When I see another person who is hurt or upset, I feel sorry for them	.42	.38	**.77**
When I see someone being taken advantage of, I want to help them	.36	.44	**.92**
I want to make the world a better place to live	.23	.32	**.47**

Latent Class Growth Analysis

Though the hypothesized three-factor model of responsibility was not supported by the data, the internal consistency of the responsibility measure at all three time points indicated that it could be used as a unified whole for subsequent analyses. I compared models with different number of trajectories of responsibility ranging from one to eight. I examined linear and quadratic effects. Table 11 lists the fit statistics for each of the models tested. I selected a 4-trajectory model as the best representation of the data. Table 12 displays growth parameters as well as means and standard deviations for all four trajectories. I conducted analyses of variance (ANOVA) and Bonferroni pairwise comparisons for group differences between each class at each of the three time points. Significant differences were detected at all three time points (see Table 13) which suggests that the LCGA produced distinct groups.

Table 11

LCGA Fit Statistics for Tested Models

Number of classes	AIC	BIC	Adjusted BIC	Mean posterior probability (*SD*, Range)	Entropy	LMR-LRT *p*-value
1	572.70	592.67	573.66	1 (n/a)	n/a	n/a
2	556.26	589.54	557.85	0.79 (.01, .78-.79)	0.39	0.06
3	536.68	583.27	538.92	0.88 (.02, .85-.90)	0.67	0.37
4	528.02	587.92	530.89	0.86 (.03, .83-.89)	0.74	0.01
5	533.60	606.81	537.10	0.87 (.13, .82-.95)	0.78	0.22
6	544.02	630.54	548.16	0.57 (.40, .00-.89)	0.80	0.73
7	551.82	651.66	556.60	0.55 (.37, .00-.96)	0.63	0.59
8	535.97	649.12	541.40	0.60 (.35, .00-.96)	0.66	0.35

Table 12

Growth Parameters and Responsibility Scores for Four Trajectories

Group	Class 1	Class 2	Class 3	Class 4
N (%)	6 (2.9)	165 (80.1)	27 (13.1)	8 (3.9)
	Estimate (SE)	Estimate (SE)	Estimate (SE)	Estimate (SE)
Intercept	2.80 (0.26)	4.09 (0.04)	4.52 (0.10)	3.98 (0.18)
Linear	1.93 (0.47)	-0.13 (0.13)	-0.12 (0.24)	-1.12 (0.39)
Quadratic	-0.91 (0.18)	0.05 (0.06)	0.12 (0.11)	0.36 (0.17)
	Mean (*SD*)	Mean (*SD*)	Mean (*SD*)	Mean (*SD*)
Posterior Probability	0.89	0.87	0.83	0.84
Responsibility Time 1	2.72 (0.40)	4.08 (0.36)	4.68 (0.31)	3.93 (0.49)
Responsibility Time 2	3.88 (0.17)	4.00 (0.47)	4.57 (0.25)	3.15 (0.22)
Responsibility Time 3	3.00 (n/a)	4.01 (0.24)	4.77 (0.14)	3.11 (0.18)

