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Patterned Adolescent Socially Deviant Behavior

Raymond B. Smith

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Patterned Adolescent Socially Deviant Behavior

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DEDICATION

To all those who said I could not,

and

To all those who said I could:

Thank you for pushing me in your own unique way.

ABSTRACT

Research suggests that most adolescent youth AY (AY) will engage in socially deviant behavior (SDB) beginning from ages 10-14, peak in rate of participation at 16-17, and begin to desist thereafter (ages 17 and older). AY participation in SDB varies by frequency and severity, ranging from minor acts such as smoking cigarettes to behaviors that threaten the safety of self and others. Most AY do not participate in SDB to harm, however, but instead are attempting to express autonomous function from parental and adult oversight. During adolescence, youth become aware of their physical transformation to adulthood and growing sense of self, yet they are simultaneously aware of the lack of autonomy afforded by parents and other social institutions within society. Thus, AY will participate in behavior that is deviant to what is expected them – a self-perceived act of independence and autonomous decision-making. Because research suggests that most AY will participate in SDB, and that the frequency and severity of behavior will change during the adolescent period, describing how and when AY transition among SDB types is important to understanding and limiting harm to self, others and the community.

Using a latent transition analysis and self-reported SDB indicators included within the National Longitudinal Survey of Youth, 1997 survey, this study describes how AY participate in SDB types differently, and how these types change by rate and severity across the adolescent development period. Specifically, this study introduces and tests a

conceptual model based on developmental and life-course criminology theory and describes transitional patterns of SDB measured at four timepoints: beginning adolescence (12-13), early adolescence (13-15), mid-adolescence (15-17) and late adolescence (17-19). Patterns of SDB among AY are further investigated through stratification of sex, which is then evaluated in separate moderation models by race/ethnicity, peer networks, socioeconomic status, and fathers parenting style.

Results suggest that AY who participate in SDB can be categorized in one of four ways: : Minimal Deviant Behavior, Primarily Status Offense SDB, Moderate SDB, and Severe SDB, where members of Moderate and Severe statuses are most likely to participate in behaviors that victimize others. Although results indicated most AY were not involved in SDB during beginning adolescence, most AY participated in some form of SDB by late adolescence, where members of Moderate SDB were most likely to transition among statuses. When considering harm to self, others, and communities, AY were most likely to participate in SDB that victimized others at the highest rates and probability during early adolescence, and the least likely by late adolescence. The Minimal and Primarily Status Offense SDB groups maintained the highest proportion of AY across the development period, where only about 10% of AY participated in moderate and severe SDB by late adolescence. With the exception of White female AY, results suggest that AY participate in similar types and rates of SDB, regardless of sex or by race/ethnicity, peer networks, socioeconomic status, and father parenting style. White females, however, were more likely to participate in Moderate SDB during and after late adolescence as compared to other AY.

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LIST OF SYMBOLS

- γ The proportion of the population in each latent class
- δ The proportion of the population in each latent status at each occurrence of measurement, conditional of latent class membership
- τ The probability of making a transition from a latent class, conditional on previous latent status and latent class membership
- ρ Latent Class - Estimates of item response, conditional on latent status and latent class membership
- ρ Latent Status - Strength of an indicator for a given status
- t Timepoint
- | Conditional Probability

LIST OF ABBREVIATIONS

ALO.....	Adolescent Limited Offender
AY.....	Adolescent Youth
DLCT.....	Developmental Life-Course Theory
LC.....	Latent Class
LCPO.....	Life-Course-Persistent Offender
LS.....	Latent Status
LTA.....	Latent Transition Analysis
M.....	Membership
SDB.....	Socially Deviant Behavior
S.....	Status

CHAPTER 1: INTRODUCTION

Problem Statement

In 2017 almost one-million adolescent youth (AY) were referred to the judicial system for alleged participation in criminal behavior (OJJDP, 2018). This statistic, however, provides a limited perspective on the extent to which AY aged 18 and under participate in socially deviant behavior. What is missing is the number of AY whose actions did not lead to punitive attention from the justice system. This missing information leads to a misrepresentation of who participates in socially deviant behavior and the range of severity of such behaviors as it occurs during the adolescent development period, which is often found in self-reported data (Ahonen et al., 2017). In fact, socially deviant behavior plays a crucial role in the maturation of AY (Haines et al., 2020; Dijkstra et al., 2015; Lamb & Sim, 2013), warranting the need to understand the way in which AY participate in such behavior throughout the adolescent developmental period beyond just those who are identified through the criminal justice system.

Juvenile perpetrated socially deviant behavior (SDB) is understood as primarily an expression of autonomous function during the adolescent development stage (Moffit, 1993). During this period, AY experience discrepancies between social, emotional and physical maturity while concurrently building a unique concept of self (Erikson, 1950, 1968). The adolescent development period ranges from ages 12 -19 (VandenBos, 2015) and is considered the transitional stage where children mature to young adulthood

(Erickson, 1940, 1968). Though the expectation is that AY will mature toward independence, they may struggle with the lack of autonomy afforded by their parents and other social institutions (Lamb & Sim, 2013; Mercer et al., 2017).

To express for their desire for autonomy, AY will participate in behavior that is deviant of what is expected of them – a self-perceived act of independence and autonomous decision-making (Mercer et al., 2017). These socially deviant behaviors will often manifest during early-adolescence (ages 12-14), escalate in rate, frequency, and severity by mid-adolescence (ages 14-17), and begin to subside during late adolescence (ages 17 and older; Kim & Bushway, 2018; Thornberry, 2018). This pattern of SDB is part of the age-crime-curve, referring to the relationship between age and SDB that occurs from early adolescence and extends throughout adulthood. A missing component of research on the age-crime-curve is specificity regarding the potential of SDB behaviors to transition in severity during this developmental period as well as information that can identify potentially important differences between social identities of the AY affecting these transitions – including race, socioeconomic status, and sex.

Severity of SDB changes when AY exhibit behavior that is either more or less serious than previously demonstrated. Research suggests that certain types of social deviant behavior correlate with progressively more severe types of SDB (DeCamp et al, 2018; Kopak et al., 2014; Kopak & Hoffmann, 2014; Loeber et al., 1998). For example, AY who participate in the relatively minor SDB of alcohol consumption or smoking cigarettes have an increased probability of substance abuse and selling drugs later in life (Forster et al., 2014; Kopak et al., 2014). Similar to the age-crime-curve, research has consistently found that participation in any SDB increases the odds for AY to participate

in a more harmful behavior later in life (Kopak et al., 2014; Kopak & Hoffmann, 2014). What is dissimilar, however, is that the age-crime-curve suggests that AY also desist from participating in SDB during late-adolescence/early-adulthood. In terms of adolescent development, as AY mature and recognize the risk of SDB, they are less likely to participate in criminalized behavior (Lam & Sim, 2013). Therefore, the contradictory findings that show the severity of SDB worsening over time while other models show it lessening requires additional exploration of participation in SDB by AY and whether it aligns with the age-crime-curve or continues to progress to more severe behavior throughout adolescent development.

Participation in SDB is not homogenous across all AY, particularly when looking at differences between gender identities. Males and females' motivations to participate in SDB differ as female AY are impacted by issues of low self-esteem (Harter, 2006) and male AY engage in more risk-taking behaviors (Perry & Pauletti, 2011). Liu (2014) also found that female AY desisted from SDB earlier than male AY, there was little difference in the types of SDB engaged. Research investigating gender-based transitional differences of SDB severity across the adolescent development period has increased as a focus for adolescent development research (Loeber et al., 2013). That being said, more research is needed that assesses how SDB for male and female AY differs when considering additional factors such as race/ethnicity, socioeconomic status, parental involvement, and peer influence.

Race and ethnicity are also used to understand the variance of youth participation in SDB (cite). When observing frequency of SDB, criminal record data has an overrepresentation of African American AY prosecuted in the criminal justice system

compared to white AY but self-reported data shows little difference (Barrett & Katsiyannis, 2015; Puzanchera, 2013; Brame et al., 2014). Research on race and SDB often concludes that

Socioeconomic status is also found to be strongly correlated with exhibiting socially deviant behavior in AY (Bjerk, 2007; Jarjoura et al., 2002; Ellis & McDonald, 2000). Rekker et al. (2015) found that for AY whose family's socioeconomic status changed from a higher SES to a lower one, even temporarily, AY were more likely to display SDB only during the time of lower SES.

Beyond the socioeconomic environment that families provide AY, parenting style also has an affect on SDB, particularly during adolescence when parental influences wane over time (DeGoede et al, 2009; Scalici & Schulz, 2014). Studies have found that authoritative parenting styles are correlated with better behavioral outcomes in AY when compared to authoritarian and permissive styles (Baumrind, 2005, 1991; Harris-McKoy & Cui, 2013; Smith & Moore, 2013; Sarwar, 2016). Scalici & Schulz (2014) found that as AY aged, parental influence decreased, and perceived peer approval had a stronger influence on choices made in terms of smoking. Because research suggests there are differences in SDB participation by these factors, it begs further understanding of how gender, race/ethnicity, socioeconomic status, peer influence, and paternal parenting style interact with one another and lead to particular patterns and severities of SDB throughout adolescent development.

Purpose of the Study

Grounded in Moffitt's (1993, 2006) developmental life-course theory, and through the application of latent transition analysis (Collins & Lanza, 2009), the goal of

this study was to simultaneously examine the patterned rate of SDB and SDB severity as it occurs across the adolescent development period. This study empirically derived groups of AY based on their participation in SDB severity, and then modeled the development of these behaviors as the AY progresses through the adolescent period. By concurrently examining how the rates and severity of SDB participation, this study provides substantive contributions to the understanding of SDB by completing a longitudinal data analysis that describes individual change in SDB participation throughout adolescence.

Research Questions

The following research questions were investigated:

RQ#1: Can sex specific subgroups of adolescent youth can be identified by the characteristics of socially deviant behavior that they participate in?

RQ#2: Do these subgroups differ when moderated by race/ethnicity, poverty, peer participation in socially deviant behavior or fathers parenting style?

RQ#3: How do the proportions of adolescent youth differ during adolescence and how do the characteristics of socially deviant behavior change?

RQ#4: Throughout adolescence, what are the probabilities of continuing, escalating or de-escalating among subgroups, dependent on the previous characteristics of socially deviant behavior participation?

Overview of Study Design

This study employed a nonexperimental, correlational research design to concurrently examine the relationships between adolescent self-reported SDB rates, severity and passage of time, and is considered a repeated measure, autoregressive

design. Public access data from the National Longitudinal Survey of Youth, 1997 (Bureau of Labor Statistics, 1997) and a series of latent transition analyses (LTA) were used to complete this study. To conduct these analyses, two software packages were used. The statistical package SAS® version 9.4 was used to conduct data management functions, and the statistical package Mplus® version 8.1 was used to conduct the latent transition analysis.

An LTA empirically identifies patterns among a given set of observations for the purpose of developing mutually exclusive subgroups among the sample, and then provides statistical descriptions of how participants transition among the identified subgroups at each timepoint of the study. Latent transition analyses are infrequent within criminology and social sciences, however this analysis is being used with increasing frequency across other disciplines (Collins & Lanza, 2009). Latent transition analyses are considered particularly informative in examining dynamic latent variables (Velicer et al., 1996), particularly when used to assess developmental stages (Collins & Lanza, 2009). By empirically describing patterns of SDB frequency and severity, as well as how these behaviors will progress, regress or remain stagnate for defined subgroups of AY, researchers and practitioners are provided with more information to assess the stages of SDB development for behavioral modification purposes (Lanza et al., 2010).

Data Source

Public access data from the National Longitudinal Survey of Youth, 1997 (NLSY97; Bureau of Labor Statistics, 1997), was used to complete this study. The NLSY97 is a study that has followed the lives of 8,984 American youth born between 1980-1984 with a foci of describing “Youth labor force experiences, investments in

education, training, government program participation, and many other topics influenced by labor market behavior” (Bureau of Labor Statistics, 1997). Data were first collected in 1997 to create a representative, cross-sectional sample consisting of 6,748 participants, and an additional oversample of 2,236 participants was designed to create an over-representative sample of African Americans and Latinx youth within the study. Since the initial wave of data collection in 1997, there have been 17 subsequent waves of data collection, however this study only uses the first seven waves of data (i.e., the years of data collection that correspond with the adolescent development stages of interest in the current study).

In addition to comprehensive demographics, nine specific areas of information have been collected in the NLSY97: 1) Employment, 2) Education, Training & Achievement Scores, 3) Household, Geography & Contextual Variables, 4) Parents, Family Process & Childhood, 5) Dating, Marriage & Cohabitation; Sexual Activity, Pregnancy & Fertility; Children, 6) Income, Assets & Program Participation, 7) Health: Conditions & Practices, Attitudes, Expectations, 8) Non-Cognitive Tests, Activities, and 9) Crime & Substance Use. For the purposes of this study, twelve variables selected from the Crime & Substance Use section are included within the latent transition analysis (See Table 1.1 for indicators). These variables were selected because of their consistency among the seven data collection points and their direct relationship with SDB as defined by criminal statutes.

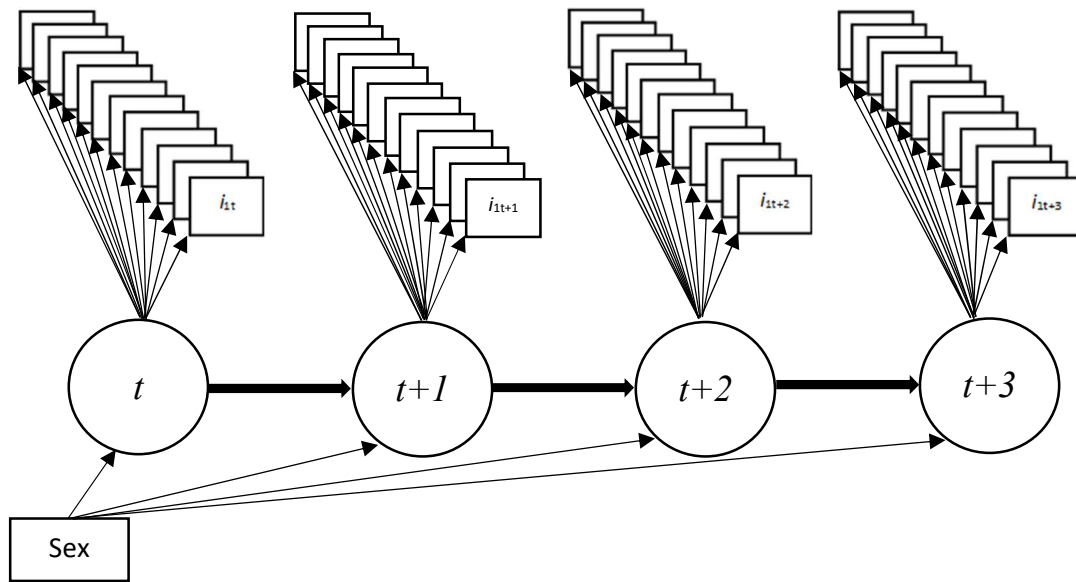
Table 1.1: *Socially Deviant Behavior Indicators*

Item at Wave 1 ¹	NLSY 97 Variable Identifier	
	Time <i>t</i>	Time <i>t+1, t+2 & t+3</i>
R ever smoke? ²	YSAQ - 359	YSAQ - 360C
R ever drink? ²	YSAQ - 363	YSAQ - 364D
R ever run away from home? ²	YSAQ - 375	YSAQ - 375
R ever use marijuana?	YSAQ - 371	YSAQ - 370C
R ever steal anything < \$50.00?	YSAQ - 378	YSAQ - 390B
R ever purposely destroy property?	YSAQ - 385	YSAQ - 389D
R ever steal anything > \$50.00?	YSAQ - 389	YSAQ - 391B
R ever commit other property crimes?	YSAQ - 390	YSAQ - 392B
R ever (help) sell illegal drugs?	YSAQ - 391	YSAQ - 394B
R ever belong to a gang?	YSAQ - 392	YSAQ - 385
R ever carry a handgun? ²	YSAQ - 393	YSAQ - 380
R ever attack anyone to hurt or fight?	YSAQ - 394	YSAQ - 394B

Note: ¹During Waves 2 – 7, the item prompt for the participant changes from “R ever” to “Since time of last interview have you”; ²Although these activities are not illegal for the general public in most cases, due to participant age during interview, these behaviors are statutorily illegal; YSAQ refers to the survey used for data collection and the number sequence refers to the specific item number within the survey.

Conceptual Model

The Transition Among Latent Statuses of Socially Deviant Behaviors conceptual model (see Figure 1.1) was used to hypothesize the changes in SDB over time to be later confirmed in data analysis. This model integrates three separate axioms of adolescent perpetrated SDB studied by criminologists: 1) SDB manifests in relatively stable, chronological patterns across societies (Kim & Bushway, 2018; Thornberry, 2018), 2) SDB manifests in varied rates and severity among AY (Kopak et al., 2014; Loeber et al., 1998), and 3) subgroups of AY can be uniquely identified by the type of SDB they participate in (Jolliffe et al., 2017; Moffitt, 1993, 2006). Specifically, this model demonstrated how these three axioms changed during the course of adolescent development.



Note: Time t = ages 12-13; Time $t+1$ = ages 13-15; Time $t+2$ = ages 15-17; Time $t+3$ = ages 17-19; In higher-level models, sex is moderated by Race/Ethnicity, Peer SDB, Poverty, and Fathers Parenting Style

Figure 1.1: Conceptual Model of Transition Among Latent Statuses of Socially Deviant Behaviors

To incorporate the suggestion that juvenile perpetrated SDB manifests in relatively stable, chronological patterns across societies, four timepoints are used within this study. These timepoints are when AY are 12 or 13 years old at timepoint one (onset), 13 – 14 or 14 – 15 at timepoint two (acceleration), 15 – 16 or 16 – 17 at timepoint three (climax) and 17 – 18 or 18 – 19 at timepoint four (initial desistance). Although research suggests the onset of SDB typically occurs between ages of 10 and 14 years of age (Lösel et al., 2012; Thornberry, 2018), the first timepoint of ages 12 – 13 is used to identify any early onset SDB and differentiate these participants from adolescent onset of SDB (aged 13 – 14 and 14 – 15) at timepoint two. Identifying early onset SDB is important because research has suggested early onset of SDB is an indicator of life-course persistent offending (Moffitt, 1993, 2006), as well as a precursor to escalating seriousness of SDB

type (Sayed et al., 2016). Next, the 15 – 16 and 16 – 17 year-old time point is used because the peak rate of SDB participation among AY is typically found during this range in the age-crime curve. The last timepoint, ages 17 – 18 and 18 – 19 is used because research suggests that the peak point in which AY engage in SDB is 16 – 17 years of age (Kim & Bushway, 2018; Lösel et al., 2012), and timepoint four would capture initial desistance from SDB. Although research suggests that SDB desistance is a process that lasts well into the young-adult development period, this study focused on only the adolescent period of development.

Next, subgroups of AY are represented by latent statuses, where the latent statuses are designated by the timepoint used. The results of the analysis will be used to describe each category within the latent status. These descriptions can include the level, type or frequency of SDB participation. These analyses also determine unique rates and proportions of participants within each identified status, as well as the probability of transition from one status to a different in the subsequent timepoint. Last, the conceptual model for each analyzed subgroup included stratification by sex and moderation by SDB differed by race, experienced poverty, peer SDB participation, and fathers parenting style when stratified by sex.

A latent status is similar to a latent class or a latent construct in that they are used to represent unobserved constructs (Lanza & Collins, 2008) and are identified and measured by using two or more observed indicators (Collins & Lanza, 2009).

Additionally, latent class and latent status constructs are different from other latent constructs in that most other latent constructs are variable centric, identified by linear relationships and measured by factors or clusters (Collins & Lanza, 2009). Conversely,

latent class and latent status constructs are person centered and assign participants into mutually exclusive subgroups within a sample, which is based on the identified patterns within categorical indicators (McCutcheon, 1987). Finally, the difference between a latent class and latent status is that a latent class is static and without change whereas a latent status represents a systematic or dynamic change over time (Velicer et al., 1996).

The last component of this conceptual model are the relationships between latent statuses at intra-timepoints which represent the pattern changes of SDB and describe how the severity and rate of adolescent SDB change between statuses. These relationships are autoregressive within the model and are chosen to align with Moffitt's (1993, 2006) developmental life-course theory, where onset of adolescent SDB typically occurs between ages 10 – 14 depending on the type of offender, the number of AY participating in SDB will increase dramatically and peak at ages 16 & 17, while the rate of participation in SDB will decrease significantly after peak. Additionally, this model incorporates constructs that captures the dynamic process of SDB by type and severity as it changes over time (Sayed et al., 2016; Thornberry, 2018). Intra-timepoint relationships between latent statuses of the model allow for the status to remain the same, progress to a more severe status, or regress to a less serious status. These relationships are singular in direction and align with the passage of time.

Taken together, this conceptual model combines three unique areas of study related to AY SDB across the adolescent development period defined here as ages 12-19. By understanding how adolescent perpetrated SDB develops in rate and severity, practitioners will be able to better assess presenting SDB and develop interventions and policies that are designed to reduce or eliminate behavior that is harmful to youth,

families, and communities. Previously, models incorporated the progressions of severity among juvenile perpetrated SDB, unique subgroups of juveniles based on characteristics of their SDB, or the rates of juvenile perpetrated SDB, but did not combine these elements to present a holistic model.

Delimitations

The following delimitations are imposed on this study:

- 1) This study was limited to the first seven waves (1997-2003) of the dataset. This limitation was made due to the developmental ages of the participants during the time of data collection.
- 2) This study was limited to adolescents aged 12 & 13 during the first wave of the study. This limitation was made due to the relationship between age and crime, where AY were in early adolescence so that transitions could be studied during the entire adolescent period.
- 3) The operationalization of the adolescent development period was limited to ages 12 -19 years old. This limitation was made to align with the American Psychological Association definition of adolescence (VandenBos, 2007). Additionally, data collection for SDB was limited to a subset of participants after Wave 7 within the NLSY97.
- 4) The operationalization of socially deviant behavior was constrained to the twelve variables that were consistent within the first seven waves and correspond directly with a criminal offense by statute.
- 5) The operationalization of SDB severity in this study was constrained by the judicially recognized levels of harm caused by the SDB, using the

categorizations of infraction, misdemeanor and felony that the manifesting behaviors would be considered. This study was constrained to these assessed levels due to the lack of standardized severity measures within the literature.

Limitations of the Study

Although this study contributes to the criminology developmental and life-course literature by empirically describing the relationships between SDB, SDB severity and passage of time in further detail, it was not without limitations. For example, this study used a non-experimental design, thus the most that could be concluded about the findings were whether the data did or did not contradict the models used to answer the research questions. Applicability of interpretation was further hampered in that the study used data from 1997 – 2003, which are more than two-decades old.

Threats to the validity and accuracy of this study included both instrumentation and modeling techniques. The instrumentation represented a threat to validity in that observations were self-reported by participants and do not represent a full range of SDB. Furthermore, the instrumentation also represented a threat to accuracy as the SDB indicators used in the survey are subject to qualitative review regarding the operationalization of severity. The model also represented a threat to validity and accuracy due to the nature of repeated measure study design, as well as analytic fitting of the final model, which requires qualitative descriptions of severity for identified subgroups within the sample.

Organization of Remaining Chapters

The remaining chapters present pertinent information to the study. Chapter Two offers an overview of adolescent perpetrated socially deviant behavior and developmental

life-course theory that includes descriptions of the age-crime curve and socially deviant behaviors that are considered gateway behaviors to more severe behavior. Additionally, Chapter Two also provides a brief summary of how sex, race/ethnicity, poverty, peer participation in socially deviant behavior or fathers parenting style moderates participation in SDB. Chapter Three provides a discussion of the research method, including a description of the data source, study sample, indicators, and data analysis. Chapter Four provides results for univariate and multivariate findings. Chapter Five provides a discussion of findings and implication of this study.

CHAPTER 2: LITERATURE REVIEW

Introduction

This chapter provides an overview of adolescent youth (AY) perpetrated, socially deviant behavior (SDB). The goal of this overview is to provide a definition of SDB and to describe its prevalence among AY. Additionally, this section will describe the limitations of using official report data as compared to self-report data. Next, an overview of the Developmental and Life-Course Theory (DLCT) paradigm will be provided, specifically as it relates to the development period of AY. The goal of this overview is to describe the major concepts used within the adolescent development period, how these concepts are related, and to explain how they are incorporated within the proposed model for this study. When possible, the research presented in this chapter is limited to studies that focused on either determinate groups of juvenile perpetrated SDB, how the severity of SDB changed over time, or the frequency of juvenile perpetrated SDB. The conclusion of this chapter will provide a brief summary of the literature presented.