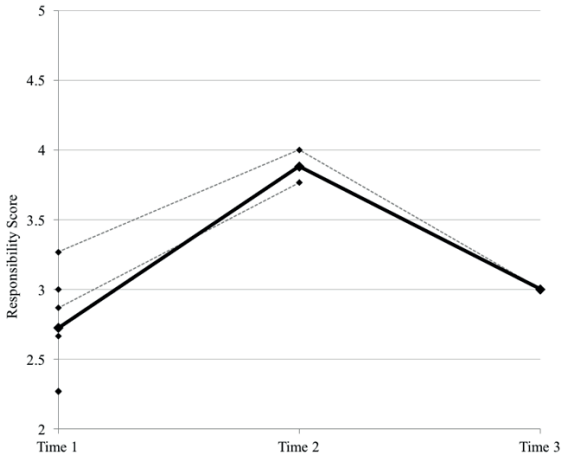
Table 13

Significant Differences Between Class Responsibility Means at each Time Point

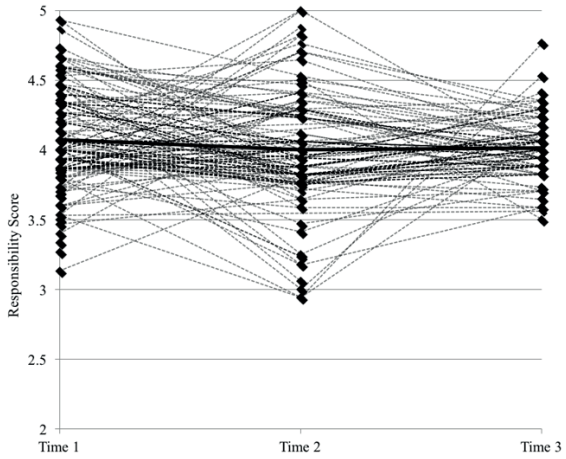
Responsibility Time 1	Responsibility Time 2	Responsibility Time 3
$F(3, 201) = 53.38$, $p = .000$	$F(3, 107) = 15.47$, $p = .000$	$F(2, 93) = 134.32$, $p = .000$†
Class 1 > Class 2, 3, & 4 Class 3 > Class 2 & 4	Class 2 > Class 4 Class 3 > Class 2 & 4	Class 2 > Class 4 Class 3 > Class 2 & 4

† Class 1 excluded, n < 2 at Time 3

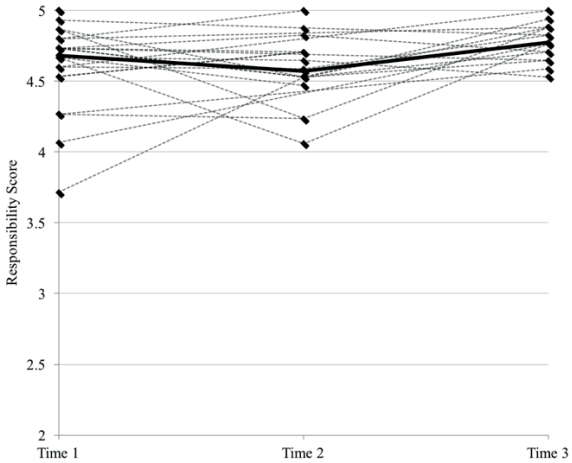
Figure 1 shows growth curves for each of the four latent classes, with estimated means and observed individual values. Additionally, Figure 2 shows a spaghetti plot with the estimated means of all four latent classes and observed values for the full sample. I gave names to each class based on the average growth trajectory of each. I renamed the classes as follows: Class 1 is "Peaking Responsibility," Class 2 is "Moderate Responsibility," Class 3 is "High Responsibility," and Class 4 is "Decreasing Responsibility." Table 14 displays the ages and educational sites of participants in each class membership.



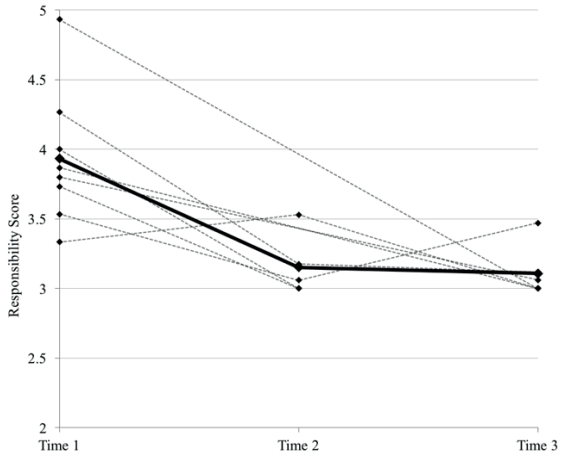
Class 1 - Peaking Responsibility
(*n* = 6, 2.9%)



Class 2 – Moderate Responsibility
(*n* = 165, 80.1%)



Class 3 – High Responsibility
(*n* = 27, 13.1%)



Class 4 – Decreasing Responsibility
(*n* = 8, 3.9%)

Figure 1. Estimated means and observed individual values for each trajectory class. For each plot, the bolded solid line represents the estimated means from the LCGA analysis.

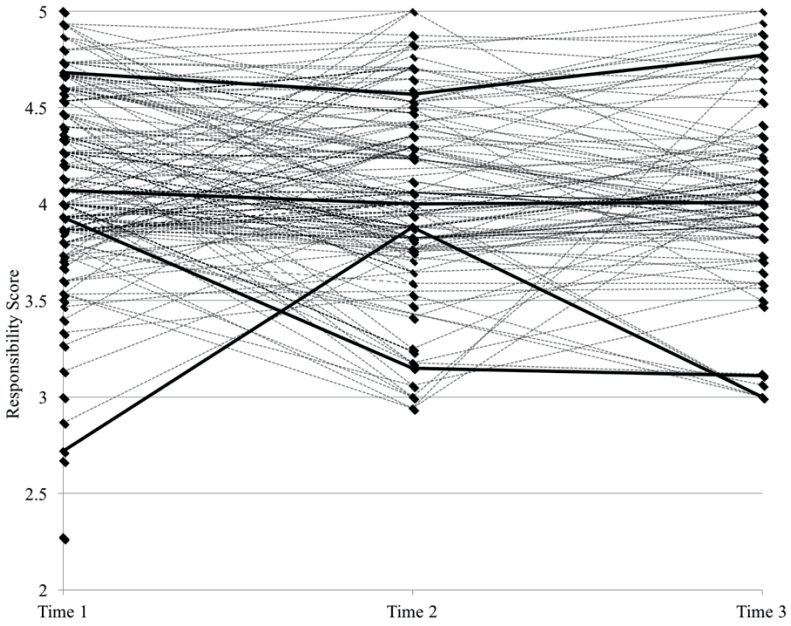


Figure 2. Estimated means and observed values for all participants. Bolded solid lines represent the estimated means from the LCGA analysis. n = 205

Table 14

Ages and Educational Sites of Participants by Class

Class	N	Age		Site (WS vs CS)
		Mean (SD)	Range	Percent from WS (n)
1 "Peaking"	6	19.2 (2.4)	18 - 24	0% (0)
2 "Moderate"	165	18.7 (1.3)	18 - 25	44.8% (74)
3 "High"	27	18.9 (1.4)	18 - 23	63.0% (17)
4 "Decreasing"	8	18.9 (1.8)	18 - 23	37.5% (3)

WS = Williamson School sample, CS = Comparison Schools sample

Predictors of Class Membership

I conducted multinomial regression analysis to determine whether age or educational setting predicted membership to any particular class. Age was not a significant predictor of any class membership. Participants from the comparison school sample comprised class 1, "Peaking Responsibility" exclusively. As such, participants from the comparison school

sample had unsurprisingly significantly higher odds of being in class 1 over classes 2, 3, or 4 as compared to the Williamson School sample (odds ratios were astronomically high and thus not reported here). The only other significant finding regarding educational setting was that participants from the comparison school sample had 0.29 odds of being in class 2 relative to class 3 (CI: 0.98 – 0.08, $p = 0.047$). In other words, participants from the comparison school sample were 71% more likely to be classified into class 2 than class 3.

CHAPTER 7

DISCUSSION

Structure of Responsibility

In the current study, I used data from the first, second, and third waves of the Assessment of Character in the Trades Study (ACT; Johnson et. al. 2014) to include all participants who had the opportunity to complete three annual rounds of data collection. To test whether my proposed model of responsibility was empirically supported, items from a variety of character development measures were selected based on their face value relation to three key components of responsibility: demand responsibility, responsibility acceptance, and concern for others.