Juvenile Perpetrated Social Deviant Behavior

In 2017, the Office of Juvenile Justice and Delinquency Prevention (2018) reported that 2,409 out of every 100,000 AY that were aged 10-17 were arrested for participating in some form of socially deviant behavior (See Table 2.1 for Juvenile Justice Statistics). Socially deviant behavior (SDB) includes actions and/or behavior that

violate social norms, where social norms are considered the collective representation of acceptable behavior for an individual or group (Wilkins, 2013). Socially deviant behavior is often explicitly proscribed by law or implicitly proscribed through social function (Wilkins, 2013). The severity of a specific SDB varies by the level of seriousness or harm caused to an individual or community as a result of the deviant behavior (Ramchand et al., 2009). For example, an SDB that victimizes others such as assault or murder is much more serious than shoplifting or drinking while under-age, whereas the theft of a small piece of candy is much less severe than the theft of a vehicle.

Because deviant behavior is a social construct (Haines et al., 2020), academics and legal professionals alike typically define what constitutes juvenile SDB through explicit legal statutes (Agnew, 2007). Legal statutes are laws that are developed to regulate behavior, which often proscribe individuals from performing or participating in specific behaviors or actions that are deemed harmful to the individual, others or the community (Clarkson, 2005). Within the United States, law enforcement officials are tasked with policing and enforcing legal statutes created through legislation, whereas the judicial arm is tasked with prosecuting and punishing community members for alleged offenses (Javdani, 2019).

Among the AY arrested in 2017, the vast majority were arrested for property related offenses (527 out of every 100,000), whereas only 54 out of every 100,000 were arrested for weapons-related offenses (OJJDP, 2018). In fact, between juvenile arrests and formal judicial accusations of SDB made without arrest, juvenile justice systems in the United States processed approximately 818,900 criminal cases (OJJDP, 2019).

Although these cases only represents about 0.5% of the 2017 adolescent population

(Census Bureau, 2017), they do not include AY who were processed in adult courts. AY may be prosecuted in adult courts when a jurisdiction does not have a separate juvenile justice system (OJJDP, 2019) or when the AY are charged as an adult due to the seriousness of the SDB (Puzzanchera et al., 2018). In addition, these statistics fail to include AY who were formally charged with minor infractions, such as traffic violations or other city status ordinances, which were also adjudicated in adult courts (Kratcoski et al., 2020). Additionally, these statistics also exclude any socially deviant behavior that would only be known if self-reported (Ahonen et al., 2017; Farrington et al., 2007).

Table 2.1: 2017 Juvenile Justice Cases of Juvenile Perpetrated Socially Deviant Behavior

Indicator	Total	Sex		Race/Ethnicity	
		Male	Female	White	Minority
Total Delinquent Cases	818,900	597,797	221,103	360,316	458,584
Unique youth Charged	241,400	168,980	72,420	98,974	142,426
Murder	1,100	946	154	330	770
Rape	8,400	8,064	3,360	4,536	3,864
Robbery	21,600	19,224	2,376	2,808	18,792
Assault	179,600	116,340	63,260	72,772	106,828
All Property Crime	265,600	199,200	66,400	114,208	151,392
Drug Violations	107,400	80,550	26,850	60,144	47,256
Other SDB Cases	235,200	170,528	64,672	103,787	131,413

Note: Figures are rounded by the Office of Juvenile Justice and Delinquency Prevention;

Source: OJJDP, 2019

Research has also suggested that most SDB is not reported to law enforcement, and that official records of arrest and judicial convictions vastly underrepresent juvenile SDB involvement (Morgan & Truman, 2020; OJJDP, 1999, 2014). For example, research conducted among a sample of inner-city adolescent male AY found there were eighty self-reported offenses of SDB as compared to each single case of SDB brought before

juvenile justice courts (Farrington et al., 2007). The same trend of under-reporting SDB also is found among female AY. In fact, research has also found discrepancies between self-report measures and official records, where self-reported SDB occurred at much higher rates than reported in juvenile justice records (Ahonen et al., 2017). These discrepancies lead to a misrepresentation of who participates in socially deviant behavior and the range of severity of such behaviors as it occurs during the adolescent development period, which is often found in self-reported data (Ahonen et al., 2017).

The participation in SDB is prevalent in AY (Brame & Piquero, 2003) and also follows a regular pattern found between age and crime (Stolzenberg & D'Alessio, 2008), despite discrepancies between official records and self-report measures. This pattern, known as the age-crime-curve, describes the relationship between the onset and persistence of SDB (crime) and the timepoint in which the behavior began (age) and persists through (Kim & Bushway, 2018). The term “curve” is used to describe the linear relationship between age and crime because of the consistent shape found when comparing data from multiple sources (Brame & Piquero, 2003). In interpreting the age-crime curve, results suggest that on average, most AY begin to engage in SDB at ages 10-14, peak in their participation in SDB at ages 16-17, and begin to desist from SDB throughout early adulthood (ages 19-24). Although research suggests that this relationship is very stable, recent studies of the age-crime relationship suggest that the curve has changed slightly (Lösel et al., 2012). Specifically, the peak rate of AY involvement in SDB has extended to ages 17-18; desistance has also becoming longer and reaches well into the mid-20's (Kim & Bushway, 2018; Stolzenberg & D'Alessio, 2008).

Researchers examining the relationship between actual age of onset and participation in SDB have also identified subgroups of offenders within age – crime data. Specifically, onset of SDB has been differentiated by early and late offenders, where early onset can begin at age 7 and last through 12 (Sampson & Laub, 1997) and later onset occurs during early adulthood (Kratzer & Hodgins, 1999). These findings are important as individuals who are identified as having early or late SDB onset have increased probability of participating in escalating SDB severity across a lifetime (Jolliffe et al., 2017; Moffitt, 2006). Other research has suggested that these findings are misleading due to inaccuracies of using official reports (Wiecko, 2014). Despite methodological differences, age-crime rate researchers have also identified a small subgroup of individuals, ranging from 5-7% of a given sample (Jolliffe et al., 2017) who participate in SDB throughout a lifetime and account for most criminal offending within a given society (Kratzer & Hodgins, 1999).

Despite suggestions of difference in onset, there are three distinct features that remain: there is an abrupt rise in rates of AY participating in SDB from ages 12-17, an abrupt decrease in rates of young adults participating in SDB from ages 17-19, as well as a small group that persist in their participation in SDB from early adulthood until late adulthood. To better understand and explain these changes in SDB during the life-course, investigators often frame their work in Developmental and Life-Course Theories.

Developmental and Life-Course Theory and Adolescent Socially Deviant Behavior

Developmental and Life-Course Theory explains how circumstances, experiences and social interactions will shape beliefs, personalities and behaviors throughout a human lifetime (Baltes et al., 2007). Often described within these theories are critical periods of

time within an individual's lifetime in which the person progresses through a series of systematic changes that alter their beliefs, personalities, behaviors, and social interactions (Burman, 2016). Criminological developmental and life-course theory (DLCT) is unique in this area of study in that criminologists use life-course experiences and social interactions to explain and predict SDB (McGee & Farrington, 2019). In particular, DLCT is used to explain SDB as it occurs across a life-course, and is used to describe how SDB characteristics change over time (Blumstein et al., 1986).

Although SDB DLCT includes many unique paradigms of thought and study, there are several key concepts that are consistent within this area of research. First among these concepts are: 1) onset - the explanation of why people initially participate in SDB, 2) persistence – the explanation of why people continue to participate in SDB, 3) acceleration – the explanation of why SDB changes in frequency and severity, and 4) desistance – the explanation of why people discontinue participation in SDB (Farrington et al., 2018; McGee & Farrington, 2019). Through these concepts, researchers describe the patterned behavior specifically related, and limited to, social deviant acts over the life course. Additionally, research also suggests that behaviors, actions, or lived circumstances not related to social deviance will also impact SDB onset, persistence, acceleration or desistance (Winters, 2020); these are often referred to as risk or protective factors and can change the trajectory of manifest SDB (Sampson & Laub, 1997).

The trajectory of SDB for an individual during a life-course is referred to as the “pathway or line of development over the life span” (Sampson & Laub, 1997, p 142) and is often determined using a combination of time-stable and time-dependent covariates to identify groups with similar trajectories (Nagin & Tremblay, 2005). Predictors used

within these projections often include demographic background, risk and/or protective factors, participation in previous SDB, or environmental circumstances (Broidy et al., 2003; Nagin & Tremblay, 2005). Using these predictors, the probability or trajectory of SDB can be derived. A limitation of this type of analysis, however, is that predictions are linear-based and are constrained by static, cross-sectional predictors (Nagin & Tremblay, 2005).

Researchers often have two perspectives regarding an individual's or groups trajectory. On the one hand, proponents suggest that a trajectory is fixed and participation in SDB is constant without change (Gottfredson & Hirschi, 1990), while on the other hand, there is the belief that a trajectory is influenced by important life course transitions, and SDB participation will change over time (Heimer & Matsueda, 1994; McGee & Farrington, 2019; Moffitt, 1993, 2006). Of the second group, transitions are marked life events that evolve over shorter periods of time (Walters, 2002), such as marriage, a first job, (Sampson & Laub, 1997), arrest and incarceration, (Groff et al., 2010), or criminal victimization (DeCamp et al., 2018; Mulford et al., 2018), that influence future behavior overall, not just SDB (Winters, 2020). Despite paradigm differences in trajectory and transitions, a consistent finding among DLCT and other criminological research is the increase of SDB participation during early adolescence and the desistance from SDB participation during later adolescence.

In fact, some DLCT research suggests that most AY will participate in some form of SDB as they struggle to develop a sense of self and personal identity during the adolescent development period (Mercer et al., 2017; Dijkstra et al., 2015; Lamb & Sim, 2013; Moffitt 1993, 2006; Erikson, 1968). Moffitt (1993, 2006) goes as far as to postulate

that AY who do not participate in some form of SDB are as much of an anomaly as the number of AY who persist in SDB across the life-course. Given that research suggests that only 5-7% of a given population are persistent offenders (Jolliffe et al., 2017) and that a similar proportion of AY completely abstain from SDB (Moffitt 1993, 2006), this suggests that approximately 80-85% of AY participate in SDB during the adolescent period, yet desist during late adolescence/early adulthood.

These adolescent limited offenders (ALO) are characterized by their age-limited engagement in SDB (from ages 12-24), and their participation in SDB is primarily related to the desire to function independently of adult oversight (Moffitt, 1993, 2006). This desire to function independently comes during the period of development when AY are attempting to develop a sense of self and autonomy (Mercer et al., 2017; Dijkstra et al, 2015; Erikson, 1950, 1968). During this period, AY experience discrepancies between social, emotional and physical maturity (Erikson, 1950, 1968), where they are aware of physical maturation yet lack the ability to function independently as an adult (Lam & Sim, 2013). For example, despite maturing physiologically, AY remain dependent on parents financially (Lam & Sim, 2013), are limited in social function through parental monitoring (Lionetti et al., 2019), and are limited in making autonomous choices of real consequence (Mercer et al., 2017; Moffitt, 1993). Thus, participation in SDB for the majority of AY becomes an expression of autonomous function where deviant behavior “symbolizes adult privilege or demonstrates autonomy from parental control” (Moffitt, 1993, p.695).

Some research suggests that adolescent limited offenders rarely participate in serious SDB (Jolliffe et al., 2017). In fact, when adolescent limited offenders participate

in SDB, they are attempting to mimic antisocial behaviors displayed by more SDB persistent peers (Moffitt, 1993, 2006), as the more persistent offending AY are perceived as having increased access to independent function from adults (Dijkstra, 2013) and they participate in activities limited offenders are envious of (Mercer, 2017). A factor that differentiates the adolescent offender from the persistent offender, however, will be the abrupt tendency to desist from SDB as social autonomy and independence from parental supervision is actualized through the developmental process (Moffitt, 1993, 2006; Erikson, 1950, 1968). Despite the suggestion that most AY participate in some form SDB, research is limited in regard to how severity of in SDB changes throughout adolescence, particularly for adolescent limited offenders.

Varied Participation in Socially Deviant Behavior

Moffitt (1993) suggests that adolescent limited and life-course persistent offenders will differentiate in SDB participation by onset and the type of SDB that they participate in. Specifically, adolescent limited offenders more likely account for petty-theft, vandalism, substance abuse and public order offenses. On the other hand, persistent offenders more likely will initially participate in the same offenses as the limited offenders, but their onset is likely to be earlier, the severity of SDB will increase over time, and they are more likely to participate in SDB that victimizes others, such as assault, robbery and burglary (Jolliffe et al., 2017; Moffitt, 1993). To better understand the progression of SDB and how participation will evolve over time, research suggests that there is a sequential ordering of SDB seriousness, which is based on how individuals participated in SDB previously (Nagin & Tremblay, 2005).

Research incorporating autoregressive behavior suggests that severity changes over-time by using the assumption that many of these behaviors have a shared relationship between previous experiences and the passage of time (DeCamp et al., 2018; Kopak et al., 2014; Kopak & Hoffmann, 2014; Loeber et al., 1998). In other words, future participation in SDB is dependent on previous participation in SDB. For example, research has suggested that AY under the age of 18 that participate in the relatively minor socially deviant behaviors of alcohol consumption or smoke cigarettes will have increased probability of later life substance abuse (Kopak et al., 2014), whereas participation in the use of illicit substances increased the probability of perpetrating serious socially deviant behavior regarding property (Loeber et al., 1998). Within the same study, Loeber et al., (1998) also found increased probabilities for violent socially deviant behaviors when individuals engage in serious deviant acts involving property.

In addition to autoregressive behavior, research also suggests that participation in SDB varies by other factors, such as sex (Ahonen, 2017; Liu, 2014), race/ethnicity (Barrett & Katsiyannis, 2015; Forster et al., 2015; Puzanchera, 2013; Brame et al., 2014), peer networks (Unnever & Chouhy, 2020), socioeconomic status (Rekker et al., 2015; Bjerck, 2007; Jarjoura et al.; Ellis & McDonald, 2000), and parental involvement/parenting style (Scalici & Schulz, 2014; Baumrind, 2005, 1991; Harris-McKoy & Cui, 2013; Smith & Moore, 2013; Sarwar, 2016). The differences in adolescent development for males and females may result in differential participation in social deviant behavior by sex.

Research suggests that the socialization of female AY differs from male AY due to the fact that gender roles, norms, and expectations for these groups are different. These

differences become more salient during the adolescence period while developing personal identity (McCoy et al., 2019). Examples of gendered differences include female AY being people-oriented while male AY are things-oriented (Galambos et al, 2009; Su, Rounds, & Armstrong, 2009), or that female AY must fit within a particular “thin ideal” for their bodies and in turn experience lower self-esteem (Harter, 2006), while male AY have a tendency for more risk-taking behaviors (Perry & Pauletti, 2011). These differences are a result of socialization pressures associated with a particular cis-gendered identity.

The implication is that an AYs’ gender impacts their tendency toward socially deviant behavior. For example, adolescent males are more susceptible to peer influences that result in risk-taking behavior as they “seek alignment with the masculine ideal” (McCoy et al., 2019, p 59). Additionally, aggression in male AY is also found to be more prevalent than in female AY and is “often unprovoked, impulsive, and undeterred by danger or risk” (Perry & Pauletti, 2011. p 62). In terms of adolescent females’ engagement in SDB, Liu (2014) found that females desisted from SDB sooner than males, but there was little difference in the types of SDB engaged. Conversely, in a later study it was found that female AY participate in SDB less than males but tend to participate in non-aggressive deviancy significantly more than males AY (Liu & Miller, 2020). These findings show inconsistency in how SDB is moderated by gender, warranting additional understanding to how SDB frequency and severity changes over time for male and female AY.

In addition to gender, research also suggests that race/ethnicity influences the patterns of SDB. It should be noted that based on criminal record data, there is an

overrepresentation of African American AY prosecuted in the criminal justice system compared to white AY (Barrett & Katsiyannis, 2015; Puzzanchera, 2013; Brame et al., 2014). Additionally, both African American and Hispanic AY may experience race-based discrimination that can have an impact their tendency toward deviant behaviors. For example, Unnever, Cullen, and Barns (2016) found that perceived racial discrimination increased association with delinquent peers in African American AY. In their study on recidivism in Black and White AY, Barrett and Katsiyannis (2015) found that it was not race of the AY that correlated to the propensity of reoffending, but the factors of gender, socioeconomic status, emotional and cognitive abilities, and age of the first offense. For Hispanic and immigrant AY, it has been found the bicultural stress – balancing family demands, school, and social contexts – contributes to an increase in socially deviant behavior (Forster et al., 2015). Therefore, it is important to not just use race as an indicator of SDB, but also other social factors.

One such social factors that is strongly associated with juvenile perpetrated SDB is membership in peer networks that actively participate in SDB (Hoeben et al., 2016; Crosnoe & McNeely, 2008). Research suggests that peers who participate in SDB exert more influence toward adverse social behavior than peers who do not participate in SDB and promote pro-social behavior (Farrell et al., 2017). Specific findings show that peers influence general delinquent behaviors (Aseltine, 1995; DiPietro & McGloin, 2012; Haynie & Osgood, 2005; Weerman, 2011), violence (Dijkstra et al., 2010; Ramirez et al., 2012; Sijtsema et al., 2009), alcohol consumption (Light et al, 2013; Osgood et al., 2013), cigarette smoking (Alexander et al., 2001), and marijuana use (Pearson et al, 2006). Sanchargrin, Heimer, and Paik (2019) also find that the gender of peers may predict

deviancy – male AY are more likely to participate in delinquent behavior if their male friends do, and female AY will only participate in deviant behavior depending on the social bond between the peers.

Developmentally, peer relationships become increasingly important for adolescent, particularly in terms of peer approval (Albert et al., 2013; Knoll et al., 2015; Foulkes et al., 2018). As such, “adolescents are markedly more sensitive to peer acceptance, rejection, and approval than are children or adults” (Orben et al., 2020). In the process of seeking peer approval and acceptance, Prinstein and Wang (2005) found that adolescents’ perceptions of their peers’ deviant behavior is correlated with their own deviant behavior. This perception was found to sometimes be an overestimation of deviancy, reiterating that perception over actual deviancy of peers plays a strong role in AY perpetrated SDB.

Socioeconomic status is also found to be strongly correlated with participating in SDB among adolescent AY (Bjerk, 2007; Jarjoura et al., 2002; Ellis & McDonald, 2000). Rekker et al. (2015) found that for AY whose family’s socioeconomic status changed from a higher SES to a lower one, even temporarily, AY were more likely to display SDB only during the time of lower SES. In addition, some research suggests that delinquent behavior exhibited by AY who live in poverty is done so to alleviate monetary strain (Agnew et al., 2008). Interactions between poverty and the inability to purchase goods and services, parental stress and lack of supervision, poor schooling options, or increased likelihood of having peers who participate in SDB have been associated with increased participation in SDB (Connolly et al., 2017). As noted in this study, poverty is often not a

single factor that contributes to an increased likelihood of participating in SDB, with parenting styles as another significant one to influence SDB in youth.

Parental monitoring and control are the focus of one of the most popular theories of social deviance in Gottfredson and Hirschi's (1990) "A General Theory of Crime." Research supporting this theory suggests that the parental relationship is strongly related to the child's participation in SDB during the life course (Pratt & Cullen, 2000). To operationalize parental monitoring and control, parenting style is often used as a moderator to examine the relationship between youth and SDB (Kuppens & Ceulemans, 2019). Parenting style is often conceptualized as the convenience of authority and an aggregation of attitudes that are expressed toward a child during development (Leung & Tsang Kit Man, 2014) and consist of four specific style of parenting that are authoritative, authoritarian, permissive and uninvolved (Kuppens & Ceulemans, 2019).

The four parenting styles are often defined using two dimensions: demandingness of the parents and the responsiveness of the parent toward the youth (Kuppens & Ceulemans, 2019). The demandingness of a parent relates to the attempt to regulate and control a youth's behavior through the development and enforcement of rules (Barber, 2002). Responsiveness is often referred to as the affective nature shown toward the child (Cummings et al., 2000). Using these two dimensions, the specific parenting styles are defined as: 1) authoritative - high demandingness and high responsiveness, 2) authoritarian - high demandingness and low responsiveness, 3) permissive low demandingness and high responsiveness, and 4) uninvolved - low demandingness and low responsiveness (Kuppens & Ceulemans, 2019).

When examining the four specific parenting styles of authoritative, authoritarian, permissive and uninvolved, research suggests that children with authoritative parents participate in SDB in reduced rates as compared to other parenting styles (Tapia et al., 2018) and also participate in less harmful SDB over-all (Lee et al., 2020). Furthermore, research also suggests that authoritative parents moderate the influence of socially deviant peer networks (Walters, 2020), as well as moderating the effects of structural disadvantage (Mowen & Schroeder, 2018).

On the other hand, when less effective methods of parenting styles are incorporated, the characteristics of SDB participation also changes. For example, male AY participate in higher rates of property and violent SDB when parents are permissive and uninvolved (Muftić & Updegrove, 2018). In addition, when any other parenting style is incorporated, rates of SDB participation are increased for both males and females (Lee et al., 2020; Tapia et al., 2018).

When comparing parenting styles of fathers and mothers, there is limited information on fathers' styles since the assumption is that fathers will adopt the same parenting style as the mother (Braza et al., 2013). Some studies, however, note that fathers may adopt a more authoritarian parenting style (Russell et al., 2003). In their study on the moderating effects of mothers' and fathers' parenting style both separately and in conjunction. Braza et al. (2013) found that only the mother's parenting style had any effect on children's behaviors. In their study on the combination of parenting styles of mothers and fathers on adolescent outcomes, Panetta et al. (2014) found that when AY had two authoritative parents, they were better adjusted in school and personally. They also found that if one parent was authoritarian and the other permissive or neglectful, no

behavioral issues were reported, but as in other studies, authoritarian homes reported more maladjustment than the discordant parenting-style homes. Overall, research suggests that parenting styles and behaviors have moderating effects upon AY participation in SDB, and the characteristics of participation will vary based on the parenting style.

Deleterious Consequences of Participating in Socially Deviant Behavior

Regardless of the moderating effects related to adolescent participation in SDB, participation in any SDB has potential life-long consequences, whether AY receive official notice from justice related agencies or they did not have justice related interactions. One of the most obvious factors that negatively impacts later-life qualities is the acquisition of a criminal record. The possession of a criminal record severely limits opportunities for employment (Sugie, 2017; Westrope, 2018), housing (Evans et al., 2017), and education (Evans et al., 2019). In addition, many persons with criminal records face social stigma (Huebner et al., 2019; Lageson et al., 2019; Ott & McTier Jr., 2020), and even resort to voluntary withdrawal from social interaction as a result of experienced stigmatization (Moore & Tangney, 2017). It is a common misconception, however, that juvenile criminal records are unavailable to the public. In fact, research suggests that there is not a state that completely seals or expunges a juvenile record from public view (Radice, 2017); this practice exposes AY to later life stigmatization as a result of a criminal record (Hawes et al., 2017). Experiencing social stigmatization has long-term, negative impacts to mental health (Moore et al., 2018), and also negatively effects a person's ability to desist from SDB (Moore & Tangney, 2017).

Research suggests that many statutory socially deviant behaviors are related to negative outcomes during later life, which is in addition to the known repercussions for having a criminal record. For example, cigarette use among AY has been associated with lung infection, heart and vein diseases, stroke and cataracts (Zobayer, 2018), and onset of these negative health conditions occur, on average, at a younger age (West, 2017).

Alcohol and marijuana consumption by AY has also been associated with many deleterious health consequences (Lubman et al., 2015; Marshall, 2014; Volkow et al., 2014). Furthermore, AY who run away from home often experience sexual victimization, long-term substance abuse issues, increased rates of participation in SDB and SDB severity, and negative mental health consequences such as depression, anxiety and suicide attempts (Holliday et al., 2017; Pearson et al., 2017; Williams et al., 2019).

In addition to the probability of participating in more severe SDB, research also suggests that many SDB have the potential to negatively impact health and mental health outcomes. For example, gang membership increases the probability of acquiring symptoms of depression and posttraumatic stress disorder (Kerig et al., 2016; Petering, 2016), or unnecessarily exposes the individual to physical harm through violent means (Connolly & Jackson, 2019). Participation in serious SDB has been found to be associated with intergenerational SDB (Beseme et al., 2017), which suggests that future children would be affected by previous behavioral consequences.

Summary

A stable finding among juvenile and criminal justice data is the relationship between age and crime where three, stable statistics are found across time and demographics: 1) there is an abrupt rise in rates of AY participating in SDB, 2) there is an

abrupt decrease in rates of young adults participating in SDB, and 3) there is a persistent rate of participation in SDB among a small group from early adulthood until late adulthood. To explain these findings, Moffitt (1993) suggests there is one group of AY that will participate in SDB in a limited capacity only during the adolescent developmental period, whereas another group will potentially participate in antisocial and SDB from early childhood until older-adulthood. Furthermore, most AY that participate in SDB are not seeking to harm themselves or others through their behavior, but are instead attempting to express autonomous function from parental monitoring while building a sense of personal identity.