The selected items demonstrated good internal consistency as measured by Cronbach's alphas. This suggests that the items are sufficiently interrelated in a manner consistent with a latent construct. In essence, the items show empirical support for the measurement of a unified idea such as responsibility.

To determine whether the latent construct identified is multifaceted in the hypothesized structure, exploratory factor analyses were performed. Only Time 3 data yielded an acceptable model. The model produced contained seven factors with a degree of cross-loading that did not align with the three components of responsibility proposed here. The seven factors did not divide items into their corresponding measures, e.g. not all

measures of diligence grouped together. This suggests that the latent construct may, indeed, exhibit a multi-factor structure as hypothesized, although not necessarily adhere to the proposed 3-factor model.

Removing low-loading items and repeating exploratory factor analyses again yielded no acceptable models for Time 1 and 2, but produced a 3-factor model for Time 3. The 3-factor model largely aligned with the proposed concepts of responsibility. One item theorized to group together with items on reliably meeting demands, "my friends can depend on me," aligned more closely with an item theorized to represent acceptance of responsibility and accountability, "I am a very honest person." Beyond this one exception, all other items from the "high loading" group, divided neatly into the three components of responsibility proposed in this work. This finding supports the hypothesis that responsibility is multifaceted and may be composed of three components. However, the items with high factor loadings seemed only to reflect reliably meeting demands and demonstrating a concern for the wellbeing of others.

The concept of accepting responsibility for one's actions did not produce a statistically significant factor of its own. The finding that the two items most related to accepting responsibility ("I accept responsibility for my actions when I make a mistake or get in trouble" and "accepting responsibility for my actions when I make a mistake or get in trouble [is not at all to extremely important to me]") were not highly related to one another and did not yield a statistically unique factor also suggests that the proposed construct of accepting responsibility may not be a salient construct, may not be appropriately captured by the selected items, or it was not a distinct and salient construct in this population.

The findings of the exploratory factor analysis support most researcher definitions stating that responsibility involves reliably meeting demands and exhibiting a concern for others (Hellison, 2011; Horrocks 1969; Lickona, 1991; Long et al., 2008; Lowe, Dillon, Rhodes, & Zwiebach, 2013; Ochs & Izquierdo, 2009; Roberts 2014; Salusky et al., 2014; Winter 1992; Wood, Larson, & Brown, 2009). However, the findings do not support the definitions of responsibility that include accepting the consequences of one's actions (Eccles & Gootman, 2002; Horrocks, 1969; Winter, 1992; Lowe, Dillon, Rhodes, & Zwiebach, 2013; Long et al., 2008; Ochs & Izquierdo, 2009). The absence of a cohesive responsibility acceptance factor may be because only two items in the measure squarely address accepting responsibility for one's actions, while the remaining three addressed integrity or honesty more broadly. The diffuse conceptual clarity of these five items, and the low number of items representing responsibility acceptance, may explain why this factor did not emerge as a distinct entity in this study.

The finding that only Time 3 data yielded an acceptable model suggests that the structure of the responsibility construct may not be stable over time. It may be that the attrition across the three waves of data collection created or exacerbated a selection effect that produced the 7-factor model of responsibility in Time 3 only. It may also be the case that due to the low sample size of Time 3, the responses of a few participants had an outsized influence on the response pattern of the sample as a whole and produced a statistically significant, albeit spurious finding. The lack of acceptable models in Time 1 and Time 2 raises grave concerns regarding the proposed model of responsibility. It is possible that this finding is a result of the selected items not capturing the proposed concepts adequately and that with a larger number and/or a different set of items the proposed structure of

responsibility would emerge in all three time points. Notwithstanding, though only Time 3 data yielded an acceptable model via EFA, data from all three time points exhibited high levels of internal consistency (high Cronbach's alpha). Thus, the results of this study support a temporally stable, internally consistent latent construct, but not a temporally stable structure of that construct. More research is needed to determine whether, and if so, how the construct of responsibility may be subdivided.

Responsibility Development

I also sought to examine whether individuals differed in their development of responsibility. To that end, I conducted latent class growth analyses. Four statistically unique patterns emerged. Since only six participants were categorized into group 1, and most participants had missing assessment data from one or more time points (only one participant in this group had all three data points), interpretation of group 1 findings would be tenuous. As such, the discussion will focus on the pattern exhibited in the remaining three groups. The other three groups exhibited the following patterns: a consistent, high trajectory, a decreasing trajectory, and a diverse set of pathways that average out to a stable and relatively high trajectory. The three patterns will be referred to as "High Responsibility," "Decreasing responsibility," and "Moderate Responsibility," respectively. Participants in the High Responsibility group reported high responsibility scores at all three time points. Participants in the Decreasing Responsibility group reported high responsibility scores at Time 1, then mid-range scores in Time 2 and 3. The Moderate Responsibility group displayed an average trajectory that was stable across all three time points, more positive than neutral, but lower on average than the High Responsibility group. However, participants in this group exhibited a wide range of trajectories with some starting at the highest end of the scale, dropping to

neutral at Time 2, and returning to the high end of the scale at Time 3. Others in this group started at neutral, increased by one or two points, and then returned to neutral. The diversity of individual pathways and high variability of scores across time points within this group render overall interpretations of this grouping and its average pathway difficult.

The results of the latent class growth analyses suggest that young adults in a post-secondary setting exhibit a heterogeneous pattern of responsibility development. Some individuals view themselves as having a high degree of responsibility throughout their post-secondary education while others increase, some decrease and some fluctuate in how responsible they view themselves to be. This pattern of findings supports the majority of researchers' assertions that responsibility is a fairly malleable character trait or skill that is influenced by context and an individuals' motivation (Hellison, 2011; Ochs & Izquierdo, 2009; McDonough et al., 2013; Salusky et al., 2014; Wood, Larson, & Brown, 2009). It is not known whether a sensitive period for responsibility development exists or whether responsibility fluctuates more widely at different ages. However, the findings of this study suggest that the efforts of higher education settings such as Williamson School and the scores of institutions that espouse responsibility development as part of their mission statements (Meacham & Gaff, 2006) are timely endeavors since changes in responsibility do occur during young adulthood.

To examine whether age or school type influenced responsibility development, multinomial regression analysis was conducted. Age did not significantly predict class membership. This finding further supports the view of responsibility as malleable throughout the lifespan, or at least early adulthood, and its development as a heterogeneous

process. This malleability also supports efforts to promote responsibility development across the lifespan.

School type significantly predicted group membership. Participants at Williamson School were more likely to be in the high stable group than the diverse moderate responsibility group. Williamson School students tended to rate themselves more highly in terms of responsibility at the outset, middle, and end of their education than Comparison School participants. This finding may provide support to the understanding of responsibility development, like that of other character traits, as a product of the interaction between individuals and their context in line with the RDS metatheory (Lerner & Callina, 2014). The Williamson School's interventions regarding structure, strict discipline, and explicit instruction on character development may be creating a context that effectively promotes responsibility development in individuals.

However, alternative explanations abound for this effect. The finding that Williamson School students were more likely to rate themselves highly on responsibility consistently across all three years of study instead of producing a clear trajectory demonstrating increasing responsibility over time may indicate that Williamson School's emphasis on character development leads the school to recruit highly responsible individuals at higher rates than other post-secondary education institutions. It is also possible that highly responsible students self-select into the Williamson School student body. Likewise, Williamson School students may rate themselves highly in responsibility because they aspire to conform to the school's character expectations of its students. Methodological factors may also be at play. Williamson School students' survey responses may have been influenced by a social desirability effect more than at the comparison sites because they completed study

surveys in person, in campus computer labs, during orientation or class times, after interacting with school personnel whereas comparison school participants completed study materials online at a time and place of their choosing. Extant studies have demonstrated that online formats significantly albeit slightly decrease social desirability responding compared to in person, supervised settings (Davis, 1999; Gamblin et al., 2017; Vosylis, Žukauskienė, & Malinauskienė, 2012). In sum, the differential trajectories across study sites may indicate the effectiveness of Williamson School's character development interventions, but may also be the product of participant admission and self-selection into study sites and differing data collection methodologies.