Research clearly outlines the relationship between age and crime by describing the changing rates of SDB participation by AY. Additionally, participation in SDB will also vary by the harm caused to self, others, and the community through the severity of the behavior. Moderating factors of SDB participation, however, can be gender, race/ethnicity, peer networks, socioeconomic status, and parental involvement/parenting style, thus suggesting that environmental factors will influence not only if AY participate in SDB, but also the type, rate and severity of their behavior. Unfortunately, any participation in SDB has the potential to inflict detrimental, life-long consequences, particularly when AY participate in more serious types of SDB.

Research has identified that AY participate in SDB at increased rates during adolescence, and that the characteristics of their participation also varies during this period. Yet, research to date has not clearly identified or described how AY transition among types of SDB or when these transitions occur. Understanding when and how transitions occur among AY participating in SDB adds to the literature by explaining how

SDB severity changes during this period. Additionally, this study describes how these transitions differ based on sex, race/ethnicity, peer networks, socioeconomic status, and parental involvement/parenting style. Recognizing the unique ways in which AY participate in SDB can better inform policy and social work practice in order to be more responsive to when and how these transitions occur.

CHAPTER 3:

METHODS

Purpose of the Study

Grounded in Moffitt's (1993, 2006) developmental life-course paradigm and through the application of latent transition analysis (Collins & Lanza, 2009) the primary goal of this study is to examine the patterned rate and severity of juvenile perpetrated SDB as it varies across the adolescent development period. This application of LTA provides a way to empirically derive groups of adolescent youth (AY) based on their participation in SDB and then model the development of these experiences throughout adolescence. By concurrently examining these elements of SDB, this study aims to fill important gaps in the criminology developmental life-course paradigm by providing substantive contributions to the understanding of self-reported SDB by including an empirically-based method of classifying SDB by severity type and by completing a longitudinal data analysis that describe individual change in SDB participation throughout adolescence.

Research Questions

The following three research questions will be investigated in the current study:

RQ#1: What sex specific subgroups of adolescent youth can be identified by the characteristics of socially deviant behavior that they participate in?

RQ#2: Do these subgroups differ when moderated by race/ethnicity, poverty, peer participation in socially deviant behavior or parenting style?

RQ#3: How do the proportions of adolescent youth in the identified subgroups differ during adolescence and how do the characteristics of socially deviant behavior change?

RQ#4: Throughout adolescence, what are the probabilities of continuing, escalating or de-escalating among subgroups, dependent on the previous characteristics of socially deviant behavior participation?

Study Design

This study employed a nonexperimental, correlational research design to examine the relationships between types of socially deviant behaviors and how SDB characteristics changed over time. Because this study used measurements from the same variable at multiple timepoints, this study is a repeated measure design. To accomplish the goals of this study, multiple latent transition analyses (LTA) were conducted using public access data from the National Longitudinal Survey of Youth, 1997 (Bureau of Labor Statistics, 1997). The statistical package SAS® version 9.4 was used to conduct data management functions and the statistical package Mplus® version 8.1 was used to conduct the latent transition analyses.

Latent Class and Latent Transition Analyses

In this study, latent transition analyses identified probabilities of transitioning to different subgroups based on manifest behavior, as well as the probabilities of participating in specific types of SDB based on subgroup characteristics. The use of LTA is infrequent within criminology and social sciences, however these analyses are being used with increasing frequency across other disciplines (Collins & Lanza, 2009). Latent transition analyses are considered particularly informative in examining dynamic latent

variables (Velicer et al., 1996), particularly when used to assess developmental stages (Collins & Lanza, 2009) and identifying empirically derived groups of individuals. These subgroups are defined by patterned characteristics that identify the most at-risk for participating in escalating adverse behavior over time (Lanza et al., 2010).

Latent transition analysis describes a type of longitudinal, autoregressive model that is exceptionally suited for assessing developmental outcome stages (Collins & Lanza, 2009). Application examples of the LTA model with an adolescent SDB foci include examining early adolescent SDB by severity (Nasaescu et al., 2020; Turner et al., 2020), substance abuse behaviors by severity of substance (Bright et al., 2017; Maldonado-Molina & Lanza, 2010; Zych et al., 2020), and identifying determinate groupings of risk and protective factors that relate to the probability of AY participating in future SDB (Fox et al., 2020; Hilterman et al., 2019; Xu et al., 2020). The outcome variable of an LTA is an empirically derived latent categorical variable that is similarly obtained within a latent class analysis (LCA) model.

In this study, twelve self-reported indicators of SDB, which varied in severity, were used to develop mutually exclusive subgroups of AY at four measured time points for every model examined (Please see Table 1.1 for indicators used within the study). Furthermore, additional models tested how patterned SDB differs by sex, as well as how patterns of SDB differed by race, experienced poverty, peer SDB participation, and fathers parenting style when stratified by sex. The LTA determined mutually exclusive subgroups of AY based on behavioral characteristics, the proportion of AY within each subgroup, the probability of class members participating in a specific SDB based on class characteristics, and the probabilities of AY transitioning from one subgroup to another

between timepoints. These statistics show the development of SDB by severity type among a sample of AY from ages 12 and 13 until ages 18 and 19.

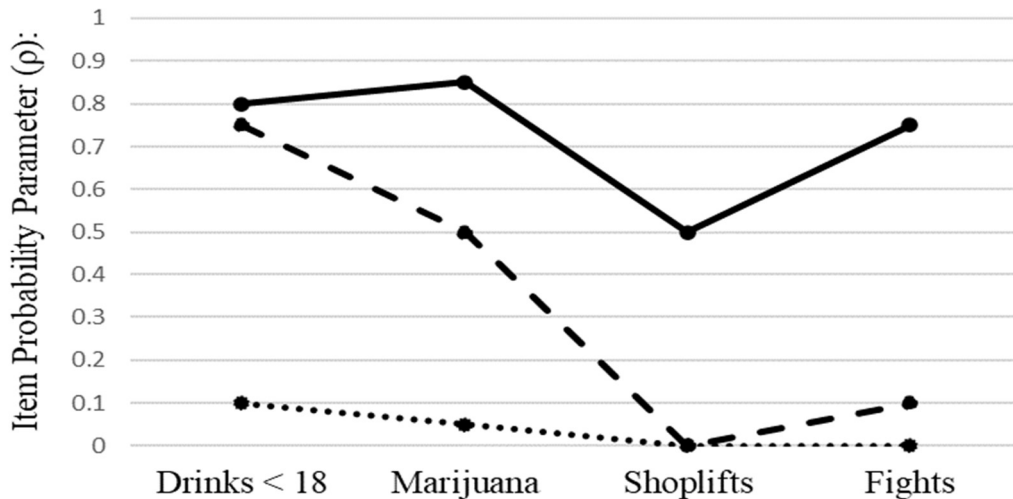
Latent Class Analysis

Prior to explaining LTA, an explanation of LCA is necessary to better understand the underlying process within the analysis. A LCA uses a person-oriented approach (Muthén & Muthén, 2000) to identify patterns of individual characteristics that are used to develop quantitative and qualitative differences among a sample for the purpose of determining mutually exclusive subgroups (Ruscio & Ruscio, 2008). To be more specific, a LCA uses an underlying latent variable to describe the relationship among a set of observed items, where the underlying latent variable is categorical and the manifest variables, or indicators as termed in the LCA process, are also categorical. Typically, indicators are developed or transformed into binary variables for analytic purposes.

Without needing to account for traditional assumptions (such as normality, multicollinearity, etc.), final LCA classes are determined through best-fit models as indicated by the Bayesian Information Criteria (BIC), Lo-Mendell-Rubin Likelihood Ratio Test (LMR-LRT), entropy, and the usefulness and interpretability of the resulting classes (Muthén & Muthén, 2000). Additionally, the LCA and LTA are robust to missing data, and complicated data manipulation steps are unnecessary for data missing completely at random or data missing at random (Collins & Lanza, 2009). The most common method of model fitting uses a step-wise fashion that begins with two classes, and increases class size by one until model fit indices are met. For more information regarding the mathematical process and formula of an LCA, please see Collins and Rhoades (2013).

The two parameters described within an LCA are indicator probability and class probability. The indicator probability parameter (ρ) describes the probability of an individual in a given latent class of endorsing a particular indicator, and is also conditional on latent class membership (Collins & Lanza, 2009). The class probability parameter (γ) indicates the prevalence, or frequency, of class membership within a given population (Collins & Lanza, 2009). Conditional indicator probability is the basis of the model because they are used to attach substantive meaning (qualitative difference) to each class.

Figure 3.1 is a hypothetical LCA example and is composed of four observed indicators (drinks < 18, Uses Marijuana, Shoplifts, and Fights) that were used to identify three latent classes (Class 1, 2 & 3) among observed indicator responses. Within the figure, the x-axis is comprised of the unique indicators of the study and the y-axis provides the conditional item response probability (ρ) for each identified class. Next, conditional item probability plots for class specific conditional item responses are displayed. These are extremely useful for examining the profiles of the latent classes. For example, there is an obvious difference in Class 1 (dotted line) and Class 3 (solid line), where Class 3 has high probabilities of participation in all indices and Class 1 has low probabilities of participation in all indices. On the other hand, Class 2 has high indices of substance use and low indices of shoplifting and fighting. Finally, class probability parameters (γ) provide the proportion contained within each latent class. Put together, one interpretation would be that half the sample ($n = 50$) participated in very little SDB, whereas approximately 30% ($n = 30$) were primarily engaged in substance use SDB and 20% ($n = 20$) were engaged in SDB across a spectrum.



Legend:

- Class One – Non-Deviant ($n = 50$; [50%])
- Class Two – Substance Abuse ($n = 30$; [30%])
- Class Three – Deviant ($n = 20$; [20%])

Note: Parameters and plots indicated in this figure are for example purposes only

Figure 3.1: Example of a Latent Class Analysis Plot Chart

Latent Transition Analysis

A latent transition analysis builds upon the LCA model by introducing a chronological factor to the latent classes by relating how the proportions of latent classes change, as well as the probability of changing classes conditional of previous class over a designated span of time. To represent this extension, two additional parameters are introduced in an LTA. First, the latent status indicator (δ) estimates the proportion of the population in each latent status at each occurrence of measurement, conditional of latent class membership (Collins & Lanza, 2009). The δ parameter is similar to the class probability parameter (γ), however latent status indicator represents the dynamic properties of the LTA, whereas the latent class indicator represents a static parameter of a latent class. The second parameter introduced is the transition probability (τ), which

refers to the probability of making a transition from a latent class, conditional on previous latent status and latent class membership (Collins & Lanza, 2009).

Next, in order to represent the chronological factor in an LTA, t is typically used at timepoint one, and $t+[the\ next\ sequential\ number]$ is used to represent consecutively ordered points after the first. For example, t , $t+1$, and $t+2$ would represent a model that had three measurements of time, where t is the initial measurement, $t+1$ is the second, and $t+2$ is the third. The number of measurements included in any latent transition analysis must have a minimum of two and should not exceed six (Collins & Lanza, 2009), however a limit is not placed on the chronological distance. Yet, theoretical justification should be considered when establishing the number of measurements and chronological period being fit to the model.

The technical difference between a latent status and a latent class is the proportion of a class that is transient, meaning they only occupy a class for a finite amount of time before transition to a different class, as compared to the proportion of the class that remains fixed. The transition identified between latent classes represent change over time within a developmental cycle and the static members represent stability within a class. Thus, a researcher is able to analyze a multidimensional latent variable through change over time, while concurrently investigating the change in indicators during the investigative time period. For more information on the mathematical process and formula of an LCA, please see Chung, Lanza, & Loken (2008).

Findings of an LTA include LCA parameters, as well as a full tau (τ) and rho (ρ) parameter matrix for each timepoint measured of the analysis. For example, an LTA measuring two timepoints will have one matrix for τ and two for ρ , whereas an LTA

measuring four timepoints will have three τ and four ρ . Extending upon the LCA example provided above, Table 3.1 provides an example for a full tau parameter matrix of the three classes found in the example, measured at two timepoints. The table is ordered by the oldest measurements found in timepoint one (t), to the most recent measurement in timepoint two ($t+1$), and is interpreted as: “ $\tau_{\text{Class}[\#]}$ ” is the probability (from 0 – 1) of transitioning to the class indicated by the column, “|Class[$\#$],LC” conditionally, they were in the class as indicated by the row. Naturally, low probabilities indicate little movement from a class, whereas high probabilities indicate elevated movement to the indicated class.

Table 3.1: *Example of a Latent Transition Analysis τ Parameter Matrix*

t	$t+1$		
	Class 1	Class 2	Class 3
Class 1	$\tau_{\text{Class1}} \text{Class1,LC}$	$\tau_{\text{Class2}} \text{Class1,LC}$	$\tau_{\text{Class3}} \text{Class1,LC}$
Class 2	$\tau_{\text{Class1}} \text{Class2,LC}$	$\tau_{\text{Class2}} \text{Class2,LC}$	$\tau_{\text{Class3}} \text{Class2,LC}$
Class 3	$\tau_{\text{Class1}} \text{Class3,LC}$	$\tau_{\text{Class2}} \text{Class3,LC}$	$\tau_{\text{Class3}} \text{Class3,LC}$

Note: Parameters indicated in this figure are for example purposes only

Table 3.2: *Example of a Latent Transition Analysis ρ Parameter Matrix*

Class	Manifest Response at t		
	Indicator 1	Indicator 2	Indicator 3
Class 1	$\rho_{\text{Indicator1}} \text{Class1,LC}$	$\rho_{\text{Indicator2}} \text{Class1,LC}$	$\rho_{\text{Indicator3}} \text{Class1,LC}$
Class 2	$\rho_{\text{Indicator1}} \text{Class2,LC}$	$\rho_{\text{Indicator2}} \text{Class2,LC}$	$\rho_{\text{Indicator3}} \text{Class2,LC}$
Class 3	$\rho_{\text{Indicator1}} \text{Class3,LC}$	$\rho_{\text{Indicator2}} \text{Class3,LC}$	$\rho_{\text{Indicator3}} \text{Class3,LC}$

Note: Parameters indicated in this figure are for example purposes only

Table 3.2 provides an example of the ρ Parameter Matrix found at timepoint one (t). The rho (ρ) parameter matrix arranges findings similarly to the τ parameter matrix, with the difference being that the probabilities provided are between the latent status and each manifest indicator. Specifically, the ρ statistic represents the relationship between manifest responses and latent status membership in a similar fashion to how factor

loadings represent the relationship between manifest variables and latent factors, probabilities. For this statistic, however, probabilities close to 0 represent an indicator that would not be a determinant of the class, whereas a probability close to 1 would represent an indicator that is a determinant of the indicator.

Formal Model of Study

Using the parameters outlined above, a formal model of the study is presented in this section. Included within this study are twelve indicators (See *Table 3.3*) measured at four points during the adolescent development period (onset, acceleration, climax and desistance). The formal model for this is represented in Figure Three. The first parameter of the model is γ_{LC} , and represents the proportion of the sample within each latent class, where γ is the proportion of the population in each latent class and LC will be the uniquely identified SDB classes. The number of classes of SDB is not specified in a formal model as the number of classes will be determined by the analysis, however this parameter will sum to one between classes found. The second parameters, $\rho_{M|LC}$ is the indicator response probability given class membership and is also considered the static measurement of the class. In other words, what is the probability of a respondent remaining within the same class. This is interpreted as: (ρ_M) the probability of indicator response, ($|LC$) conditional of a specific class membership. The next parameters, $\delta_{s|LC}$, represents the proportion of the population in each latent status for every time measurement given a specific latent class. This is interpreted as: (δ) the proportion of the population ($_{s\{#\}}$) for a specific status, ($|LC$) conditional of a specific class membership.

$$\begin{aligned}
&\gamma_{LC} \quad \rho_{M|LC} \quad \delta_{s1|LC} \\
&\rho_{smoke}^t|S_1,LC \quad \rho_{drink}^t|S_1,LC \quad \rho_{run}^t|S_1,LC \quad \rho_{mari}^t|S_1,LC \quad \rho_{gun}^t|S_1,LC \\
&\rho_{gang}^t|S_1,LC \quad \rho_{dprop}^t|S_1,LC \quad \rho_{s<50}^t|S_1,LC \quad \rho_{s>50}^t|S_1,LC \quad \rho_{oprop}^t|S_1,LC \\
&\rho_{attack}^t|S_1,LC \quad \rho_{sell}^t|S_1,LC \\
&\tau_{s2|S_1,LC} \quad \delta_{s2|LC} \\
&\rho_{smoke}^{t+1}|S_2,LC \quad \rho_{drink}^{t+1}|S_2,LC \quad \rho_{run}^{t+1}|S_1,LC \quad \rho_{mari}^{t+1}|S_2,LC \\
&\rho_{gun}^{t+1}|S_2,LC \quad \rho_{gang}^{t+1}|S_2,LC \quad \rho_{dprop}^{t+1}|S_2,LC \quad \rho_{s<50}^{t+1}|S_2,LC \\
&\rho_{s>50}^{t+1}|S_2,LC \quad \rho_{oprop}^{t+1}|S_2,LC \quad \rho_{attack}^{t+1}|S_2,LC \quad \rho_{sell}^{t+1}|S_2,LC \\
&\tau_{s3|S_2,LC} \quad \delta_{s3|LC} \\
&\rho_{smoke}^{t+2}|S_3,LC \quad \rho_{drink}^{t+2}|S_3,LC \quad \rho_{run}^{t+2}|S_1,LC \quad \rho_{mari}^{t+2}|S_3,LC \\
&\rho_{gun}^{t+2}|S_3,LC \quad \rho_{gang}^{t+2}|S_3,LC \quad \rho_{dprop}^{t+2}|S_3,LC \quad \rho_{s<50}^{t+2}|S_3,LC \\
&\rho_{s>50}^{t+2}|S_3,LC \quad \rho_{oprop}^{t+2}|S_3,LC \quad \rho_{attack}^{t+2}|S_3,LC \quad \rho_{sell}^{t+2}|S_3,LC \\
&\tau_{s4|S_3,LC} \quad \delta_{s4|LC} \\
&\rho_{smoke}^{t+3}|S_4,LC \quad \rho_{drink}^{t+3}|S_4,LC \quad \rho_{run}^{t+3}|S_1,LC \quad \rho_{mari}^{t+3}|S_4,LC \\
&\rho_{gun}^{t+3}|S_4,LC \quad \rho_{gang}^{t+3}|S_4,LC \quad \rho_{dprop}^{t+3}|S_4,LC \quad \rho_{s<50}^{t+3}|S_4,LC \\
&\rho_{s>50}^{t+3}|S_4,LC \quad \rho_{oprop}^{t+3}|S_4,LC \quad \rho_{attack}^{t+3}|S_4,LC \quad \rho_{sell}^{t+3}|S_4,LC
\end{aligned}$$

Figure 3.2: *Formal Model of the Study*

The next portion of the formal model contains references to specific indicators contained with the LTA. In order to differentiate each indicator used at the four occasions of the analysis, the following identifiers of measurement will be used within the model: t for ages 12 & 13, time $t+1$ for ages 13 – 14 & 14 - 15, time $t+2$ for ages 15 – 16 & 16 – 17, and time $t+3$ for ages 17 – 18 & 18 – 19. These will be represented as super script for each individual indicator. Next, measurement specific latent statuses must be differentiated due to the conditional probabilities associated with the model. Therefore, “S” will represent status, followed by a number representing the referenced measurement, and either can be presented in subscript and superscript depending on the defined point within the model. As such, S1 will represent latent status at time t , S2 will represent latent status at time $t+1$, S3 will represent latent status at time $t+2$, and S4 will represent latent status at time $t+3$.

Additionally, the LTA will be measured using twelve indicators represented in Table Five. Each indicator will be represented as follows: the participant smoked – *smoke*; the participant drank – *drink*; the participant ran away from home – *run*; the participant used marijuana – *mari*; the participant carried a handgun – *gun*; the participant belonged to a gang – *gang*; the participant destroyed property – *dprop*; the participant stole property less than \$50 – $s < 50$; the participant stole property greater than \$50 – $s > 50$; the participant committed other property crimes – *oprop*; the participant attacked another person to hurt or kill – *attack*; and the participant sold or helped sell drugs – *sell*. These scripts are combined to create a single parameter for each indicator for every measured point.

The next portion of the model contains a series of indicator probability parameters for the first status, which is represented by $\rho_{[Indicator]|S_1,LC}$. This is read as the (ρ) probability of response to the $[Indicator]$ unique indicator (S_1,LC) conditional of a specific class membership at the time of the first measurement. The series of indicator probability parameters are repeated for each measurement within the study and are defined by the time and status script for the unique parameter.

The last three parameters of the model are the probabilities of transitions between latent classes, conditional of previous latent class membership. This parameter is represented by the definition $\tau_{s_{[#]}|S_{[#]},LC}$, where the (τ) probability of transition to a ($s_{[#]}$) specific latent status is ($S_{[#]},LC$) conditional to the previous latent status. This parameter is provided for each subsequent measure after the first (time $t+1$, time $t+2$ and time $t+3$).

Sample

Public access data from the National Longitudinal Survey of Youth, 1997 (NLSY97) was used to complete this study. The NLSY97 is a study that has followed the lives of 8,984 American AY born between 1980-1984. Data were first collected 1997 to create a representative, cross-sectional sample consisting of 6,748 participants and an additional oversample of 2,236 participants was designed to create an over-representative sample of African Americans and Latinx AY. During the first year of data collection, participants were between the ages of 12-18. Since the initial round of data has been collected, 17 subsequent data collection rounds have been completed. For this study, only participants aged 12 & 13 ($n = 3576$) at the start time of data collection during the first wave (1997) were included, and the data were used are from the years 1997, 1998, 1999, 2000, 2001, 2002, and 2003.

Indicators

Twelve indicators from seven waves were included within this study. The selected indicators for this study either directly correlate with statutorily proscribed behavior for juveniles or has been found to increase the probability of later-life SDB. All selected indicators were consistently included within every wave the study. (See Table 3.3 for the list of indicators). Within Wave 1 (1997) respondents were asked “*Have you ever...*” to a series of specific SDB, whereas in subsequent waves, participants were asked “*Since the date of last interview, have you...*” in relation to the same SDB inquired of in Wave 1. The participant response options to the indicators at the time of the interviews were limited to “*Yes*” or “*No*,” which were coded as 1 = *yes* and 0 = *no*.

Table 3.3: *Socially Deviant Behavior Indicators*

Item at Wave 1 ¹	NLSY 97 Variable Identifier	
	Time <i>t</i>	Time <i>t+1, t+2 & t+3</i>
R ever smoke? ²	YSAQ - 359	YSAQ - 360C
R ever drink? ²	YSAQ - 363	YSAQ - 364D
R ever run away from home? ²	YSAQ - 375	YSAQ - 375
R ever use marijuana?	YSAQ - 371	YSAQ - 370C
R ever steal anything < \$50.00?	YSAQ - 378	YSAQ - 390B
R ever purposely destroy property?	YSAQ - 385	YSAQ - 389D
R ever steal anything > \$50.00?	YSAQ - 389	YSAQ - 391B
R ever commit other property crimes?	YSAQ - 390	YSAQ - 392B
R ever (help) sell illegal drugs?	YSAQ - 391	YSAQ - 394B
R ever belong to a gang?	YSAQ - 392	YSAQ - 385
R ever carry a handgun? ²	YSAQ - 393	YSAQ - 380
R ever attack anyone to hurt or fight?	YSAQ - 394	YSAQ - 394B

Note: ¹During Waves 2 – 7, the item prompt for the participant changes from “R ever” to “Since time of last interview have you”; ²Although these activities are not illegal for the general public in most cases, due to participant age during interview, these behaviors are statutorily illegal; YSAQ refers to the survey used for data collection and the number sequence refers to the specific item number within the survey.

The indicators selected for this study rely on self-report items, which raises concerns of validity due to the nature of self-reported measures. These data, however, were selected specifically to overcome the inaccuracy of official juvenile arrests and convictions as SDB indicators (Morgan & Truman, 2020). This methodological decision is based on the suggestion that researchers have developed and incorporated accurate methods regarding the collection of SDB data using self-report surveys for decades (Pechorro et al., 2019), and that SDB research using self-report data suggests that onset, persistence, acceleration and desistance is significantly different when using official records (Kazemian & Farrington, 2005; Payne & Piquero, 2017; Pechorro et al., 2019). Although there remains an element of bias within the observations (Robins et al., 2009), self-reported SDB has demonstrated high levels of accuracy in regard to reliability and validity (Emmert et al., 2017).