Overall participants across all sites rated themselves positively or neutral on the selected items. This likely reflects a response bias to rate oneself positively on prosocial character traits. Alternatively, this may reflect a selection bias reflective of the sample's enrollment in post-secondary education and therefore a possibly above average level of dedication, self-discipline, and consistency associated with responsibility among participants of this study.

Limitations

This study represents a secondary analysis of a data set from a study of character development. Although responsibility may be seen as part of character development the data set used did not specifically aim to address or measure responsibility. As such, I attempted to create a measure of responsibility using items from a diverse set of measures related to prosocial character traits. Because this study did not employ a validated measure of responsibility, I cannot firmly claim to have assessed responsibility or assessed it in its entirety. Although this study is informed by a wide array of definitions of responsibility and

the items selected appear to have face validity to aspects of those definitions, this study used a limited number of items to represent each substructure of responsibility. A larger number of items with even distribution across the three aspects of responsibility proposed here may facilitate a more thorough measure creation process in which exploratory factor analysis may be used to identify salient items and eliminate extraneous items, and then confirmatory factor analysis may be used to validate a final grouping of items for a viable measure.

This study may also have been strengthened if it included items with concrete behavioral markers of responsibility that are also context-specific. Many of the items used in this study are broad or abstract e.g., "I tell the truth" and do not specify to the respondent where this behavior is exhibited. It may be that participants answered such questions in an aspirational manner and changed their context of reference item to item. Lowe, Dillon, Rhodes, and Zwiebach (2013) delineated specific markers of adulthood from the perspectives of young adults and provides possibilities for generating more concrete, behaviorally anchored items, many of which are contextually bound, using data from qualitative inquiry. Participants mentioned achieving or contributing to one's financial independence, caring for children, completing household chores, taking on additional duties at home or work, and making decisions independently as markers of adulthood relating to feeling responsible. Such insights may be used to create items related to the three aspects of responsibility proposed in this study, e.g., "I clean my [dorm/apartment/living area] on a regular basis," or "I currently work to help with my expenses." Behaviorally and contextually anchored items may encourage participants to break from social desirability effects to provide accurate assessments of their current responsibility levels and produce a broader range of responses based on their experiences.

A further limitation of this study is that the analyses drew on a small sample that was then reduced further through attrition. In particular, I analyzed data from 205 participants in Time 1 which then decreased to 96 at Time 3. It is possible that, with a larger sample size, the analyses would have sufficient power to detect acceptable models in the exploratory factor analyses of Time 1 and Time 2 data. The moderate sample size and high attrition rate is especially problematic for longitudinal analysis since only 75 participants (35.2%) completed all three waves of data collection. It is possible that with more participants, the heterogeneous set of trajectories of the Moderate Responsibility group would have been further separated into multiple, more homogenous groups that facilitated clearer interpretations. At present, the large proportion of participants sorted into the heterogeneous Moderate Responsibility group suggests that this study did not account for a sizable portion of variability in the trajectories present in this population.

The attrition rate for the selected sample exceeded 50%. It is possible that the participants who dropped out of the study may have rated themselves very differently on the selected items than the participants who continued with data collection during multiple waves. The responses of participants dropping out may have created a distinct trajectory group that is not measured in this study. It is also possible that the high attrition rate may have created or exacerbated a self-selection effect that contributed to this study finding statistically acceptable models of responsibility in only Time 3 data.