Unique Indicators

Twelve unique indicators of SDB are included within this study, where participant response options to the items at the time of the interviews were limited to “Yes” – indicating they participated within the specific behavior, or “No,” – indicating they had not participated within the specific behavior. In order to align participant responses with measured timepoints, a single indicator was created for each SDB item for the two years included within $t+1$, $t+2$, and $t+3$. To accomplish this, if a participant responded yes (coded 1) to an SDB for either year included within a specific measurement, the indicator used for the analysis was also coded as 1. If the participant responded no (coded 0) to an SDB for both years included within a measurement, then the indicator was also coded 0. The SDB indicators included within the study are:

Respondent ever smoked, Respondent ever drink alcohol and Respondent ever run away from home. Smoking and running away from home under the age of 18 and drinking under the age of 21 is proscribed in all state and federal legal jurisdictions, which includes the possession of either product while under age. These offenses are considered status offenses because smoking becomes a legal behavior after the eighteenth birthday and drinking becomes legal after the twenty-first birthday. These behaviors will typically be treated as an infraction or misdemeanor level offense within the judicial system. Although smoking or drinking underage is not considered a severe SDB by any measure, research suggests that adolescents who engage in these activities have increased probability for participating in more serious later-life SDB (McMillan et al., 2018; Amsterdam et al., 2010; Turner et al., 2020). Furthermore, research has also suggested

that when regular consumption of alcohol begins at earlier ages, the probability of participating in more SDB also increases (Turner et al., 2020).

Respondent ever use marijuana. The possession and use of marijuana were proscribed in all state and federal legal jurisdictions for participants during the time of data collection. The possession or consumption of marijuana, however, is not considered a severe SDB, unless the amount of marijuana is significant (typically more and 250 grams). Most often, charges related to the use and possession of marijuana would be considered a misdemeanor level offense. Research suggests that adolescents who engage in marijuana consumption have increased probability for participating in more serious later-life SDB, such as consuming strong narcotics and committing property crime (Kopak & Hoffmann, 2014). The probability of participating in more severe SDB increases when regular consumption begins at earlier ages (Zych et al., 2020).

Respondent ever carry a handgun. Possession of a handgun or ammunition designated for a handgun under the age of 18 is proscribed by federal law (*18 U.S. Code § 922 - Unlawful Acts*, n.d.). Possession of a handgun or ammunition designated for a handgun under the age of 18 is a status offense because these activities become legal behavior on the eighteenth birthday. Possession of a handgun or ammunition designated for a handgun is considered a moderately severe SDB, and can be charged at the felony or misdemeanor level in judicial systems. Research has suggested that adolescents found in possession of a handgun have increased probability for participating in life-threatening SDB (Loeber et al., 1998).

Respondent ever belong to a gang. Gang membership in itself is not statutorily proscribed and is in fact protected under the First Amendment. On the other hand, gang

membership has been associated with more serious SDB (Pyrooz et al., 2016), that often include violence and harm to others (Loeber et al., 1998). Furthermore, if an SDB is committed while participating in gang activity, then the severity of the behavior is considered greatly enhanced by law enforcement and within the judicial process (Walker & Cesar, 2020). This enhancement is commonly acknowledged by the judicial system through felony charges (Walker & Cesar, 2020) due to the deleterious nature of criminal gangs (Pyrooz et al., 2016).

Respondent ever steal anything less than \$50; Respondent ever steal anything greater than \$50, including cars. Theft of property is illegal in all states and federal jurisdictions. The act of theft is typically delineated by the amount stolen or lost from the victim during the commission of the act. For example, the theft of a candy bar from a retail location valued at \$1.00 by an AY without a history of SDB is considered minor and will receive extremely limited judicial attention and punishment. On the other hand, if an AY has been adjudicated delinquent for previous SDB, the offense can have more severe consequences. The theft of property less than \$50 can be charged at the infraction or misdemeanor levels, whereas the theft of more than \$50.00 can be a misdemeanor or felony level offense. Research suggest that AY that participate in minor theft have increased probability of participating in more severe, later-life SDB (Loeber et al., 1998).

Respondent ever purposely destroy property. Destruction of property is illegal in all states and federal jurisdictions. The act of destroying property is typically delineated the by the cost of the destroyed property or lost incurred by the victim or victims during the commission of the act. For example, the destruction of a mailbox in a residential neighborhood valued at \$100.00 perpetrated by an AY without a history of SDB is

considered minor, and will receive extremely limited judicial attention and punishment. On the other hand, if an AY has been adjudicated delinquent for previous SDB, the offense can have more severe consequences. Additionally, if the same AY burned down a work shed valued at \$2500.00, the judiciary system would be less likely to outright dismiss the offense, particularly if the AY had previously been found delinquent. The destruction of property can be charged at the infraction, misdemeanor or felony level, dependent of the value of the destroyed property and the perceived seriousness of the act. The destruction of property is considered a criminal offense, however the severity of the SDB will be directly related to the perceived damage incurred.

Respondent commit other property crimes. This indicator includes several categories of SDB that differs in status of legality and severity. The item prompt specifically asks the respondent if they had “... ever committed other property crimes such as fencing, receiving, possessing or selling stolen property, or cheated someone by selling them something that was worthless or worth much less than what you said it was?” (Bureau of Labor Statistics, 2017, R03612.00). Because of the variability of severity associated with this indicator, an assessment or harm cannot be concretely determined for “other property crimes,” however, like with other SDB involving property, severity of the unique SDB is often directly derived from the amount associated with the property involved.

Respondent ever attack anyone to hurt or fight. In this indicator, the respondent is specifically asked, “Have you ever attacked someone with the idea of seriously hurting them or have a situation end up in a serious fight or assault of some kind?” (Bureau of Labor Statistics, 1997). Assaulting anyone, whether to hurt or fight, is illegal in all states

and federal jurisdictions. Often, the act of assaulting or fighting another person is typically delineated by the severity of bodily harm that occurred as a result of the act. For example, a limited physical altercation occurring within a school can be adjudicated through in-school or out-of-school suspensions. In this case, no actual bodily harm occurs other than extremely superficial injuries. Conversely, if an attack occurs which results in severe bodily injury, such as gunshot wounds, stabbings, or use of any weapon, the AY can be potentially charged with a felony in an adult court. These severe cases of SDB will result in lengthy periods of incarceration. Because of the physical harm to others, these types are considered among the most severe SDB.

Respondent ever (help) sell illegal drugs. The sale of controlled substances is proscribed in all states and federal legal jurisdictions and is considered a severe SDB due to the potential harm they have for individuals and communities. Furthermore, within the judiciary some controlled substances are considered more dangerous than others, thus punishment for the sale of controlled substances vary by the type and amount sold. For example, methamphetamine and crack cocaine is considered more dangerous than powdered cocaine, however marijuana is considered less harmful than powdered cocaine (Amsterdam et al., 2010). Research has suggested that adolescents that engage in the sale of controlled substances have increased probability for participating in more serious later-life SDB, such as consuming strong narcotics and committing SDB that involves injury to others.

Stratification by Sex and Covariates

Because research suggests that SDB participation differs by gender, as well as by race/ethnicity, poverty level, peer participation in SDB and parenting styles, this study

conducted specific models for these characteristics. First, participants were stratified by sex, and then analyses were conducted using race, experienced poverty, peer SDB participation, and fathers parenting style. All covariates were transformed to create mutually exclusive groups for the purpose of developing unique samples that met the inclusion criteria of the analysis being conducted. For example, when creating the analytic sample of African American male AY, only participants that indicated they were male and African American were included, all others were listwise deleted. The following covariates were included within the sample:

Race/Ethnicity. The NLSY97 provides four selections of race/ethnicity within the dataset: White, Hispanic/Latinx, African American and other races/ethnicities. Due to the small sample size, a specific model for participants indicating other race/ethnicity was not conducted for female or male AY. Participants indicating other race/ethnicity were, however, were included within the poverty level, peer participation in SDB and parenting style LTA models.

Poverty Level. The NLSY97 provides a ratio of household income as compared to the federal poverty level. For this analysis, poverty level was dichotomized by placing all participants that had a household income to poverty ratio greater than one as "0," and participants with a ratio of less than one were coded as "1." Next, analyses were conducted using the dichotomized version of poverty as a covariate in sex-stratified samples. Unfortunately, participant responses to this measure had high levels of missingness due to invalid skips, which resulted in small sample sizes

Peer Participation in Socially Deviant Behavior. The NLSY97 provides multiple variables that indicate peer participation in socially deviant behaviors. These variables

are: the percentage of peers that smoke; the percentage of peers that drink more than once per month; the percentage of peers that belong to a gang; and the percentage of peers that use illegal drugs. For this analysis, all participants that indicated a percentage of less than twenty-five percent in every category were coded as “0,” and participants that indicated twenty-five percent in any category were coded as “1”. Next, analyses were conducted using the dichotomized version of peer SDB as a covariate in sex-stratified samples.

Fathers Parenting Style. Fathers Parenting style was measured using the father’s interaction with the adolescent AY. Within this study, only the paternal parenting style was used because most research has focused on the maternal parenting style (Biblarz, & Stacey, 2010) and the paternal parenting style provided a more complete data set. the paternal parenting style Within the NLSY97, item - *Youth Report, Residential Father's Parenting Style*, four categories are used to describe the fathers parenting style: selection 1 – *uninvolved*, selection 2 – *permissive*, selection 3 – *authoritarian* and selection 4 – *authoritative*. A fifth category of “*valid skip*” was used if a father was not present in the household. For this analysis, the participants that indicated that their father used an authoritative parenting style were coded as “0”, whereas all other participants were coded as “1”.

Data Analysis

All data used for this study came from public data files available from the National Longitudinal Survey of Youth, 1997 (NLSY97), and was constrained to participants who were aged 12 & 13 during the first date of data collection at wave one (1997) of the study. This constraint was made to match the relationship between age and SBD as described in the age-crime-curve, as well as to match the developmental period

of adolescence defined by the American Psychological Association as AY between the ages of twelve and nineteen (VandenBos, 2007). SAS® v9.4 was used to conduct all data management functions and the development of descriptive statistics. Mplus® v 8.3 was used to conduct the multiple latent transition analysis functions of the study.

Data Management. Data management functions using SAS® included developing uniform entries for missing data, developing analytic indicators from multiple items, and developing descriptive statistics. Furthermore, a series of correlations were conducted to examine missing observations to better understand the nature of the missing data and to examine if differences existed between missing participant observations as compared to the remaining sample. Correlations indicated that the data are missing at random, therefore some participants with missing covariate observations were listwise deleted for specific models, because complicated steps to account for item missingness would not need to be conducted for statistical inference (Heitjan & Basu, 1996; Saunders et al., 2006). It should be noted, however, because the LTA are robust to missing data, participants with missing indicator observations were not listwise deleted, and analyses were conducted without modifications to indicators.

Univariate and Bivariate Analysis. Univariate analyses were conducted to obtain descriptive statistics for the indicators and covariates of interest that were selected for this study. Additionally, univariate analyses were also completed for indicators during each measured timepoint of the study to better understand the changes in SDB reported frequency and types as participants matured during the development period.

Multivariate Analysis. The research questions were examined using a series of models that incorporated a complex mixture, latent transition analysis that adjusted

results for stratification, weight, and clustering of the sampling process. As latent transition analyses do not need to account for traditional assumptions (Muthén & Muthén, 2000), results of the univariate analyses were used to describe the features of data normality, and no further analyses were conducted. Because data are from multiple waves and weight calculations fluctuate between waves (Bureau of Labor Statistics, 1997), the NLSY97 Custom Weighting program was used to generate a custom weight variable specifically designed for this study. Additionally, the provided VSTRAT and VPSU variables were included within each analysis to correct for sample clustering (Bureau of Labor Statistics, 1997). Finally, Mplus ® v 8.3 was used to conduct the LTA.

After the data were imported into Mplus and the variables were designated for the program, a series of latent transition analyses occurred using the step-wise model fit method. This method used the Bayesian Information Criteria (BIC), Lo-Mendell-Rubin Likelihood Ratio Test (LMR-LRT), entropy, and the usefulness and interpretability of the resulting classes to best determine the number of classes that should be used for the final model (Muthén & Muthén, 2000). A step-wise analysis begins with estimating two classes for the analysis, and then advances to three classes, then four, and continues until the best-fit model indices are met. All indices are reported for each model for the step-wise model building process. The subjective interpretation of latent classes included within the final model were determined by the characteristics of the status indicators of the class.

Limitations. Although this study contributes to the criminology developmental and life-course literature by empirically describing the relationships between SDB, SDB severity and passage of time in further detail, the study is not without limitations. For

example, this study used a non-experimental design, thus the most that could be concluded about the findings is whether the data contradicted or did not contradict the models used to answer the research questions. Applicability of interpretation is further hampered in that the study uses data from 1997 – 2003, which is more than two-decades old.

Threats to the validity and accuracy of this study include both instrumentation and modeling techniques. The instrumentation represents a threat to validity in that observations were self-reported by participants and do not represent a full range of SDB. Furthermore, the instrumentation also represents a threat to accuracy as the SDB indicators used in the survey are subject to qualitative review regarding the operationalization of severity. The model also represents a threat to validity and accuracy due to the nature of repeated measure study design, as well as analytic fitting of the final model, which requires qualitative descriptions of severity for identified subgroups within the sample.

Summary of Methods

The primary goal of this study was to examine the patterned rate and severeness of juvenile perpetrated SDB as it varied across the adolescent development period. To accomplish this goal, twelve indicators measured at four timepoints from the public access data of the National Longitudinal Survey of Youth, 1997 were analyzed using a series of latent transition analysis models. Results empirically derived groups of AY based on their participation in SDB severity and then modeled the development of these experiences throughout the adolescent period.

CHAPTER 4:

RESULTS

Univariate Results

The final sample ($n = 3578$) used within this study consisted of 1,738 female and 1,842 male adolescent youth (AY). The largest racial/ethnic composition were White, while the smallest was of other races/ethnicities. Univariate statistics for covariates are provided in Table 4.1. The most commonly endorsed SDBs among AY were alcohol consumption and smoking, whereas the least endorsed SDB was running away and gang membership. Univariate statistics for indicators are provided in Table 4.2. Note, all multivariate statistics include participants that were of other races and ethnicities, with the exception of race specific models.

Table 4.1: *Univariate Statistics: Covariates*

	Female				Female Total	Male				Male Total	Total
	African Amer.	Hispanic Latino	Other Ethnicity	White		African Amer.	Hispanic Latino	Other Ethnicity	White		
Experienced Poverty											
Missing	133	108	5	203	449	124	121	3	197	445	894
	4%	3%	0%	6%	13%	3%	3%	0%	6%	12%	25%
No	193	150	13	607	963	183	159	7	720	1069	2032
	5%	4%	0%	17%	27%	5%	4%	0%	20%	30%	57%
Yes	133	109	1	78	321	138	113	3	77	331	652
	4%	3%	0%	2%	9%	4%	3%	0%	2%	9%	18%
Peer SDB											
No	133	112	5	331	581	149	154	6	411	720	1301
	4%	3%	0%	9%	16%	4%	4%	0%	11%	20%	36%
Yes	326	255	14	557	1152	296	239	7	583	1125	2277
	9%	7%	0%	16%	32%	8%	7%	0%	16%	31%	64%
Father Authoritative											
No	92	100	5	289	486	118	131	3	368	620	1106
	3%	3%	0%	8%	14%	3%	4%	0%	10%	17%	31%
Yes	367	267	14	599	1247	327	262	10	626	1225	2472
	10%	7%	0%	17%	35%	9%	7%	0%	17%	34%	69%

Note: Covariate missing data were list-wise deleted and all multivariate models were weighted and corrected for stratification and clustering; (n = 3578).

Table 4.2: *Univariate Statistics: Indicators*

	Female				Female Total	Male				Male Total	Total
	African Amer.	Hispanic Latino	Other Ethnicity	White		African Amer.	Hispanic Latino	Other Ethnicity	White		
Smoked											
No	328	226	7	416	977	244	198	5	427	874	1851
	9%	6%	0%	12%	27%	7%	6%	0%	12%	24%	52%
Yes	131	140	12	474	757	201	194	8	567	970	1727
	4%	4%	0%	13%	21%	6%	5%	0%	16%	27%	48%
Drink											
No	207	106	3	186	502	189	109	3	195	496	998
	6%	3%	0%	5%	14%	5%	3%	0%	5%	14%	28%
Yes	252	260	16	704	1232	256	283	10	799	1348	2580
	7%	7%	0%	20%	34%	7%	8%	0%	22%	38%	72%
Ran Away											
No	476	365	19	893	1753	417	419	13	871	1720	3473
	13%	10%	1%	25%	49%	12%	12%	0%	24%	48%	97%
Yes	12	11	0	23	46	21	1	0	37	59	105
	0%	0%	0%	1%	1%	1%	0%	0%	1%	2%	3%
Smoked Marijuana											
No	357	279	9	581	1226	289	276	4	599	1168	2394
	10%	8%	0%	16%	34%	8%	8%	0%	17%	33%	67%
Yes	102	87	10	306	505	156	116	9	398	679	1184
	3%	2%	0%	9%	14%	4%	3%	0%	11%	19%	33%
Carried Handgun											
No	448	356	18	873	1695	382	343	12	878	1615	3310
	13%	10%	1%	24%	47%	11%	10%	0%	25%	45%	93%
Yes	11	10	1	17	39	63	49	1	116	229	268
	0%	0%	0%	0%	1%	2%	1%	0%	3%	6%	7%

Note: All multivariate models were weighted and corrected for stratification and clustering. Participants of Other Ethnicity were included within the analyses. The only exception of including Other Ethnicity was Race/Ethnicity models, where sample sizes were too small to complete independent analyses. (n = 3578)

Table 4.2: *Univariate Statistics: Indicators (Continued)*

	Female				Female Total	Male				Male Total	Total
	African Amer.	Hispanic Latino	Other Ethnicity	White		African Amer.	Hispanic Latino	Other Ethnicity	White		
Gang Member											
No	455	355	18	879	1707	408	366	12	968	1754	3461
	13%	10%	1%	25%	48%	11%	10%	0%	27%	49%	97%
Yes	7	11	1	8	27	37	26	1	26	90	117
	0%	0%	0%	0%	1%	1%	1%	0%	1%	3%	3%
Destroyed Property											
No	435	355	16	848	1654	395	346	10	857	1608	3262
	12%	10%	0%	24%	46%	11%	10%	0%	24%	45%	91%
Yes	24	11	3	39	77	50	49	3	137	239	316
	1%	0%	0%	1%	2%	1%	1%	0%	4%	7%	9%
Stole Property < \$50											
No	422	347	17	805	1591	406	339	11	858	1614	3205
	12%	10%	0%	22%	44%	11%	9%	0%	24%	45%	90%
Yes	35	22	2	82	141	39	55	2	136	232	373
	1%	1%	0%	2%	4%	1%	2%	0%	4%	6%	10%
Stole Property > \$50											
No	454	356	17	869	1696	418	360	13	929	1720	3416
	13%	10%	0%	24%	47%	12%	10%	0%	26%	48%	95%
Yes	16	10	2	18	46	27	32	0	57	116	162
	0%	0%	0%	1%	1%	1%	1%	0%	2%	3%	5%
Other Property Crime											
No	456	360	17	864	1697	413	365	13	938	1729	3426
	13%	10%	0%	24%	47%	12%	10%	0%	26%	48%	96%
Yes	13	6	2	23	44	32	27	0	46	105	149
	0%	0%	0%	1%	1%	1%	1%	0%	1%	3%	4%

Note: All multivariate models were weighted and corrected for stratification and clustering. Participants of Other Ethnicity were included within the analyses. The only exception of including Other Ethnicity was Race/Ethnicity models, where sample sizes were too small to complete independent analyses. (n = 3578)

Table 4.2: *Univariate Statistics: Indicators (Continued)*

	Female				Female Total	Male				Male Total	Total
	African Amer.	Hispanic Latino	Other Ethnicity	White		African Amer.	Hispanic Latino	Other Ethnicity	White		
Attacked Others											
No	417	340	15	823	1595	353	327	11	856	1547	3142
	12%	10%	0%	23%	45%	10%	9%	0%	24%	43%	88%
Yes	45	26	4	64	139	92	65	2	138	297	436
	1%	1%	0%	2%	4%	3%	2%	0%	4%	8%	12%
Sold Drugs											
No	447	342	17	824	1630	392	351	12	860	1615	3245
	12%	10%	0%	23%	46%	11%	10%	0%	24%	45%	91%
Yes	12	24	2	66	104	53	41	1	134	229	333
	0%	1%	0%	2%	3%	1%	1%	0%	4%	6%	9%

Note: All multivariate models were weighted and corrected for stratification and clustering. Participants of Other Ethnicity were included within the analyses. The only exception of including Other Ethnicity was Race/Ethnicity models, where sample sizes were too small to complete independent analyses. (n = 3578)

Multivariate Results

Latent Transition Analysis Results

Results for each multivariate analysis are listed in a series of tables and figures. The first table listed will contain fit indices for each model analyzed using the step-wise method. Next, a figure will be used to provide indicator probabilities by measurement, which will then be separated by found statuses within the figure. After the indicator probabilities, a figure will also be used to report status proportions as they change over the course of the adolescent development period. Last, a table is used to report the transition probabilities between statuses at each measured timepoint.

Contained within the first table are the fit indices for each model and assist in defining how many statuses will be included within the final model. Outlined within the fit indices table are the number of statuses analyzed for each model, which are listed by rows, and the values for each model's AIC, BIC, SSABIC, entropy, loglikelihood and loglikelihood replication. Reducing values for AIC, BIC, SSABIC and loglikelihood indicate better fitting models, whereas higher values of entropy indicate increased ordering and predictability of the model. Last, loglikelihood replication represents the ability to replicate results after 500 random starts within the data and 20 optimizations for each start of the analysis. Failure to replicate results are an indication of an unstable model.

Table 4.3 represents the fit indices for the Unrestricted Model for the entire sample. Although the values for AIC, BIC, SSABIC, and loglikelihood continue to decrease after four statuses and may indicate a better mathematically fitting model, the loglikelihood could not be replicated after five and distinct statuses be qualitatively

distinguished by SDB type across the entire adolescent period when more than four statuses were incorporated within the model. When deciding the best-fit model, each status should be qualitatively distinguishable from each other. When five statuses were incorporated in the Unconditional Model, a clear difference could not be determined between youth who participated in moderate levels of SDB. Because qualitative and quantitative results are incongruent at five or more statuses, the final model is fit at four statuses for the Unconditional Model where all indices describe the best fit.

Table 4.3: *Fit Indices for the Unconditional Model*

Latent Status	Number of Parameters Estimated	AIC	BIC	SSABIC	Entropy	Log-likelihood	Log-likelihood Replicated
2	31	104833.72	105025.38	104926.8	0.822	-52385.6	Yes
3	56	99232.96	99579.18	99401.24	0.815	-49560.4	Yes
4	87	96726.12	97264.00	96987.56	0.804	-48276.0	Yes
5	124	95039.74	95806.38	95412.37	0.781	-47395.8	Yes
6	167	94229.09	95261.58	94730.94	0.791	-46947.5	No

Note: $n = 3576$

Figure 4.1, *Unconditional Model: Indicator Probabilities by Status for Specific Behaviors*, is used to illustrate how qualitative measures influenced best-fit model indices through the use of indicator probabilities within each status. Within Figure 4.1, the four unique statuses of the Unconditional Model are provided: Status One- Minimal Deviant Behavior, Status Two – Primarily Status Offense Socially Deviant Behavior, Status Three – Moderate Socially Deviant Behavior, and Status Four – Severe Socially Deviant Behavior. On the x-axis of the status charts are the unique indicators used to describe SDB within the analysis, and the y-axis is used to describe the probability of indicator influencing the characteristics of the status. Finally, the various lines represent the four measurements used within the study. For example, the solid line within the charts

represents measurement $t+2$, when youth are aged 15-17. Finally, the statuses are rank-ordered by harm caused within the figure.

The results provided within the figure describe the latent characteristics of each status, which are how qualitative indices for model fit are derived. For example, in Status Two, members are most likely to limit SDB to drinking and smoking, which are status offenses. Although the probability of smoking marijuana and stealing items valued at less than \$50 becomes elevated during specific ages, these behaviors are not consistently performed throughout adolescence. Therefore, the qualitative description for this status is: primarily status offenses. Furthermore, you can see in Status One, the probability for members of this status participating in any SDB other than drinking during ages 17-19 is relatively low, and conversely, in Status Four, the probability of members participating in every type SDB remains elevated for all indices except running away during ages 17-19.

Besides qualitative observations, quantitative interpretations can also be extracted from the figure. For example, results can indicate when members of a status are most likely to participate in SDB overall, (see Status Four, $t+2$), when escalations for specific SDBs occur during the adolescence development period (see Status One, Drinks) or when de-escalations of SDB might occur (see Running Away for all statuses). Another example can include how similar behaviors are across the adolescent period for all statuses (see Running Away) or dissimilar (see Selling Drugs).

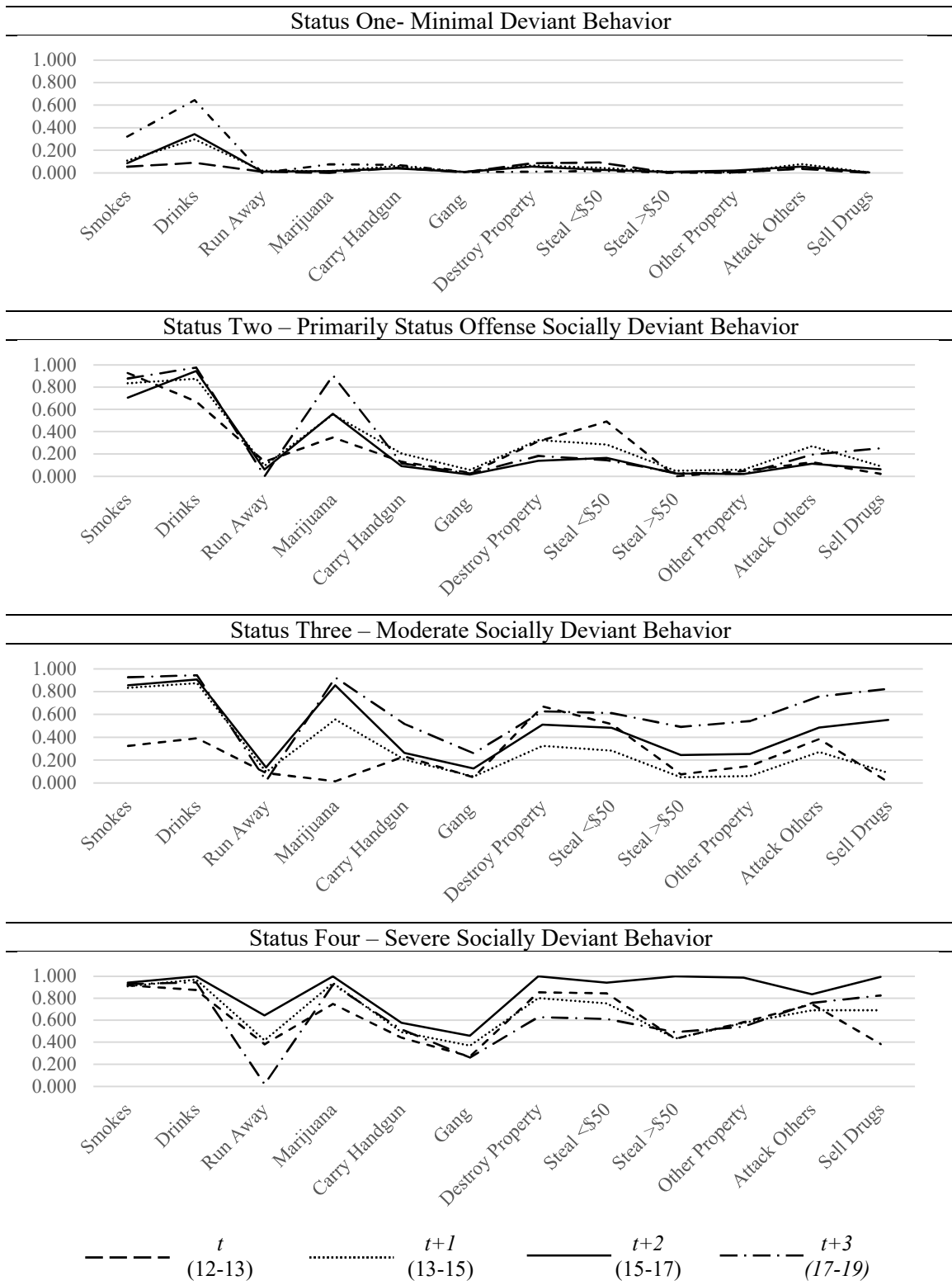


Figure 4.1: Unconditional Model: Indicator Probabilities by Status for Specific Behaviors

The next figure of results describes the number of members within each status at every point of the analysis. The x-axis of the figure includes the analyzed timepoints of the model, (t : ages 12 - 13, $t+1$: ages 13 - 15, $t+2$: ages 15 - 17, and $t+3$ ages 17 - 19), and the y-axis is used to describes the member count. Finally, the various lines represent the four statuses used within the study. For example, in Figure 4.2: *Unconditional Model: Status Proportions*, the solid line represents Status Four – Severe SDB, and at measurement t status membership included approximately 250 youth, peaked at $t+1$ at around 600 members, and then regressed to less than 500 members by the conclusion of the analysis. This figure also describes trends in membership proportions. For example, we can see that Status Two – Primarily Status Offense started out with the least members and concluded with the most members. Additionally, we can see that after measurement $t+1$, Status One, Three and Four were on the decline for membership counts.

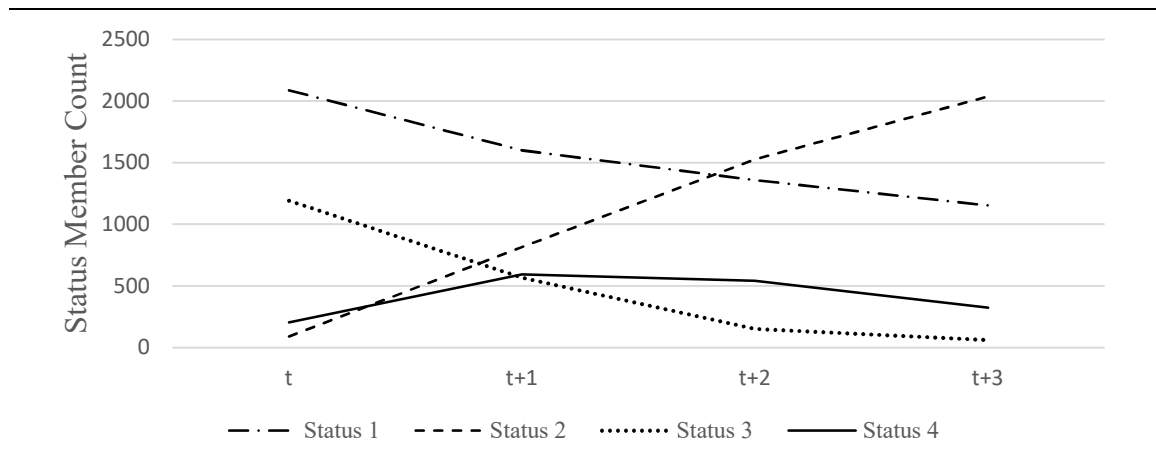


Figure 4.2: *Unconditional Model: Status Proportions*

The last table describes the probabilities of transitioning between statuses at each measured timepoint. Specifically, this table describes how likely it is for a member to

stay within a status by manifesting the same behavior characteristics from one measurement to the next or change the way they participate in SDB and become a member of a different status. The transition table is organized by the originating statuses located within the rows, destination status located in the column and transition probabilities listed as the values. Furthermore, the originating statuses are organized by measured timepoint, meaning that the first five rows describe status transition probabilities between ages 12-13 and 13-15, the next five rows describe status transition probabilities between 13-15 and 15-17, and the last five rows describe status transition probabilities between ages 15-17 and 17 -19.

To better illustrate the use of this table, Table 4.4, *Transition Probabilities for the Unconditional Model*, will be used to explain how to interpret the table. The first observation of note is that the probability to remain in the previous status is relatively high throughout adolescence, with the exception of Status Three – Moderate. Members of Status Three have the greatest probabilities to change SDB participation characteristics and transition to a different status. In order to conclude this information, the observer simply compares the probabilities in the originating Status Three to destination statuses and notes the elevated probabilities to transition to other statuses. Similar to Status Three, Status Four also has elevated likelihoods to transition to different statuses. For example, at $t \rightarrow t+1$ the probability to remain in Status Four is $p = .672$, whereas the probability to transition from Status Four to Status Two is $p = .201$. An additional observation of note is that youth who participate in primarily statutory offenses are most likely to continue participating in the same SDB, thus unlikely to transition to a different status. This

conclusion is made because probabilities remain high at each timepoint ($p_{t \rightarrow t+1} = .901$; $p_{t+1 \rightarrow t+2} = .888$; $p_{t+2 \rightarrow t+3} = .951$).

Table 4.4: *Transition Probabilities for the Unconditional Model*

	Status			
	Minimal	Statutory	Moderate	Severe
Transition Probabilities $t \rightarrow t+1$				
Status One – Minimal	.702	.165	.093	.039
Status Two – Statutory	.015	.901	.000	.075
Status Three – Moderate	.104	.291	.297	.309
Status Four – Severe	.036	.201	.091	.672
Transition Probabilities $t+1 \rightarrow t+2$				
Status One – Minimal	.739	.225	.025	.012
Status Two – Statutory	.039	.888	.000	.073
Status Three – Moderate	.249	.399	.169	.186
Status Four – Severe	.010	.363	.028	.599
Transition Probabilities $t+2 \rightarrow t+3$				
Status One – Minimal	.790	.209	.000	.001
Status Two – Statutory	.021	.951	.000	.028
Status Three – Moderate	.254	.254	.381	.111
Status Four – Severe	.020	.488	.007	.485

*Note: The unconditional model is unrestricted by stratified covariates;
n = 3576*

Female Adolescent Youth, Unconditional Model

Results for model fit are listed in Table 4.5, where four unique statuses were identified in the Female Adolescent Youth Unconditional Model (Model 4_{Female}: AIC = 40173.117; BIC = 40647.929; SSABIC = 40371.539; entropy = .803; loglikelihood = -19999.559). Figure 4.3 provides the latent characteristics of each status, in which the statuses are: Status One – Minimal Deviant Behavior, Status Two – Primarily Status Offense Socially Deviant Behavior, Status Three – Moderate Socially Deviant Behavior, and Status Four – Severe Socially Deviant Behavior.

Table 4.5: *Fit Indices for Female Adolescent Youth, Unconditional Model*

Latent Statuses	Number of Parameters Estimated	AIC	BIC	SSABIC	Entropy	Log-likelihood	Log-likelihood Replicated
2	31	43604.233	43773.41	43674.93	0.822	-21771.1	Yes
3	56	41089.925	41395.55	41217.64	0.809	-20488.9	Yes
4	87	40173.11	40647.92	40371.53	0.803	-19999.5	Yes
5	124	39330.10	40006.84	39612.90	0.804	-19541.0	No

Note: $n = 1738$



Figure 4.3: Female Adolescent Youth, Unconditional Model: Indicator Probabilities by Status for Specific Behaviors

As shown in Figure 4.3, Members of Status One – Minimal Socially Deviant Behavior were unlikely to participate most types of SDB throughout adolescence. The only SDB that has elevated probability is drinking alcohol ($p_{\text{drink}}^t = .64$; $p_{\text{drink}}^{t+1} = .29$; $p_{\text{drink}}^{t+2} = .39$; $p_{\text{drink}}^{t+3} = .50$), which increased in probability as age increased. Members of Status Two – Primarily Status Offense Socially Deviant Behavior were most likely to participate in smoking and drinking at very high levels throughout adolescence. Members were more likely to have tried smoking ($p_{\text{smoke}}^t = .98$) than alcohol ($p_{\text{drink}}^t = .56$) prior to ages 12 & 13, but were much more likely to have consumed alcohol ($p_{\text{drink}}^{t+3} = .98$) than smoke ($p_{\text{smoke}}^{t+3} = .68$) after the age of 17. Consumption of marijuana also had elevated probabilities across adolescence, but peaked in likelihood at age 15 -17 ($p_{\text{mari}}^{t+2} = .55$). Members of Status Three – Moderate Socially Deviant Behavior varied in the SDB across adolescence. Prior to the ages of 12 & 13, they were most likely to participate in property destruction ($p_{\text{dprop}}^t = .51$), while during age 13 – 15 they were most likely to attack others ($p_{\text{attack}}^{t+1} = .56$). After the age of 15, members of this status were also very likely to drink, smoke, and consume marijuana for the remainder of adolescence ($p > .85$), as well as steal during ages 15-17 ($p_{s<50}^{t+2} = .39$) and sell drugs over the age of 17 ($p_{\text{sell}}^{t+3} = .53$). Last, members of Status Four – Severe Socially Deviant Behavior were likely to participate in every assessed type of SDB throughout adolescence. The least likely SDB was gang membership ($p_{\text{gang}}^t = .28$; $p_{\text{gang}}^{t+1} = .19$; $p_{\text{gang}}^{t+2} = .34$; $p_{\text{gang}}^{t+3} = .08$). The highest likelihood of SDB participation occurred during ages 15-17, where all but gang membership, carrying a hand gun, and running away was $p > .80$.

As shown in Figure 4.4, the status with the most membership growth over the adolescent period were female AY that participated in status offenses ($n_{s2}^t = 29$; $n_{s2}^{t+3} =$

1049), whereas the status that experienced the most decrease in proportion was Status Three – Moderate Socially Deviant Behavior ($n_{s3}^t = 548$; $n_{s3}^{t+3} = 30$). The proportion of female AY that participated in serious SDB remained relatively similar at t and $t+3$ ($n_{s4}^t = 96$; $n_{s4}^{t+3} = 116$), but saw a dramatic increase between ages 12-14 ($n_{s4}^{t+1} = 313$). After the increase from ages 12-14, most members that transitioned from Status Four went to Status Two – Primarily Status Offense Socially Deviant Behavior. Although members of Status One – Minimal Deviant Behavior maintained the largest proportion of members overall, by the age of 17 the majority of members had transitioned to other statuses.

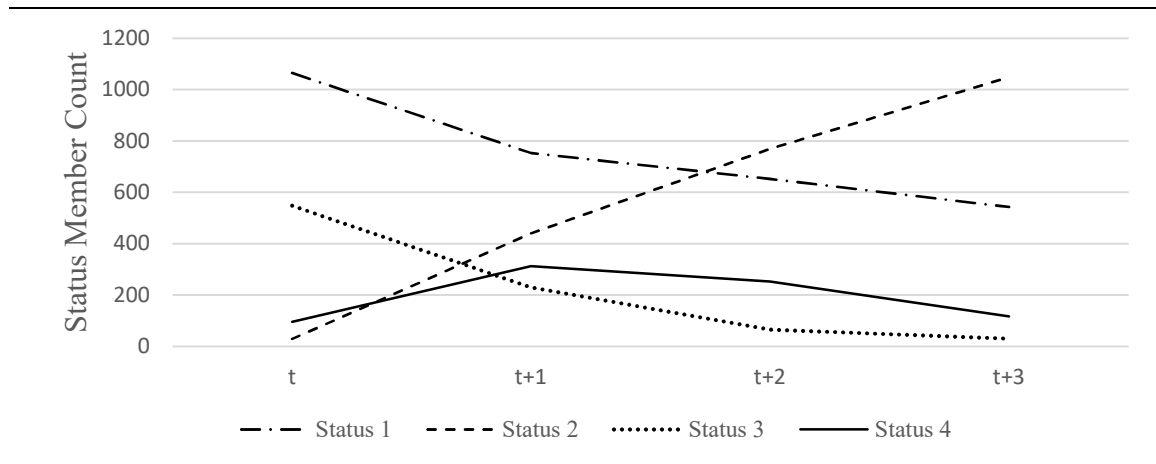


Figure 4.4: *Female Adolescent Youth, Unconditional Model: Status Proportions*

As shown in Table 4.6, the transition probabilities for female AY are provided for the entire adolescent period. Overall, female AY were most likely to remain in the previous status as compared to transitioning to any other status throughout adolescence. The probability of remaining in Status One at any given measurement was high ($t \rightarrow t+1$: $\tau = .66$; $t+1 \rightarrow t+2$: $\tau = .76$; $t+2 \rightarrow t+3$: $\tau = .76$), however it was very unlikely that anyone ever transitioned into Status One after 13 years old. In fact, the highest probability occurred after 15, when Status Three members were participating in less SDB

(Status 3 to Status 1: [$t+1 \rightarrow t+2: \tau = .24$; $t+2 \rightarrow t+3: \tau = .35$]). Additionally, most youth transitioned from Status One to Status Two. Furthermore, Status Two was the least likely of any status to lose members ($t \rightarrow t+1: \tau = 1.00$; $t+1 \rightarrow t+2: \tau = .88$; $t+2 \rightarrow t+3: \tau = .97$), and was the most likely destination of any transition throughout adolescence. Conversely to other statuses, members of Status Three were very unlikely to remain within this subgroup ($t \rightarrow t+1: \tau = .22$; $t+1 \rightarrow t+2: \tau = .21$; $t+2 \rightarrow t+3: \tau = .39$). Additionally, only between beginning adolescence and early adolescence were youth more likely to transition from Status Three to Status Four (Status 3 to Status Four: [$t \rightarrow t+1: \tau = .35$]), whereas the remainder of the adolescent development period youth were more likely to deescalate in harm. Status Four was most likely to retain members from ages 13-15, however after age 15 members were only half as likely to remain in the status ($t+1 \rightarrow t+2: \tau = .58$; $t+2 \rightarrow t+3: \tau = .44$) as to transition to less harmful statuses. By the conclusion of adolescence, youth were most likely to transition to less harmful statuses, with Status Two being the most probable destination of any transition.

Table 4.6: *Transition Probabilities for Female Adolescent Youth, Unconditional Model*

	Status			
	Minimal	Statutory	Moderate	Severe
Transition Probabilities $t \rightarrow t+1$				
Status One – Minimal	.659	.194	.102	.046
Status Two – Statutory	.000	1.000	.000	.000
Status Three – Moderate	.088	.340	.220	.352
Status Four – Severe	.018	.206	.021	.755
Transition Probabilities $t+1 \rightarrow t+2$				
Status One – Minimal	.763	.212	.014	.011
Status Two – Statutory	.049	.875	.000	.077
Status Three – Moderate	.236	.428	.210	.125
Status Four – Severe	.000	.401	.020	.579
Transition Probabilities $t+2 \rightarrow t+3$				
Status One – Minimal	.760	.240	.000	.000
Status Two – Statutory	.022	.971	.006	.000
Status Three – Moderate	.353	.170	.386	.091
Status Four – Severe	.022	.541	.000	.437

Note: $n = 1738$

Female Adolescent Youth by Race

White Adolescent Youth Females. Fit indices for the White Female AY Model are listed in Table 4.7. The results provided within Figure 4.5, *White Female Adolescent Youth: Indicator Probabilities by Status for Specific Behaviors*, describe the latent characteristics of each status. Four latent statuses were found among White female AY. Members of Status One – Minimal Socially Deviant Behavior were unlikely to participate most types of SDB throughout adolescence. The only SDB that has elevated probability is drinking alcohol ($p_{\text{drink}}^t = .03$; $p_{\text{drink}}^{t+1} = .28$; $p_{\text{drink}}^{t+2} = .41$; $p_{\text{drink}}^{t+3} = .61$), which increased in probability as age increased. Members of Status Two – Primarily Status Offense Socially Deviant Behavior were most likely to participate in smoking and drinking at very high levels throughout adolescence. Members were more likely to have tried smoking ($p_{\text{smoke}}^t = .99$) than alcohol ($p_{\text{drink}}^t = .67$) prior to ages 12 & 13, but were much more likely to have consumed alcohol ($p_{\text{drink}}^{t+3} = .99$) than smoke ($p_{\text{smoke}}^{t+3} = .24$)

after the age of 17. Consumption of marijuana also had elevated probabilities after age 15 ($p_{\text{mari}}^{t+2} = .55$; $p_{\text{mari}}^{t+3} = .56$). Members of Status Three – Moderate Socially Deviant Behavior varied in the SDB across adolescence. Prior to the ages of 13, they were unlikely to participate in any SDB, but had much higher probabilities of participation as compared to members of Status One particularly in property SDB. After the age of 13, members of this status were also very likely to drink, smoke, and consume marijuana for the remainder of adolescence, as well as steal. From ages 15-17, they were also most likely to attack others ($p_{\text{attack}}^{t+2} = .34$). Last, members of Status Four – Severe Socially Deviant Behavior were likely to participate in every type of SDB throughout adolescence. The least likely SDB was gang membership ($p_{\text{gang}}^t = .28$; $p_{\text{gang}}^{t+1} = .18$; $p_{\text{gang}}^{t+2} = .14$; $p_{\text{gang}}^{t+3} = .01$). The highest likelihood of SDB participation occurred during ages 15-17, where all but gang membership and carrying a hand gun was $p > .90$.

Table 4.7: *Fit Indices for White Female Adolescent Youth*

Latent Statuses	Number of Parameters Estimated	AIC	BIC	SSABIC	Entropy	Log-likelihood	Log-likelihood Replicated
2	31	21954.527	22102.98	22004.53	0.831	-10946.2	Yes
3	56	20604.128	20872.31	20694.46	0.825	-10246.0	Yes
4	87	20083.725	20500.36	20224.07	0.827	-9954.8	Yes
5	124	19644.658	20238.49	19844.69	0.820	-9698.3	Yes

Note: $n = 886$

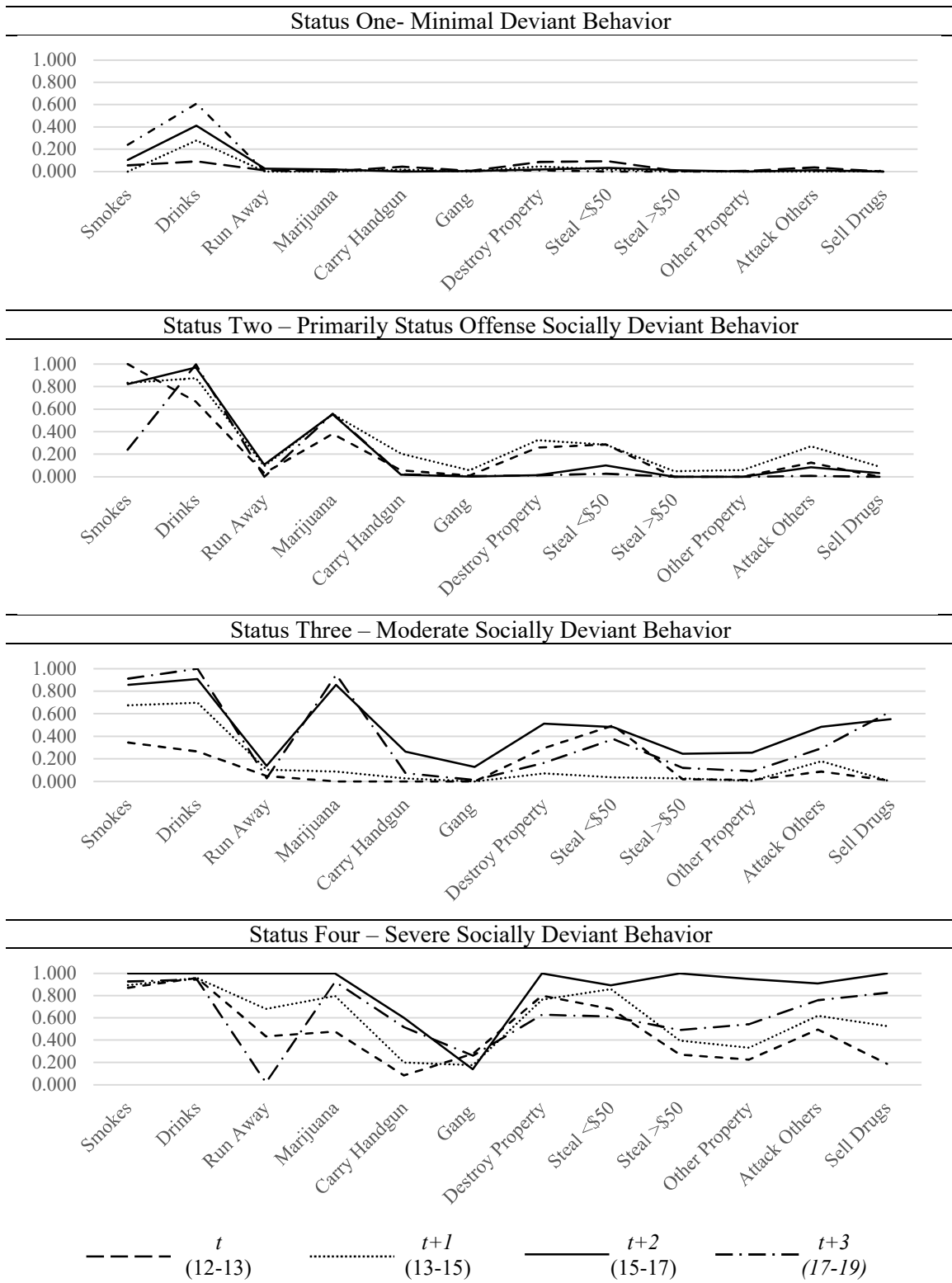


Figure 4.5: White Female Adolescent Youth: Indicator Probabilities by Status for Specific Behaviors

As shown in Figure 4.6 the status with the most membership growth over the adolescent period were female AY that participated in status offenses ($n_{s2}^t = 56$; $n_{s2}^{t+3} = 425$), whereas the status that experienced the most decrease in proportion was Status One – Minimal Deviant Behavior ($n_{s3}^t = 663$; $n_{s3}^{t+3} = 108$). Unlike the Unconditional Female AY Model, the proportion of females that participated in moderate SDB steadily increased between t and $t+3$ ($n_{s3}^t = 50$; $n_{s3}^{t+3} = 316$), however members of Status Four – Severe SDB saw a dramatic decrease between from ages 13-19 ($n_{s4}^{t+1} = 176$; $n_{s4}^{t+3} = 37$).