There was also uneven attrition, with rates differing significantly across settings. Williamson School participants were more likely to complete all three waves of data collection than comparison school participants. This may be because Williamson School participants were given the opportunity to use class time to complete the study materials

whereas comparison school participants completed the study surveys online on their own time outside of class settings. This uneven attrition rate may have skewed the study results.

As mentioned above, the different methods of data collection across sites further complicates clear comparisons across study sites. Williamson School students completed study materials during orientation or class times in campus computer labs after interacting with school staff School staff arranged data collection sessions but did not directly observe participants while they completed study materials. Comparison school participants completed study materials online at times and locations of their choosing. Extant studies comparing online and in-person questionnaire completion have demonstrated that participant responses significantly differ across modalities such that social desirability effects diminish with online data collection (Davis, 1999; Gamblin et. al., 2017; Vosylis, Žukauskienė, & Malinauskienė, 2012). Such studies show that participants rate themselves significantly as slightly more prosocial when completing study materials in person (in a research lab or university classroom) compared to online in a location of their choosing. This difference in data collection may have contributed to the trajectory differences across sites and generally complicate interpretations of possible site differences.

Additionally, the generalizability of this study's findings is limited by the unique nature of the population examined. The ACT study was designed around the unique setting of the Williamson School, an institution with an all male, mostly white, low SES student population. The comparison sample was therefore chosen to match the characteristics of the Williamson School population. As such, this study does not examine responsibility and its development in women or a sample that is representative of male students more generally.

The findings reported here may thus not generalize to a large portion of the U.S. population, including other trade schools and higher education settings.

Future Research and Recommendations

Although the findings of this study provide only modest support for a multifaceted structure of responsibility and meager support for the proposed three-factor structure, there are several implications. First, the lack of clear findings highlights the need to continue to explore this construct, including continuing to define and operationalize the facets of the construct. Explicitly defining responsibility is especially important given the variability among extant studies and lack of agreement on a unified definition. By clearly defining the construct, researchers may better compare studies and make claims regarding generalizability. Efforts towards improving the definition of responsibility and reaching a consensus among researchers should include qualitative research. Given the importance that people of wide-ranging backgrounds place on developing responsibility (Arnett 2000; Arnett & Padilla-Walker, 2015; Dutra-Thomé, 2014; Nelson, 2009; Oleszkowicz, 2015) it may be useful to carry out studies that ask individuals about their understandings of what responsibility is and what behaviors are indicative of having or lacking responsibility. Such efforts may include studies using surveys with open-ended questions asking participants what they believe responsibility entails and moments in their lives in which they believe they acted responsibly and irresponsibly. Alternatively, qualitative methods such as individual interviews or focus groups may be employed asking participants about the meaning and examples of responsibility. Extant measures of the construct may then be evaluated in light of lay audiences' understandings of responsibility and/or new measures may be generated

that can be applied to and validated with more representative samples based on insights from qualitative findings.

Lastly, further research is needed to investigate patterns of responsibility development and factors that facilitate or impede responsibility development in both male and female students. The findings of this study suggest that, even within the relatively short timespan of three years, individuals' trajectories of perceived responsibility vary widely in terms of rate and direction of change. Little is known about when and how responsibility develops and how stable this trait is during various periods of the human lifespan. Most studies focus on strategies to foster responsibility in adolescents (Hellison, 2011; McDonough et al., 2013; Salusky, et al., 2014; Wood, Larson, & Brown, 2009). To my knowledge, only two studies have examined attempts to foster responsibility in young adults (Johnson et al., 2011; O'Neill, 2013), and one of those studies (O'Neill, 2013) provides no data on the efficacy of those attempts. It seems that extant studies examining changes in responsibility focus on intervention without first investigating what normative responsibility development is at a given developmental stage of life. To establish what a normative or typical developmental trajectory may be, further studies should employ longitudinal methods that examine how responsibility changes over the lifespan.

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