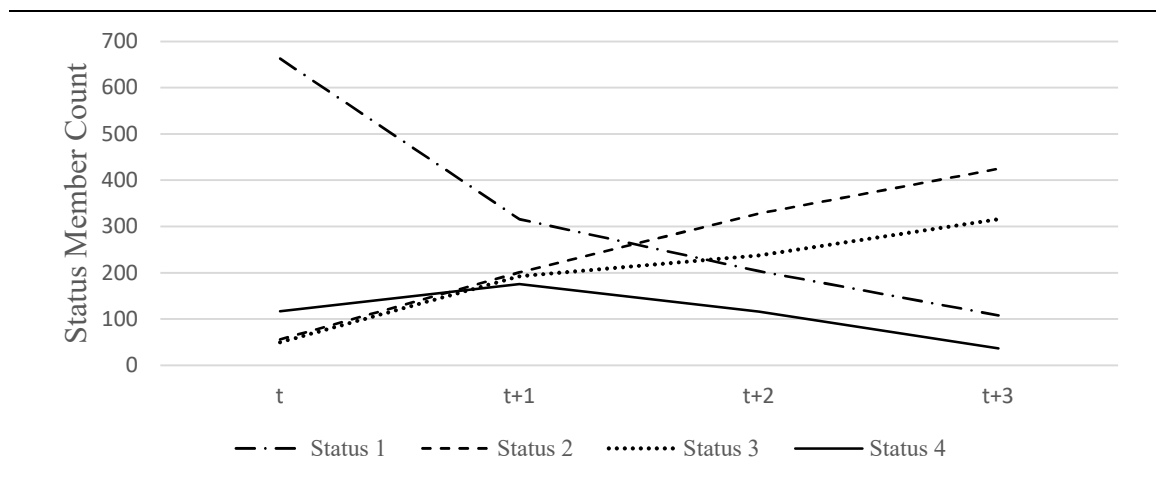


Figure 4.6: *White Female Adolescent Youth Model: Status Proportions*

Table 4.8 describes the transition probabilities for White female AY for the entire adolescent period. Overall, female AY were most likely to remain in the previous status as compared to transitioning to any other status throughout adolescence. The probability of remaining in Status One at any given measurement had equal probability ($t \rightarrow t+1$: $\tau = .48$; $t+1 \rightarrow t+2$: $\tau = .58$; $t+2 \rightarrow t+3$: $\tau = .49$), which was the lowest of any racial/ethnic model completed within the analysis. Additionally, it was very unlikely that anyone ever transitioned into Status One during any point during the entire adolescent period. In fact,

the highest probability occurred from Status Three during ages 13-17, where transition likelihood was still improbable (Status 3 to Status 1: [$t+1 \rightarrow t+2$: $\tau = .09$]). Status Two was the least likely of any status to lose members ($t \rightarrow t+1$: $\tau = .83$; $t+1 \rightarrow t+2$: $\tau = .87$; $t+2 \rightarrow t+3$: $\tau = .95$), and was the most likely destination of any transition throughout adolescence. Conversely to all other models, White female AY members of Status Three were very unlikely to transition to other statuses. In fact, by age 17, White Female AY were not only most likely to remain within the status ($t+2 \rightarrow t+3$: $\tau = .90$), but many Status One members were transitioning into Status Three (Status 1 to Status 3: [$t+2 \rightarrow t+3$: $\tau = .44$]). Status Four was most likely to retain members from ages 13-15, however after age 15 members were unlikely to remain in the status ($t+1 \rightarrow t+2$: $\tau = .52$; $t+2 \rightarrow t+3$: $\tau = .29$). By the conclusion of adolescence, youth were most likely to transition to less harmful statuses, with Status Two and Status Three being the most probable destination of any transition.

Table 4.8: *Transition Probabilities for White Female Adolescent Youth*

	Status			
	Minimal	Statutory	Moderate	Severe
Transition Probabilities $t \rightarrow t+1$				
Status One – Minimal	.477	.168	.236	.119
Status Two – Statutory	.000	.830	.011	.158
Status Three – Moderate	.000	.226	.529	.245
Status Four – Severe	.000	.271	.075	.654
Transition Probabilities $t+1 \rightarrow t+2$				
Status One – Minimal	.575	.147	.273	.005
Status Two – Statutory	.029	.865	.037	.068
Status Three – Moderate	.088	.177	.687	.048
Status Four – Severe	.000	.412	.071	.517
Transition Probabilities $t+2 \rightarrow t+3$				
Status One – Minimal	.488	.074	.438	.000
Status Two – Statutory	.017	.954	.037	.000
Status Three – Moderate	.000	.083	.902	.015
Status Four – Severe	.021	.667	.020	.293

Note: $n = 886$

Hispanic/Latina Female Adolescent Youth. Fit indices for the Hispanic/Latina Female AY Model are listed in Table 4.9. The results provided within Figure 4.7, *Hispanic/Latina Female Adolescent Youth: Indicator Probabilities by Status for Specific Behaviors*, describe the latent characteristics of each status. Four latent statuses were found among Hispanic/Latina female AY. Members of Status One – Minimal Socially Deviant Behavior were unlikely to participate most types of SDB throughout adolescence. The only SDB that has elevated probability is drinking alcohol ($p_{\text{drink}}^t = .09$; $p_{\text{drink}}^{t+1} = .28$; $p_{\text{drink}}^{t+2} = .52$; $p_{\text{drink}}^{t+3} = .92$), which increased in probability as age increased. Among all racial/ethnic models, female Hispanic/Latina AY had the highest probability to consume alcohol in Status One. Members of Status Two – Primarily Status Offense Socially Deviant Behavior were most likely to participate in smoking and drinking at very high levels throughout adolescence. Converse to other models, Hispanic/Latina Female AY were more likely to drink as compared to smoke during the entire adolescent period, as well as least likely to consume marijuana before age 15 and after age 17. Members of Status Three – Moderate Socially Deviant Behavior varied in the SDB across adolescence. Prior to the ages of 12 & 13, they were most likely to participate in stealing ($p_{s<50}^t = .55$), while likely to steal higher valued items from 13 – 15 ($p_{s>50}^{t+1} = .58$). Additionally, Hispanic/Latina members of Status Three had the highest probability to attack others during any point ($p_{\text{attack}}^{t+2} = .93$). Members of this status were also very likely to drink, smoke, and consume marijuana for the entire adolescence period, while only having elevated probabilities of stealing ($p_{s<50}^{t+3} = .55$), attacking other ($p_{\text{attack}}^{t+3} = .41$) and selling drugs ($p_{\text{sell}}^{t+3} = .27$) over the age of 17. Last, members of Status Four – Severe Socially Deviant Behavior were likely to participate in every type of

SDB throughout adolescence. The least likely SDB was gang membership ($p_{\text{gang}}^t = .00$; $p_{\text{gang}}^{t+1} = .38$; $p_{\text{gang}}^{t+2} = .33$; $p_{\text{gang}}^{t+3} = .25$). The highest likelihood of SDB participation occurred during ages 15-17.

Table 4.9: *Fit Indices for Hispanic/Latina Female Adolescent Youth*

Latent Statuses	Number of Parameters Estimated	AIC	BIC	SSABIC	Entropy	Log-likelihood	Log-likelihood Replicated
2	31	9178.776	9299.842	9201.491	0.794	-4558.388	Yes
3	56	8622.432	8841.132	8663.465	0.816	-4255.216	Yes
4	87	8460.185	8799.951	8523.933	0.823	-4143.092	Yes
5	124	8357.433	8841.698	8448.293	0.823	-4054.717	No

Note: $n = 366$

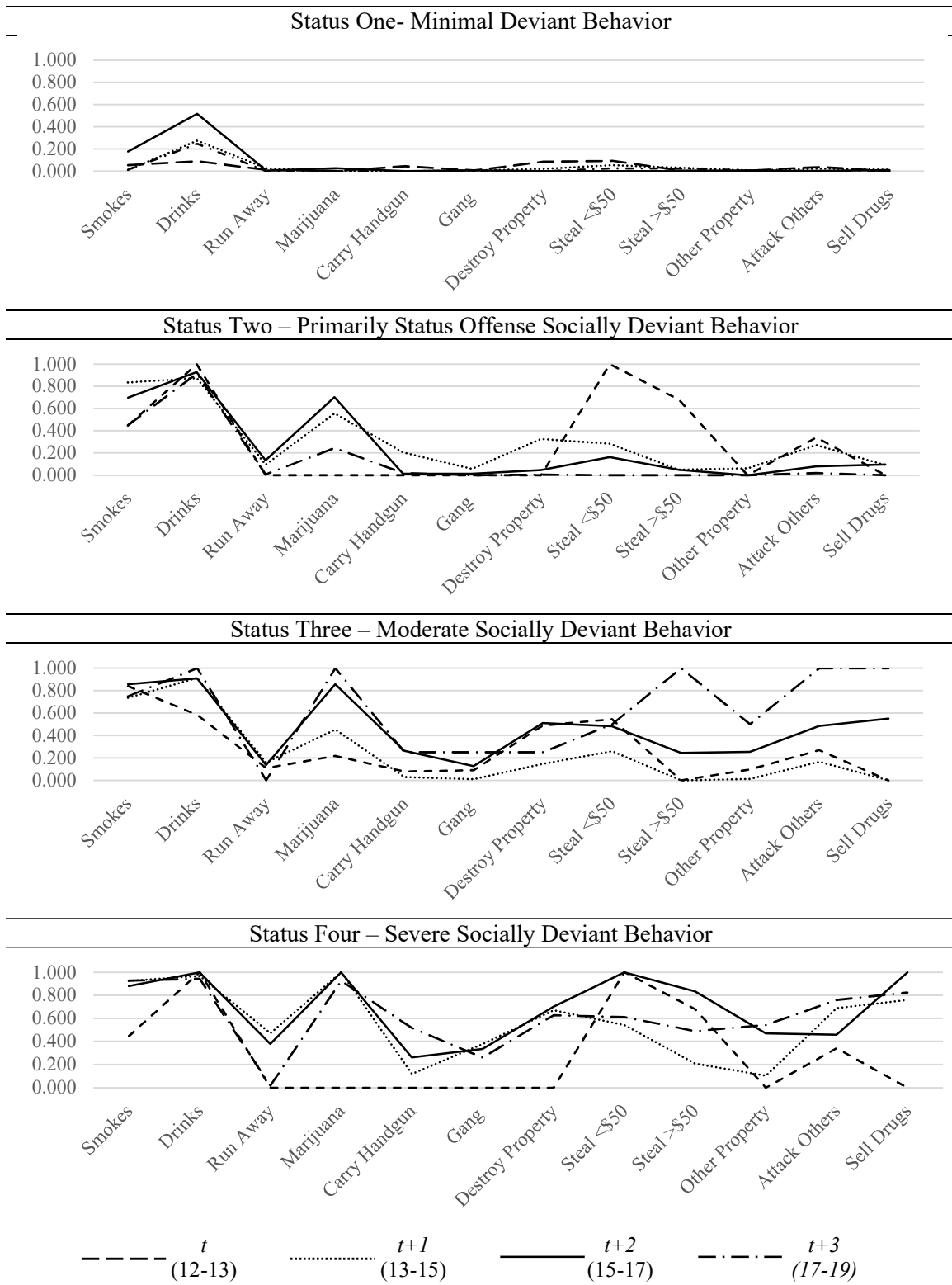


Figure 4.7: Hispanic/Latina Female Adolescent Youth: Indicator Probabilities by Status for Specific Behaviors

As shown in Figure 4.8, the status with the most membership growth over the adolescent period were Hispanic/Latina female AY that participated in status offenses ($n_{s2}^t = 9; n_{s2}^{t+3} = 239$), whereas the status that experienced the most decrease in proportion was Status One – Minimal Deviant Behavior ($n_{s1}^t = 260; n_{s1}^{t+3} = 86$). The proportion of members in Status Three also decreased significantly between t and $t+3$ ($n_{s3}^t = 88; n_{s3}^{t+3} = 37$), but did not see a significant decrease until AY were aged 16 and over. The proportion of AY who were members of Status Four – Severe Socially Deviant Behavior, remained relatively low throughout adolescence ($< 4\%$), with the exception of ages 13-15, where 14.48% of Hispanic/Latina AY were members of Status Four.

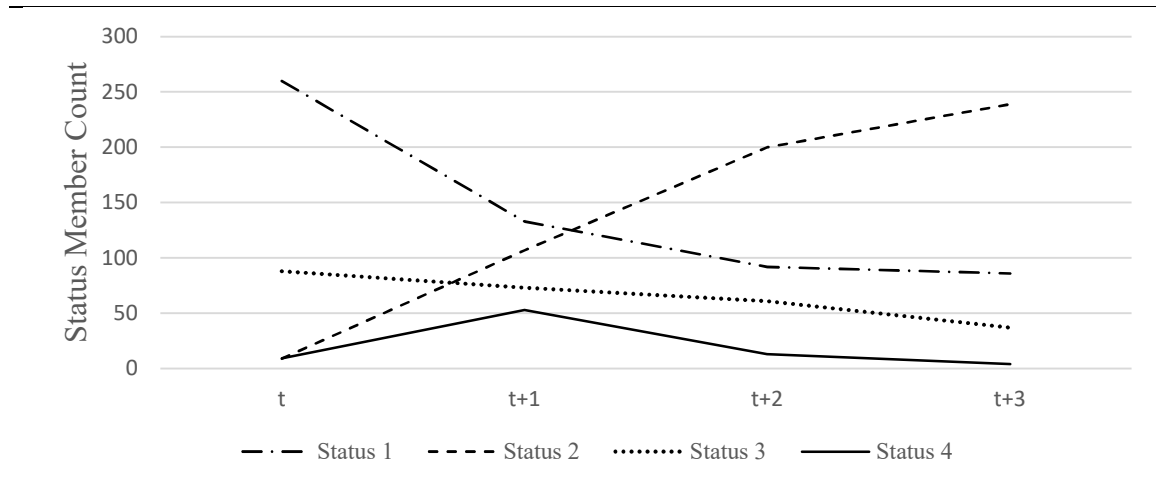


Figure 4.8: *Hispanic/Latina Female Adolescent Youth Model: Status Proportions*

Table 4.10 describes the transition probabilities for Hispanic/Latina female AY for the entire adolescent period. Overall, female AY were most likely to remain in the previous status as compared to transitioning to any other status throughout adolescence. The probability of remaining in Status One steadily increased over the adolescent period ($t \rightarrow t+1: \tau = .47; t+1 \rightarrow t+2: \tau = .63; t+2 \rightarrow t+3: \tau = .73$), and actually saw a significant

influx of members from Status Three after 17 (Status Three to Status One: [$t+2 \rightarrow t+3$: $\tau = .84$]). When transitioning from Status One, most youth transitioned to Status Two. Status Two was the least likely of any status to lose members ($t \rightarrow t+1$: $\tau = 1.00$; $t+1 \rightarrow t+2$: $\tau = .85$; $t+2 \rightarrow t+3$: $\tau = .95$), and was the most likely destination of any transition throughout adolescence. Unlike White female AY, members of Status Three were very unlikely to remain within this subgroup ($t \rightarrow t+1$: $\tau = .27$; $t+1 \rightarrow t+2$: $\tau = .14$; $t+2 \rightarrow t+3$: $\tau = .08$). Additionally, only between beginning adolescence and early adolescence were youth more likely to transition from Status Three to Status Four (Status 3 to Status Four: [$t \rightarrow t+1$: $\tau = .35$]), whereas the remainder of the adolescent development period youth were more likely to deescalate in harm. Status Four was most likely to retain members from ages 13-15, however after age 15 members were only half as likely to remain in the status ($t+1 \rightarrow t+2$: $\tau = .57$; $t+2 \rightarrow t+3$: $\tau = .56$) as to transition to less harmful statuses. By the conclusion of adolescence, youth were most likely to transition to less harmful statuses, with Status Two being the most probable destination of any transition.

Table 4.10: Transition Probabilities for Hispanic/Latina Female Adolescent Youth

	Status			
	Minimal	Statutory	Moderate	Severe
Transition Probabilities $t \rightarrow t+1$				
Status One – Minimal	.456	.298	.189	.056
Status Two – Statutory	.000	.000	.000	.000
Status Three – Moderate	.140	.241	.265	.354
Status Four – Severe	.000	.000	.122	.878
Transition Probabilities $t+1 \rightarrow t+2$				
Status One – Minimal	.630	.370	.000	.000
Status Two – Statutory	.040	.849	.028	.083
Status Three – Moderate	.072	.502	.138	.288
Status Four – Severe	.000	.427	.000	.573
Transition Probabilities $t+2 \rightarrow t+3$				
Status One – Minimal	.731	.251	.018	.000
Status Two – Statutory	.029	.952	.000	.019
Status Three – Moderate	.838	.078	.084	.000
Status Four – Severe	.027	.410	.005	.559

Note: $n = 366$

African American Females Adolescent Youth. Four latent statuses were found among African American female AY. Members of Status One – Minimal Socially Deviant Behavior were unlikely to participate most types of SDB throughout adolescence. African American female AY was the only model that did not have high likelihoods of participation in any SDB across the entire adolescent period. The higher probability occurs during ages 15-17, where African American female AY only had $p = .30$ to participate in alcohol consumption. Members of Status Two – Primarily Status Offense Socially Deviant Behavior were most likely to participate in smoking and drinking at very high levels throughout adolescence. Members were more likely to have tried smoking ($p_{\text{smoke}}^t = .51$) than alcohol ($p_{\text{drink}}^t = .40$) prior to ages 12 & 13, but were much more likely to have consumed alcohol ($p_{\text{drink}}^{t+3} = .94$) than smoke ($p_{\text{smoke}}^{t+3} = .50$) after the age of 17. Consumption of marijuana also had elevated probabilities after age 13, but peaked in likelihood at age 15 -17 ($p_{\text{mari}}^{t+2} = .58$). Additionally, Status Two

African Americans, male or female AY, were more likely to participate in petty theft as compared to other races/ethnicities. Members of Status Three – Moderate Socially Deviant Behavior varied in the SDB across adolescence. Prior to the ages of 12 & 13, they were most likely to participate in property destruction ($p_{dprop}^t = .74$) and attack others ($p_{attack}^t = .39$), while during age 13 – 15 they were most likely to attack others ($p_{attack}^{t+1} = .66$). After the age of 13, members of this status were also very likely to drink, smoke, and consume marijuana for the remainder of adolescence, as well as attack others ($p_{attack}^{t+3} = .99$) and sell drugs over the age of 17 ($p_{sell}^{t+3} = .50$). Last, members of Status Four – Severe Socially Deviant Behavior were likely to participate in every type of SDB throughout adolescence. The least likely SDB was gang membership ($p_{gang}^t = .11$; $p_{gang}^{t+1} = .14$; $p_{gang}^{t+2} = .59$; $p_{gang}^{t+3} = .08$). The highest likelihood of SDB participation occurred during ages 15-17, where all but running away, carrying a hand gun, and other property SDB maintained high likelihoods. Fit indices for the African American Female AY model are listed in Table 4.11. The results provided within Figure 4.9, *African American Female Adolescent Youth: Indicator Probabilities by Status for Specific Behaviors*, describe the latent characteristics of each status.

Table 4.11: *Fit Indices for African American Female Adolescent Youth*

Latent Statuses	Number of Parameters Estimated	AIC	BIC	SSABIC	Entropy	Log-likelihood	Log-likelihood Replicated
2	31	11547.263	11675.26	11576.87	0.766	-5742.6	Yes
3	56	11119.976	11351.20	11173.47	0.776	-5503.9	Yes
4	87	10832.600	11191.82	10915.71	0.767	-5329.3	Yes
5	124	10764.750	11276.75	10883.21	0.787	-5258.3	No

Note: $n = 457$



Figure 4.9: African American Female Adolescent Youth: Indicator Probabilities by Status for Specific Behaviors

As shown in Figure 4.10, the status with the most membership growth over the adolescent period were female AY that participated in status offenses ($n_{s2}^t = 15$; $n_{s2}^{t+3} = 237$), whereas the status that experienced the most decrease in proportion was Status Three – Moderate Socially Deviant Behavior ($n_{s3}^t = 178$; $n_{s3}^{t+3} = 2$). The proportion of female AY that participated in serious SDB remained relatively similar at t and $t+3$ ($n_{s4}^t = 23$; $n_{s4}^{t+3} = 30$), but doubled in membership size between ages 12-14 ($n_{s4}^{t+1} = 52$) and then steadily decreased thereafter. Also, compared to other female youth, African American female AY maintained the fewest members and lowest proportions in the moderate and severe SDB statuses after the age of 17 (Status $3^{t+3} + 4^{t+3}$: $n_{AfricanAmerican} = 32$ [7.00%]; $n_{white} = 353$ [39.84%]; $n_{Hispanic/Latina} = 41$ [11.20%]).

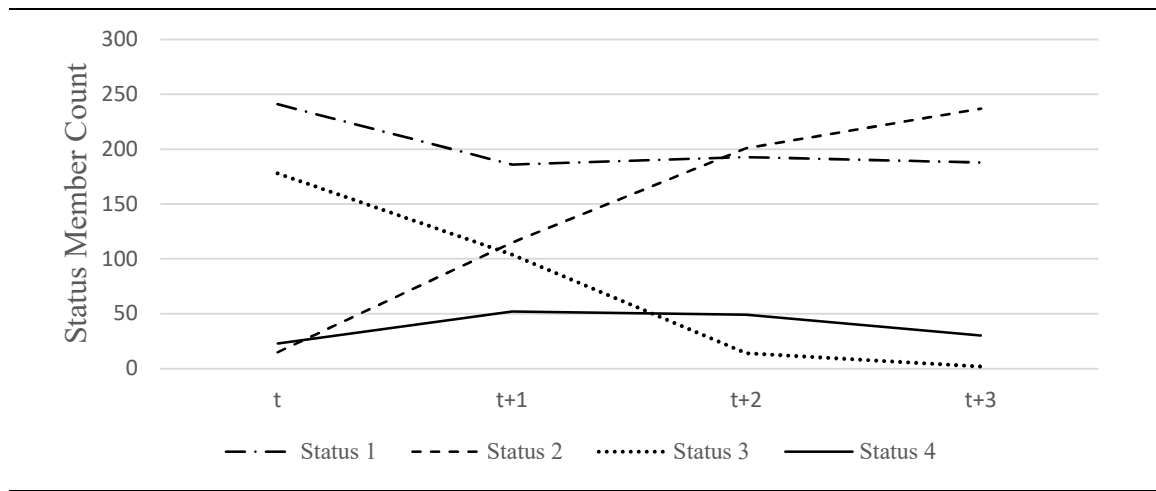


Figure 4.10: African American Female Adolescent Youth Model: Status Proportions

Table 4.12 describes the transition probabilities for African American female AY for the entire adolescent period. Overall, female AY were most likely to remain in the previous status as compared to transitioning to any other status throughout adolescence. The probability of remaining in Status One steadily increased over the adolescent period

($t \rightarrow t+1: \tau = .64; t+1 \rightarrow t+2: \tau = .74; t+2 \rightarrow t+3: \tau = .76$), and constantly received new members from Status Three after for the entire adolescent development period (Status Three to Status One: [$t \rightarrow t+1: \tau = .17; t+1 \rightarrow t+2: \tau = .34; t+2 \rightarrow t+3: \tau = .41$]). When transitioning from Status One, most youth transitioned to Status Two. Status Two was the least likely of any status to lose members ($t \rightarrow t+1: \tau = .88; t+1 \rightarrow t+2: \tau = .81; t+2 \rightarrow t+3: \tau = .83$), and was the most likely destination of any transition throughout adolescence. Unlike White female AY, members of Status Three were very unlikely to remain within this subgroup ($t \rightarrow t+1: \tau = .40; t+1 \rightarrow t+2: \tau = .14; t+2 \rightarrow t+3: \tau = .09$). Additionally, African American youth are unlikely to transition from Status Three to Status Four until late adolescence (Status 3 to Status Four: [$t \rightarrow t+1: \tau = .19; t+1 \rightarrow t+2: \tau = .10; t+2 \rightarrow t+3: \tau = .30$]), which is converse to other groups. The majority of Status Four members remained within the status throughout adolescence ($t \rightarrow t+1: \tau = .55; t+1 \rightarrow t+2: \tau = .69; t+2 \rightarrow t+3: \tau = .52$), however they were more likely to transition to Status Two than any other status during any point during adolescent development. By the conclusion of adolescence, youth were most likely to transition to less harmful statuses, with Status Two being the most probable destination of any transition.

Table 4.12: Transition Probabilities for African American Female Adolescent Youth

	Status			
	Minimal	Statutory	Moderate	Severe
Transition Probabilities $t \rightarrow t+1$				
Status One – Minimal	.642	.194	.145	.018
Status Two – Statutory	.000	.878	.000	.122
Status Three – Moderate	.171	.275	.396	.186
Status Four – Severe	.063	.261	.127	.548
Transition Probabilities $t+1 \rightarrow t+2$				
Status One – Minimal	.743	.260	.000	.017
Status Two – Statutory	.191	.809	.000	.000
Status Three – Moderate	.340	.422	.136	.102
Status Four – Severe	.019	.295	.000	.685
Transition Probabilities $t+2 \rightarrow t+3$				
Status One – Minimal	.762	.235	.003	.000
Status Two – Statutory	.170	.830	.000	.000
Status Three – Moderate	.413	.208	.083	.297
Status Four – Severe	.022	.455	.000	.524

Note: $n = 457$

Female Adolescent Youth by Poverty

Female Adolescent Youth Who Did Not Experience Poverty. Four latent statuses were found among female AY who did not experience poverty. Members of Status One – Minimal Socially Deviant Behavior were unlikely to participate most types of SDB throughout adolescence. The only SDB that has elevated probability is drinking alcohol ($p_{\text{drink}}^t = .06$; $p_{\text{drink}}^{t+1} = .30$; $p_{\text{drink}}^{t+2} = .40$; $p_{\text{drink}}^{t+3} = .57$), which increased in probability as age increased. Members of Status Two – Primarily Status Offense Socially Deviant Behavior were most likely to participate in smoking and drinking at very high levels throughout adolescence. Members were more likely to have tried smoking ($p_{\text{smoke}}^t = .98$) than alcohol ($p_{\text{drink}}^t = .61$) prior to ages 12 & 13, but were much more likely to have consumed alcohol ($p_{\text{drink}}^{t+3} = .99$) than smoke ($p_{\text{smoke}}^{t+3} = .72$) after the age of 17. The likelihood of marijuana consumption also steadily increased across adolescence and peaked in likelihood after age 17 ($p_{\text{mari}}^{t+3} = .57$). Members of Status Three – Moderate

Socially Deviant Behavior varied in the SDB across adolescence. Prior to the ages of 12 & 13, they were most likely to participate in property destruction ($p_{dprop}^t = .51$), while during age 13 – 15 they were most likely to engage in petty theft ($p_{s<50}^{t+1} = .69$). After the age of 13, members of this status were also very likely to drink, smoke, and consume marijuana for the remainder of adolescence ($p > .85$), as well as steal during ages 15-17 ($p_{s<50}^{t+2} = .54$) and sell drugs over the age of 17 ($p_{sell}^{t+3} = .99$). Last, members of Status Four – Severe Socially Deviant Behavior were likely to participate in every type of SDB throughout adolescence. The least likely SDB was gang membership ($p_{gang}^t = .28$; $p_{gang}^{t+1} = .19$; $p_{gang}^{t+2} = .34$; $p_{gang}^{t+3} = .08$). The highest likelihood of SDB participation occurred during ages 13-15, where all but gang membership, carrying a hand gun, and running away was $p > .80$. Fit indices for female AY who did not experience Poverty model are listed in Table 4.13. The results provided within Figure 4.11, *Female Adolescent Youth Who Did Not Experience Poverty: Indicator Probabilities by Status for Specific Behaviors*, describe the latent characteristics of each status.

Table 4.13: *Fit Indices for Female Adolescent Youth Who Did Not Experience Poverty*

Latent Statuses	Number of Parameters Estimated	AIC	BIC	SSABIC	Entropy	Log-likelihood	Log-likelihood Replicated
2	31	34911.563	35074.39	34975.92	0.823	-17424.78	Yes
3	56	32823.717	33217.87	33039.98	0.808	-16405.85	Yes
4	87	32156.079	32613.07	32336.70	0.811	-15991.04	Yes
5	124	31468.925	32120.26	31726.36	0.795	-15610.46	Yes

Note: $n = 1410$

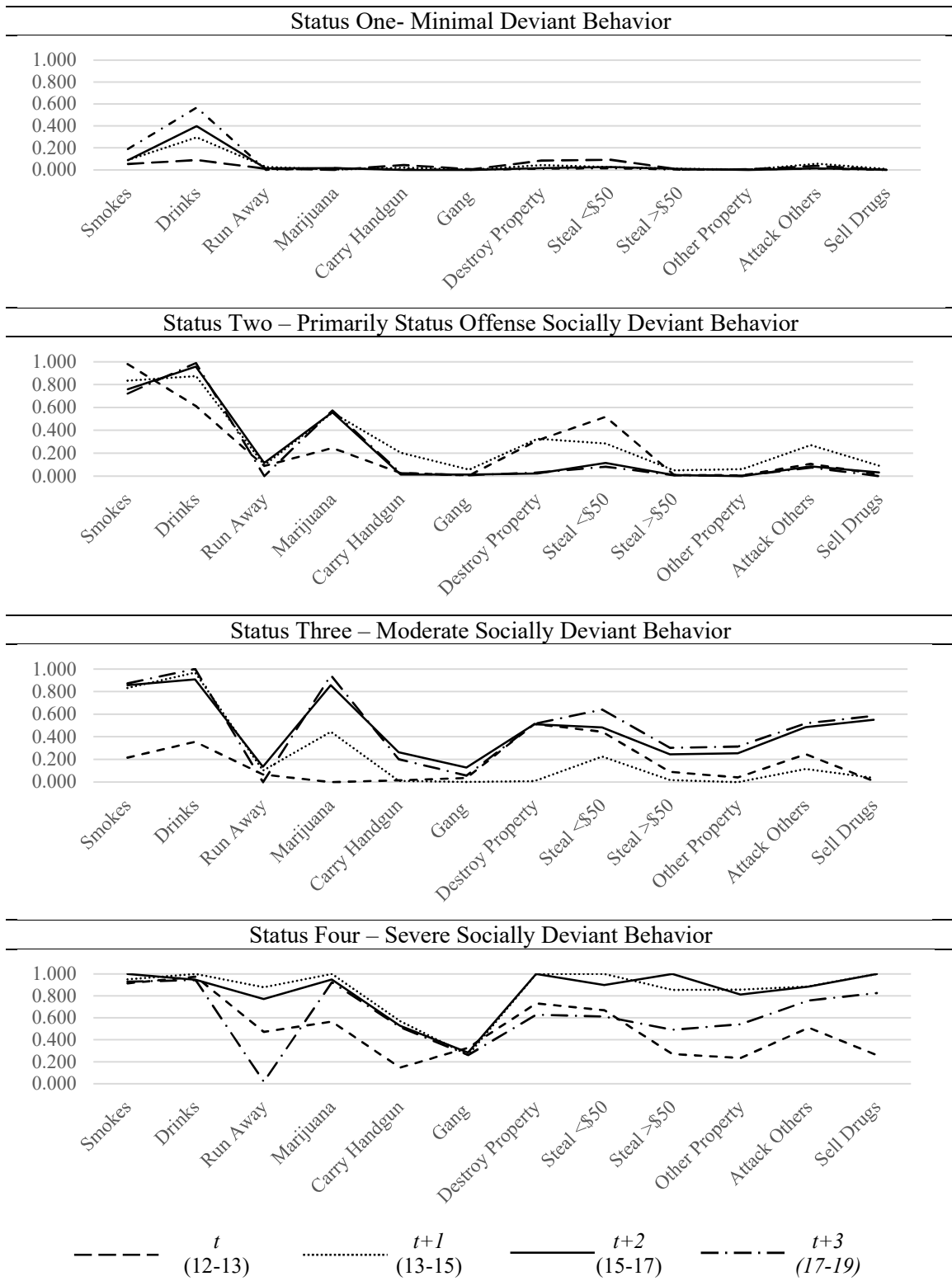


Figure 4.11: Female Adolescent Youth Who Did Not Experience Poverty: Indicator Probabilities by Status for Specific Behaviors

As shown in Figure 4.12, the status with the most membership growth over the adolescent period were female AY that participated in status offenses ($n_{s2}^t = 20$; $n_{s2}^{t+3} = 882$), whereas the status that experienced the most decrease in proportion was Status Three – Moderate Socially Deviant Behavior ($n_{s3}^t = 417$; $n_{s3}^{t+3} = 20$). The proportion of female AY that participated in serious SDB more than doubled by the end of adolescence ($n_{s4}^t = 60$; $n_{s4}^{t+3} = 119$), and saw the highest level of membership between ages 13-15 ($n_{s4}^{t+1} = 238$).

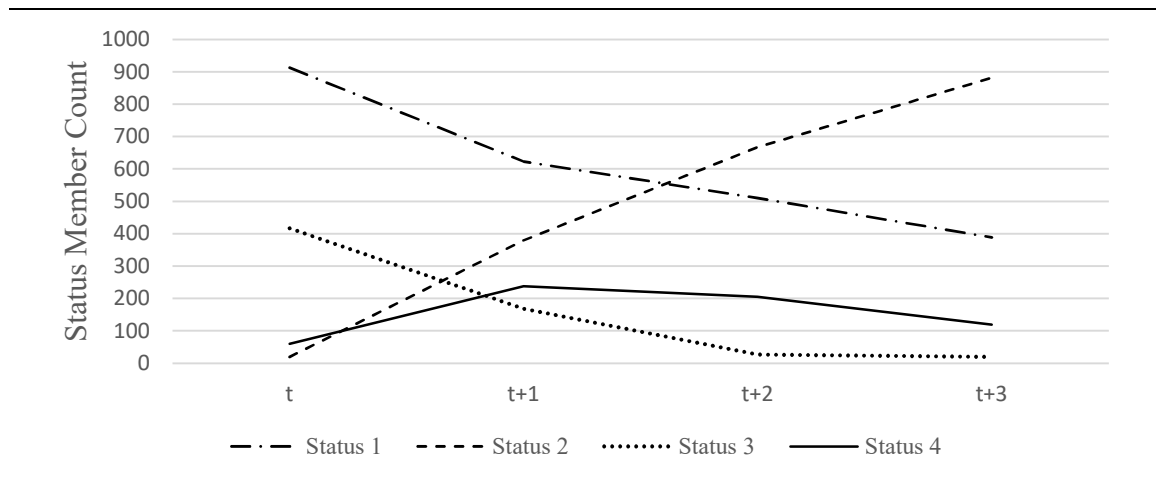


Figure 4.12: Female Adolescent Youth Who Did Not Experience Poverty: Status Proportions

Table 4.14 describes the transition probabilities for female who did not experience poverty during the entire adolescent period. Overall, female AY were most likely to remain in the previous status as compared to transitioning to any other status throughout adolescence. The probability of remaining in Status One steadily increased over the adolescent period ($t \rightarrow t+1: \tau = .84$; $t+1 \rightarrow t+2: \tau = .60$; $t+2 \rightarrow t+3: \tau = .54$), and constantly received new members from Status Three after for the entire adolescent development period (Status Three to Status One: [$t \rightarrow t+1: \tau = .35$; $t+1 \rightarrow t+2: \tau = .18$;

$t+2 \rightarrow t+3: \tau = .15$]). When transitioning from Status One, most youth transitioned to Status Four after 14 years old (Status One to Status Four: [$t+1 \rightarrow t+2: \tau = .39; t+2 \rightarrow t+3: \tau = .45$]), which differs from other models. Status Two was the least likely of any status to lose members ($t \rightarrow t+1: \tau = .65; t+1 \rightarrow t+2: \tau = .74; t+2 \rightarrow t+3: \tau = .72$). Members of Status Three were very unlikely to remain within this subgroup until age 17 ($t \rightarrow t+1: \tau = .21; t+1 \rightarrow t+2: \tau = .12$), however retention become much more likely thereafter ($t+2 \rightarrow t+3: \tau = .59$). Additionally, youth are most likely to transition from Status Three to Status Four during early adolescence (Status 3 to Status Four: [$t \rightarrow t+1: \tau = .37$]), and decreases significantly thereafter. The majority of Status Four members remained within the status throughout adolescence ($t \rightarrow t+1: \tau = 1.00; t+1 \rightarrow t+2: \tau = .88; t+2 \rightarrow t+3: \tau = .97$). By the conclusion of adolescence, youth were most likely to transition to less harmful statuses, with Status Two being the most probable destination of any transition.

Table 4.14: *Transition Probabilities for Female Adolescent Youth Who Did Not Experience Poverty*

	Status			
	Minimal	Statutory	Moderate	Severe
Transition Probabilities $t \rightarrow t+1$				
Status One – Minimal	.841	.003	.066	.090
Status Two – Statutory	.046	.648	.086	.221
Status Three – Moderate	.351	.075	.210	.365
Status Four – Severe	.000	.000	.000	1.000
Transition Probabilities $t+1 \rightarrow t+2$				
Status One – Minimal	.600	.000	.014	.385
Status Two – Statutory	.007	.743	.006	.244
Status Three – Moderate	.176	.181	.119	.524
Status Four – Severe	.073	.045	.000	.881
Transition Probabilities $t+2 \rightarrow t+3$				
Status One – Minimal	.539	.017	.000	.445
Status Two – Statutory	.000	.717	.000	.283
Status Three – Moderate	.150	.258	.590	.002
Status Four – Severe	.007	.018	.007	.967

Note: $n = 1410$

Female Adolescent Youth Who Experienced Poverty. Four latent statuses were found among female AY who did not experience poverty. Members of Status One – Minimal Socially Deviant Behavior were unlikely to participate in SDB throughout adolescence. Members of Status Two – Primarily Status Offense Socially Deviant Behavior were most likely to participate in smoking and drinking at very high levels throughout adolescence. Members were more likely to have tried smoking ($p_{\text{smoke}}^t = .96$) than alcohol ($p_{\text{drink}}^t = .30$) prior to ages 12 & 13, but were much more likely to have consumed alcohol ($p_{\text{drink}}^{t+3} = .99$) than smoke ($p_{\text{smoke}}^{t+3} = .46$) after the age of 17. Consumption of marijuana also had elevated probabilities across adolescence, but peaked in likelihood at age 15 -17 ($p_{\text{mari}}^{t+2} = .71$). Members of Status Three – Moderate Socially Deviant Behavior varied in the SDB across adolescence. Prior to the ages of 12 & 13, they were most likely to participate in property destruction ($p_{\text{dprop}}^t = .64$), while during age 13 – 15 they were most likely to attack others ($p_{\text{attack}}^{t+1} = .56$). After the age of 15, members of this status were also very likely to drink, smoke, and consume marijuana for the remainder of adolescence, as well as to continue to attack others during ages 15-17 ($p_{\text{attack}}^{t+2} = .60$). Last, members of Status Four – Severe Socially Deviant Behavior were likely to participate in every type of SDB throughout adolescence. The least likely SDB was gang membership ($p_{\text{gang}}^t = .01$; $p_{\text{gang}}^{t+1} = .23$; $p_{\text{gang}}^{t+2} = .10$; $p_{\text{gang}}^{t+3} = .04$). The highest likelihood of SDB participation occurred during ages 13-15. Fit indices for female AY who did not experience poverty model are listed in Table 4.15. The results provided within Figure 4.13, *Female Adolescent Youth Who Experienced Poverty: Indicator Probabilities by Status for Specific Behaviors*, describe the latent characteristics of each status.

Table 4.15: *Fit Indices for Female Adolescent Youth Who Experienced Poverty*

Latent Statuses	Number of Parameters Estimated	AIC	BIC	SSABIC	Entropy	Log-likelihood	Log-likelihood Replicated
2	31	19298.921	19442.95	19344.51	0.820	-9618.46	Yes
3	56	18297.307	18557.50	18379.67	0.818	-9092.65	Yes
4	87	17893.075	18297.31	18021.04	0.794	-8859.53	Yes
5	124	17561.166	18137.31	17743.56	0.799	-8656.58	Yes

Note: $n = 768$



Figure 4.13: Female Adolescent Youth Who Experienced Poverty: Indicator Probabilities by Status for Specific Behaviors

As shown in Figure 4.14, the status with the most membership growth over the adolescent period were female AY that participated in status offenses ($n_{s2}^t = 15$; $n_{s2}^{t+3} = 412$), whereas the status that experienced the most decrease in proportion was Status Three – Moderate Socially Deviant Behavior ($n_{s3}^t = 264$; $n_{s3}^{t+3} = 12$). The proportion of female AY that participated in serious SDB remained relatively similar at t and $t+3$ ($n_{s4}^t = 50$; $n_{s4}^{t+3} = 63$), but more than doubled in membership size between ages 12-14 ($n_{s4}^{t+1} = 121$) and decreased thereafter. Status membership proportions of female AY that experienced poverty remained relatively similar across the entire adolescent period as compared to female AY that did not experience poverty.

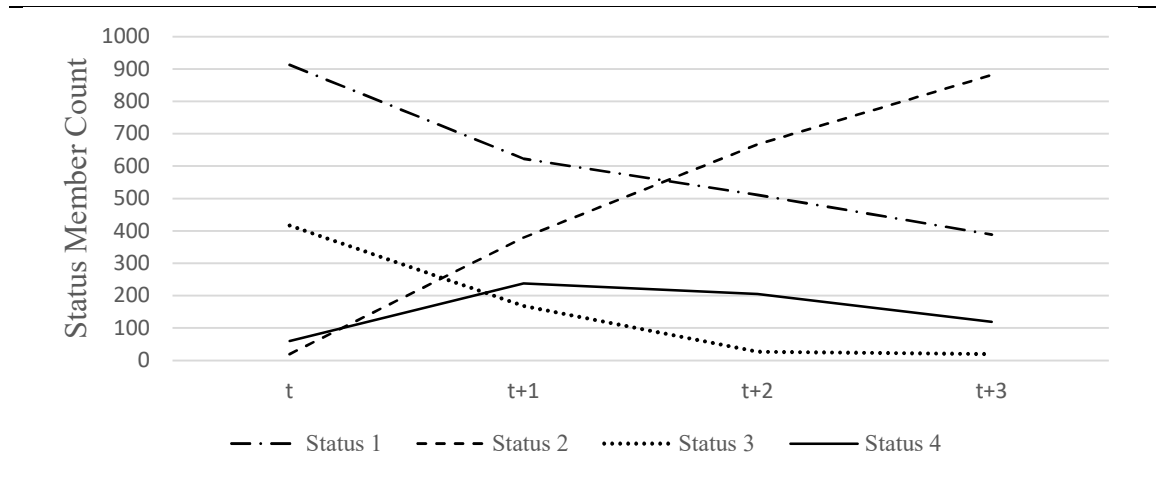


Figure 4.14: *Female Adolescent Youth Who Did Not Experience Poverty: Status Proportions*

Table 4.16 describes the transition probabilities for female AY who experienced poverty during the entire adolescent period. Overall, female AY were most likely to remain in the previous status as compared to transitioning to any other status throughout adolescence. The probability of remaining in Status One steadily increased over the adolescent period ($t \rightarrow t+1$; $\tau = .61$; $t+1 \rightarrow t+2$; $\tau = .80$; $t+2 \rightarrow t+3$; $\tau = .85$). When

transitioning from Status One, most youth transitioned to Status Two. Status Two was the least likely of any status to lose members ($t \rightarrow t+1: \tau = .97; t+1 \rightarrow t+2: \tau = .82; t+2 \rightarrow t+3: \tau = .96$). Members of Status Three were very unlikely to remain within this subgroup until age 17 ($t \rightarrow t+1: \tau = .26; t+1 \rightarrow t+2: \tau = .31; t+2 \rightarrow t+3: \tau = .28$). Additionally, youth are most likely to transition from Status Three to Status Four during early adolescence (Status 3 to Status Four: [$t \rightarrow t+1: \tau = .26$]), and transition to less harmful statuses thereafter. The majority of Status Four members remained within the status throughout adolescence ($t \rightarrow t+1: \tau = .70; t+1 \rightarrow t+2: \tau = .59; t+2 \rightarrow t+3: \tau = .52$). By the conclusion of adolescence, youth were most likely to transition to less harmful statuses, with Status Two being the most probable destination of any transition.

Table 4.16: *Transition Probabilities for Female Adolescent Youth Who Experienced Poverty*

	Status			
	Minimal	Statutory	Moderate	Severe
Transition Probabilities $t \rightarrow t+1$				
Status One – Minimal	.612	.234	.112	.042
Status Two – Statutory	.035	.965	.000	.000
Status Three – Moderate	.123	.363	.259	.255
Status Four – Severe	.028	.276	.000	.695
Transition Probabilities $t+1 \rightarrow t+2$				
Status One – Minimal	.802	.177	.015	.006
Status Two – Statutory	.035	.820	.000	.110
Status Three – Moderate	.123	.313	.307	.106
Status Four – Severe	.028	.378	.030	.592
Transition Probabilities $t+2 \rightarrow t+3$				
Status One – Minimal	.847	.153	.000	.000
Status Two – Statutory	.035	.963	.002	.000
Status Three – Moderate	.384	.209	.277	.130
Status Four – Severe	.055	.423	.000	.522

Note: $n = 768$

Female Adolescent Youth by Peer Participation in Socially Deviant Behavior

Female Adolescent Youth Who Do Not Have Peers that Participated in Socially Deviant Behavior. Four latent statuses were found among female AY who do not have peers that participated in socially deviant behavior. Members of Status One – Minimal Socially Deviant Behavior were unlikely to participate most types of SDB throughout adolescence. The only SDB that has elevated probability is drinking alcohol ($p_{\text{drink}}^t = .11$; $p_{\text{drink}}^{t+1} = .26$; $p_{\text{drink}}^{t+2} = .36$; $p_{\text{drink}}^{t+3} = .48$), which increased in probability as age increased. Members of Status Two – Primarily Status Offense Socially Deviant Behavior were most likely to participate in smoking and drinking at very high levels throughout adolescence. Members were more likely to have tried smoking ($p_{\text{smoke}}^t = .99$) than alcohol ($p_{\text{drink}}^t = .59$) prior to ages 12 & 13, but were much more likely to have consumed alcohol ($p_{\text{drink}}^{t+3} = .99$) than smoke ($p_{\text{smoke}}^{t+3} = .68$) after the age of 17. Consumption of marijuana also had elevated probabilities across adolescence, but peaked in likelihood at age 15 -17 ($p_{\text{mari}}^{t+2} = .52$). Members of Status Three – Moderate Socially Deviant Behavior varied in the SDB across adolescence. Prior to the ages of 12 & 13, they were most likely to participate in property destruction ($p_{\text{dprop}}^t = .73$), while during age 13 – 15 they were most likely to attack others ($p_{\text{attack}}^{t+1} = .61$). After the age of 15, members of this status were also very likely to drink, smoke, and consume marijuana for the remainder of adolescence ($p > .85$), as well as steal during ages 15-17 ($p_{s<50}^{t+2} = .52$) and sell drugs over the age of 17 ($p_{\text{sell}}^{t+3} = .50$). Last, members of Status Four – Severe Socially Deviant Behavior were likely to participate in every type of SDB throughout adolescence. The least likely SDB was gang membership ($p_{\text{gang}}^t = .28$; $p_{\text{gang}}^{t+1} = .19$; $p_{\text{gang}}^{t+2} = .20$; $p_{\text{gang}}^{t+3} = .10$). The highest likelihood of SDB participation occurred during ages 15-17. Fit indices

for female AY who do not have peers that participated in socially deviant behavior model are listed in Table 4.17. The results provided within Figure 4.15, *Female Adolescent Youth Who Do Not Have Peers that Participated in Socially Deviant Behavior: Indicator Probabilities by Status for Specific Behaviors*, describe the latent characteristics of each status.

Table 4.17: *Fit Indices for Female Adolescent Youth Who Did Not Have Peers that Participated in Socially Deviant Behavior*

Latent Statuses	Number of Parameters Estimated	AIC	BIC	SSABIC	Entropy	Log-likelihood	Log-likelihood Replicated
2	31	31532.205	31688.73	31590.26	0.809	-15735.10	Yes
3	56	29802.582	30085.34	29907.46	0.809	-14845.29	Yes
4	87	29048.012	29487.29	29210.95	0.806	-14437.00	Yes
5	124	28566.042	29192.15	28798.28	0.794	-14159.02	Yes

Note: $n = 1150$

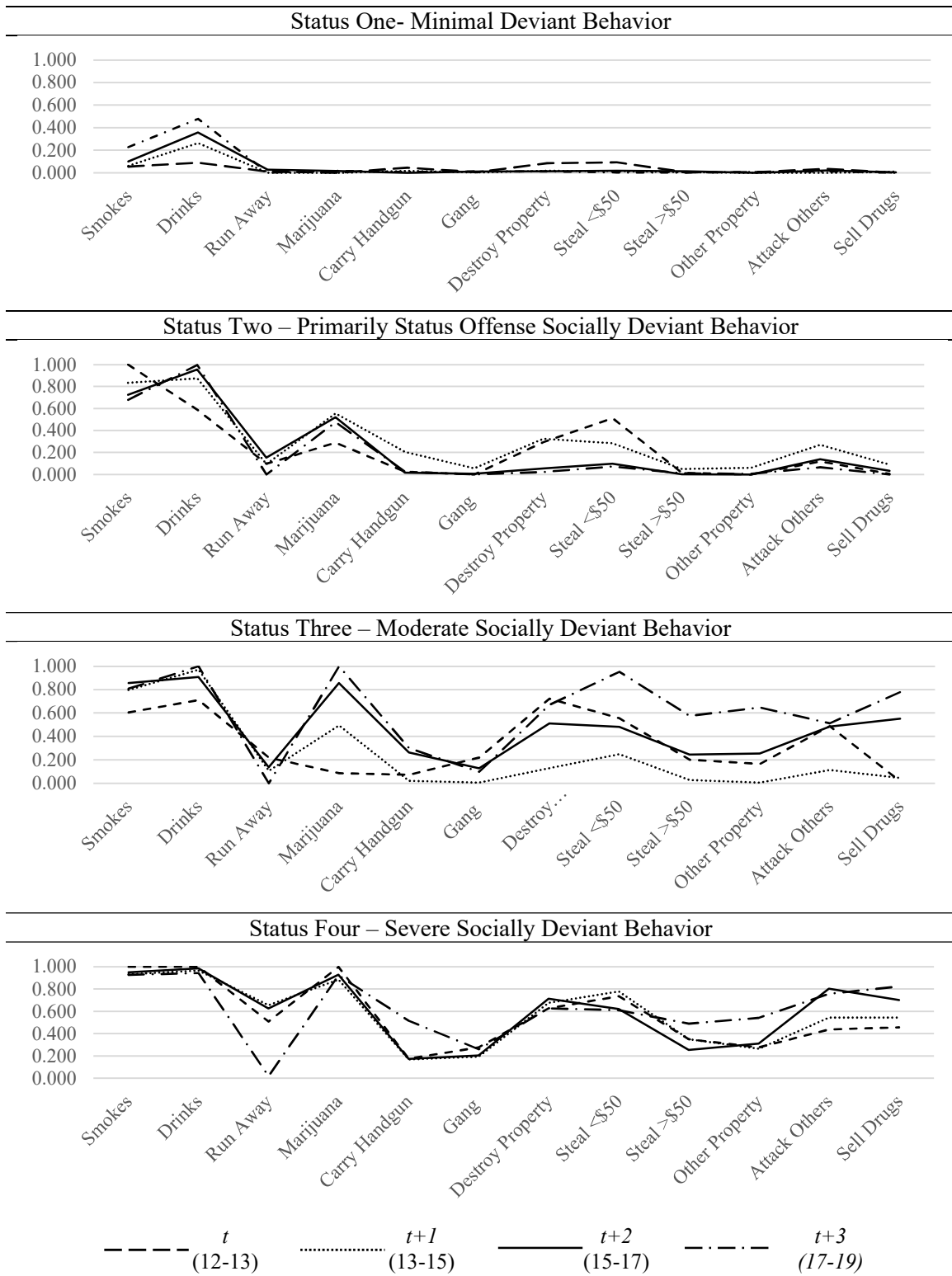


Figure 4.15: Female Adolescent Youth Who Do Not Have Peers that Participated in Socially Deviant Behavior: Indicator Probabilities by Status for Specific Behaviors

As shown in Figure 4.16, the status with the most membership growth over the adolescent period were female AY that participated in status offenses ($n_{s2}^t = 28$; $n_{s2}^{t+3} = 696$), whereas the status that experienced the most decrease in proportion was Status Three – Moderate Socially Deviant Behavior ($n_{s3}^t = 471$; $n_{s3}^{t+3} = 23$). The proportion of female AY that participated in serious SDB remained relatively similar at t and $t+3$ ($n_{s4}^t = 76$; $n_{s4}^{t+3} = 91$), but tripled in membership between ages 12-14 ($n_{s4}^{t+1} = 234$).

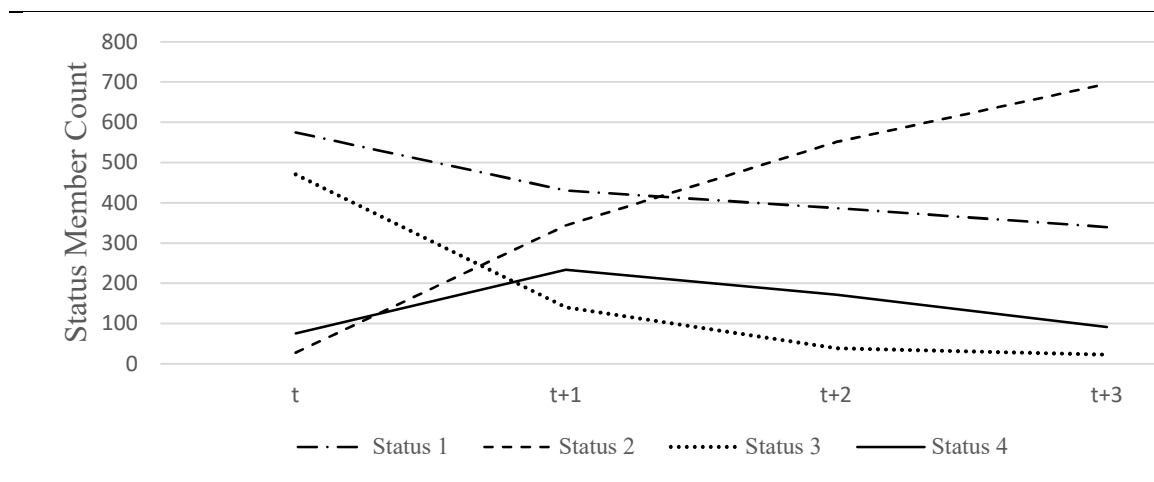


Figure 4.16: *Female Adolescent Youth Who Do Not Have Peers that Participated in Socially Deviant Behavior: Status Proportions*

Table 4.18 describes the transition probabilities for female AY who do not have peers that participated in socially deviant behavior during the entire adolescent period. Overall, female AY were most likely to remain in the previous status as compared to transitioning to any other status throughout adolescence. The probability of remaining in Status One steadily increased over the adolescent period ($t \rightarrow t+1$: $\tau = .67$; $t+1 \rightarrow t+2$: $\tau = .76$; $t+2 \rightarrow t+3$: $\tau = .80$). When transitioning from Status One, most youth transitioned to Status Two and after 17 years old, all transitions were to Status Two. Status Two was the least likely of any status to lose members ($t \rightarrow t+1$: $\tau = .94$; $t+1 \rightarrow t+2$: $\tau = .88$; $t+2$

→ $t+3$: $\tau = .96$). Members of Status Three were very unlikely to remain within this subgroup ($t \rightarrow t+1$: $\tau = .19$; $t+1 \rightarrow t+2$: $\tau = .22$; $t+2 \rightarrow t+3$: $\tau = .45$). Additionally, youth are equally likely to remain in status as to transition to more harmful or less harmful status prior to 15, however they became much less likely to transition to more harmful SDB characteristics thereafter. The majority of Status Four members remained within the status throughout adolescence ($t \rightarrow t+1$: $\tau = .77$; $t+1 \rightarrow t+2$: $\tau = .54$; $t+2 \rightarrow t+3$: $\tau = .50$). By the conclusion of adolescence, youth were most likely to transition to less harmful statuses, with Status Two being the most probable destination of any transition.

Table 4.18: *Transition Probabilities for Female Adolescent Youth Who Do Not Have Peers that Participated in Socially Deviant Behavior*

	Status			
	Minimal	Statutory	Moderate	Severe
Transition Probabilities $t \rightarrow t+1$				
Status One – Minimal	.668	.201	.086	.044
Status Two – Statutory	.063	.937	.000	.000
Status Three – Moderate	.093	.395	.194	.318
Status Four – Severe	.011	.218	.000	.772
Transition Probabilities $t+1 \rightarrow t+2$				
Status One – Minimal	.763	.215	.013	.009
Status Two – Statutory	.056	.879	.000	.065
Status Three – Moderate	.279	.358	.217	.146
Status Four – Severe	.000	.453	.012	.535
Transition Probabilities $t+2 \rightarrow t+3$				
Status One – Minimal	.796	.204	.000	.000
Status Two – Statutory	.032	.958	.011	.000
Status Three – Moderate	.263	.152	.448	.137
Status Four – Severe	.022	.477	.000	.501

Note: $n = 1159$

Female Adolescent Youth Who Have Peers that Participated in Socially Deviant Behavior. Four latent statuses were found among female AY who have peers that participated in socially deviant behavior. Members of Status One – Minimal Socially

Deviant Behavior were unlikely to participate most types of SDB throughout adolescence. The only SDB that has elevated probability is drinking alcohol ($p_{\text{drink}}^t = .02$; $p_{\text{drink}}^{t+1} = .33$; $p_{\text{drink}}^{t+2} = .42$; $p_{\text{drink}}^{t+3} = .54$), which increased in probability as age increased. Members of Status Two – Primarily Status Offense Socially Deviant Behavior were most likely to participate in smoking and drinking at very high levels throughout adolescence except prior to age 13. Consumption of marijuana also had elevated probabilities across adolescence, but peaked in likelihood at age 15 -17 ($p_{\text{mari}}^{t+2} = .56$). Members of Status Three – Moderate Socially Deviant Behavior varied in the SDB across adolescence. Prior to the ages of 12 & 13, they were most likely to participate in property destruction ($p_{\text{dprop}}^t = .51$) and attacking others ($p_{\text{attack}}^t = .64$), while during age 13 – 15 they were most likely to attack others ($p_{\text{attack}}^{t+1} = .66$). After the age of 13, members of this status were also very likely to drink, smoke, and consume marijuana for the remainder of adolescence, as well as steal during ages 15-17 ($p_{s<50}^{t+2} = .65$) and sell drugs over the age of 17 ($p_{\text{sell}}^{t+3} = .61$). Last, members of Status Four – Severe Socially Deviant Behavior were likely to participate in every type of SDB throughout adolescence. The least likely SDB was gang membership ($p_{\text{gang}}^t = .18$; $p_{\text{gang}}^{t+1} = .23$; $p_{\text{gang}}^{t+2} = .39$; $p_{\text{gang}}^{t+3} = .18$). The highest likelihood of SDB participation occurred during ages 13-15, where all but gang membership had high probabilities of participation. Fit indices for female AY who have peers that participated in socially deviant behavior model are listed in Table 4.19. The results provided within Figure 4.17, *Female Adolescent Youth Who Had Peers that Participated in Socially Deviant Behavior: Indicator Probabilities by Status for Specific Behaviors*, describe the latent characteristics of each status.

Table 4.19: *Fit Indices for Female Adolescent Youth Who Had Peers that Participated in Socially Deviant Behavior*

Latent Statuses	Number of Parameters Estimated	AIC	BIC	SSABIC	Entropy	Log-likelihood	Log-likelihood Replicated
2	31	11570.018	11705.32	11606.91	0.832	-5754.00	Yes
3	56	10912.825	11157.25	10979.47	0.830	-5400.41	Yes
4	87	10601.865	10981.59	10705.40	0.844	-5213.93	Yes
5	124	10495.483	11036.71	10643.05	0.829	-5123.74	No

Note: $n = 580$

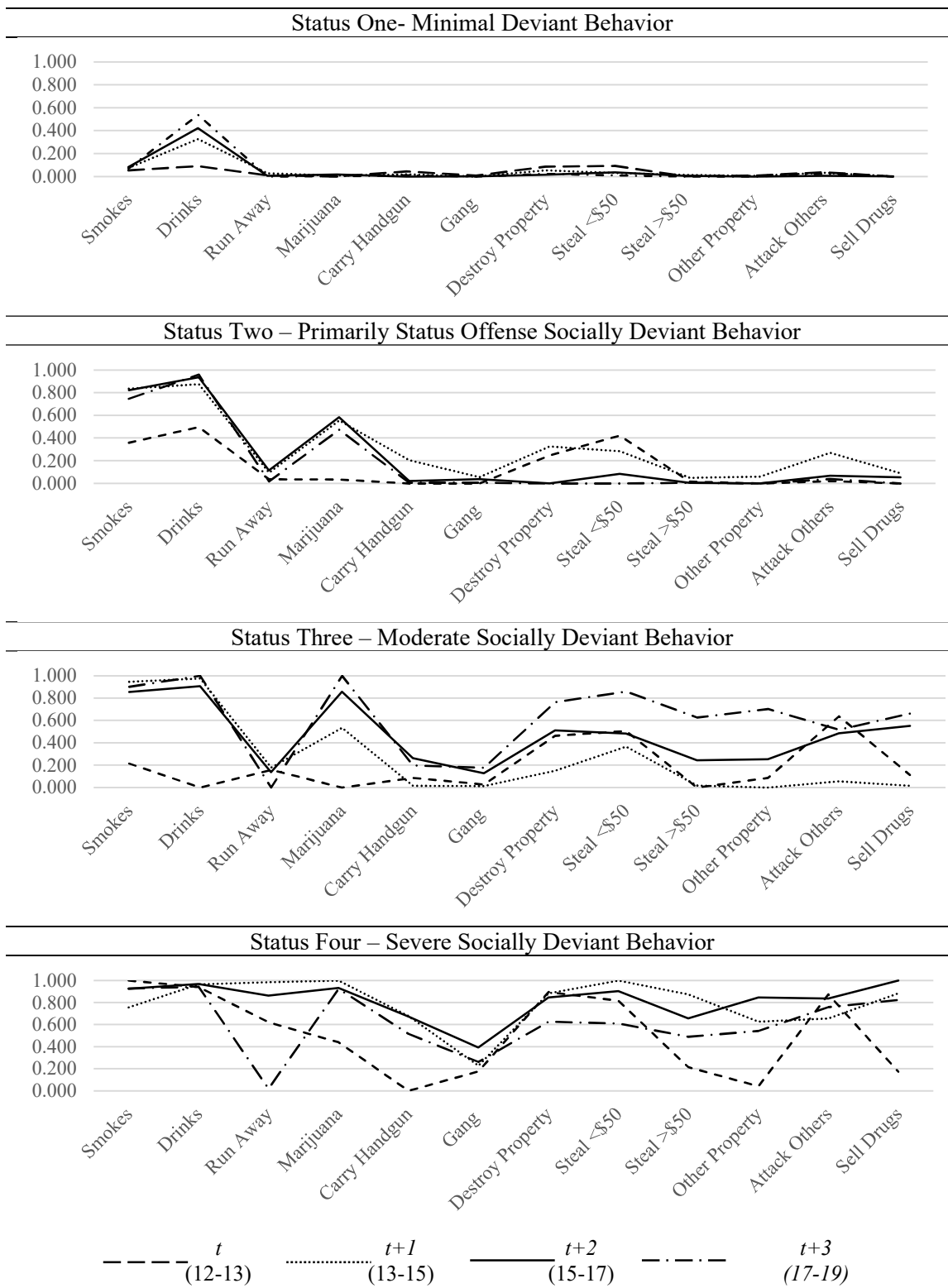


Figure 4.17: Female Adolescent Youth Who Had Peers that Participated in Socially Deviant Behavior: Indicator Probabilities by Status for Specific Behaviors

Figure 4.18 describes proportional changes in statuses for female AY who had peers that participated in SDB. Two statuses grew considerably in membership over the adolescent period: Status Two ($n_{s2}^t = 6$; $n_{s2}^{t+3} = 206$) and Status Three ($n_{s3}^t = 47$; $n_{s3}^{t+3} = 254$). Unlike many of the other analyses conducted, Status One lost the most members and were only left with approximately 20% of their original membership by age 17 – 19 ($n_{s1}^t = 505$; $n_{s1}^{t+3} = 97$). The proportion of female AY that participated in serious SDB remained relatively similar at t and $t+3$ ($n_{s4}^t = 22$; $n_{s4}^{t+3} = 23$), but tripled in membership size between ages 12-14 ($n_{s4}^{t+1} = 68$) and decreased thereafter.

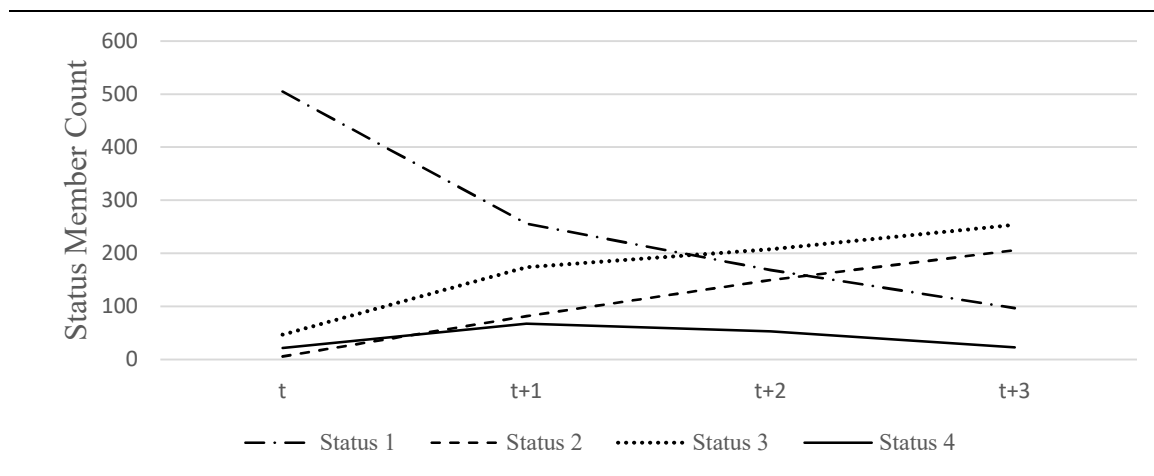


Figure 4.18: *Female Adolescent Youth Who Had Peers that Participated in Socially Deviant Behavior: Status Proportions*

Table 4.20 describes the transition probabilities for female AY who have peers that participated in socially deviant behavior during the entire adolescent period. Overall, female AY were most likely to remain in the previous status as compared to transitioning to any other status throughout adolescence. The members of Status One were almost as likely to remain within the status as to transition to more harmful statuses throughout adolescence ($t \rightarrow t+1: \tau = .50$; $t+1 \rightarrow t+2: \tau = .60$; $t+2 \rightarrow t+3: \tau = .54$). When

transitioning from Status One, most youth transitioned to Status Three, which is different with most other models conducted. Status Two was the least likely of any status to lose members ($t \rightarrow t+1: \tau = 1.00; t+1 \rightarrow t+2: \tau = .89; t+2 \rightarrow t+3: \tau = .92$), and youth were most likely to transition from Status Four to Status Two. Unlike most other models, members of Status Three were more likely to remain within this subgroup ($t \rightarrow t+1: \tau = .56; t+1 \rightarrow t+2: \tau = .71; t+2 \rightarrow t+3: \tau = .85$) as to transition to other statuses. Most Status Four members transitioned to lesser harmful statuses ($t \rightarrow t+1: \tau = .47; t+1 \rightarrow t+2: \tau = .55; t+2 \rightarrow t+3: \tau = .36$). By the conclusion of adolescence, youth were most likely to transition to less harmful statuses, with Status Two being the most probable destination of any transition.

Table 4.20: *Transition Probabilities for Female Adolescent Youth Who Had Peers that Participated in Socially Deviant Behavior*

	Status			
	Minimal	Statutory	Moderate	Severe
Transition Probabilities $t \rightarrow t+1$				
Status One – Minimal	.503	.114	.287	.097
Status Two – Statutory	.000	1.000	0.000	.000
Status Three – Moderate	.000	.266	.558	.176
Status Four – Severe	.100	.291	.137	.472
Transition Probabilities $t+1 \rightarrow t+2$				
Status One – Minimal	.601	.097	.297	.005
Status Two – Statutory	.057	.887	.000	.057
Status Three – Moderate	.063	.170	.710	.057
Status Four – Severe	.000	.333	.115	.552
Transition Probabilities $t+2 \rightarrow t+3$				
Status One – Minimal	.539	.091	.368	.002
Status Two – Statutory	.000	.918	.082	.000
Status Three – Moderate	.000	.128	.851	.021
Status Four – Severe	.117	.500	.025	.358

Note: $n = 580$

As compared to adolescent female AY that do not have peers who participated in SDB, the probability of transitioning to a different status were higher after age 15. During ages 12 – 15, adolescent female AY who had peers that participated in SDB were less likely to transition to a more severe status, however by age 17 they were much more likely to transition to a more severe status than female AY that did not have peers who participated in SDB. It should be noted that compared to female AY who did not have peers that participated in SDB, it was very likely that female AY in Status Three remained within the status after they are 17 years old.

Female Adolescent Youth by Father Parenting Style

Female Adolescent Youth Who Experienced Non-Authoritative Fathers or Have Father Absent from Household. Four latent statuses were found among female AY who experienced non-authoritative fathers or have father absent from household. Members of Status One – Minimal Socially Deviant Behavior were unlikely to participate most types of SDB throughout adolescence. The only SDB that has elevated probability is drinking alcohol ($p_{\text{drink}}^t = .11$; $p_{\text{drink}}^{t+1} = .28$; $p_{\text{drink}}^{t+2} = .39$; $p_{\text{drink}}^{t+3} = .50$), which increased in probability as age increased. Members of Status Two – Primarily Status Offense Socially Deviant Behavior were most likely to participate in smoking and drinking at very high levels throughout adolescence. Members were more likely to have tried smoking ($p_{\text{smoke}}^t = .99$) than alcohol ($p_{\text{drink}}^t = .56$) prior to ages 12 & 13, but were much more likely to have consumed alcohol ($p_{\text{drink}}^{t+3} = .98$) than smoke ($p_{\text{smoke}}^{t+3} = .70$) after the age of 17. Consumption of marijuana also had elevated probabilities across adolescence, but peaked in likelihood at age 15 -17 ($p_{\text{mari}}^{t+2} = .90$). Additionally, members of this status had elevated probabilities of participating in petty theft prior to age 13 ($p_{s<50}^t = .53$) Members

of Status Three – Moderate Socially Deviant Behavior varied in the SDB across adolescence. Prior to the ages of 12 & 13, they were most likely to participate in property destruction ($p_{\text{dprop}}^t = .78$), theft ($p_{s<50}^t = .55$), and attacking others ($p_{\text{attack}}^t = .54$), while during age 13 – 15 they were most likely to attack others ($p_{\text{attack}}^{t+1} = .46$). After the age of 15, members of this status were also very likely to drink, smoke, and consume marijuana for the remainder of adolescence ($p > .85$), as well as steal during ages 15-17 ($p_{s<50}^{t+2} = .43$) and sell drugs over the age of 17 ($p_{\text{sell}}^{t+3} = .54$). Last, members of Status Four – Severe Socially Deviant Behavior were likely to participate in every type of SDB throughout adolescence. The least likely SDB was gang membership ($p_{\text{gang}}^t = .28$; $p_{\text{gang}}^{t+1} = .16$; $p_{\text{gang}}^{t+2} = .29$; $p_{\text{gang}}^{t+3} = .08$). The highest likelihood of SDB participation occurred during ages 15-17. Fit indices for female AY who experienced non-authoritative fathers or have father absent from household model are listed in Table 4.21. The results provided within Figure 4.19, *Female Adolescent Youth Who Had Peers that Participated in Socially Deviant Behavior: Indicator Probabilities by Status for Specific Behaviors*, describe the latent characteristics of each status.

Table 4.21: *Fit Indices for Female Adolescent Youth Who Experienced Non-Authoritative Fathers or Have Father Absent from Household*

Latent Statuses	Number of Parameters Estimated	AIC	BIC	SSABIC	Entropy	Log-likelihood	Log-likelihood Replicated
2	31	32970.752	33129.73	33031.26	0.815	-16454.37	Yes
3	56	31184.149	31471.34	31293.46	0.809	-15536.07	Yes
4	87	30486.413	30932.59	30656.24	0.808	-15156.20	Yes
5	124	29951.689	30587.62	30193.74	0.807	-14851.84	Yes

Note: $n = 1246$

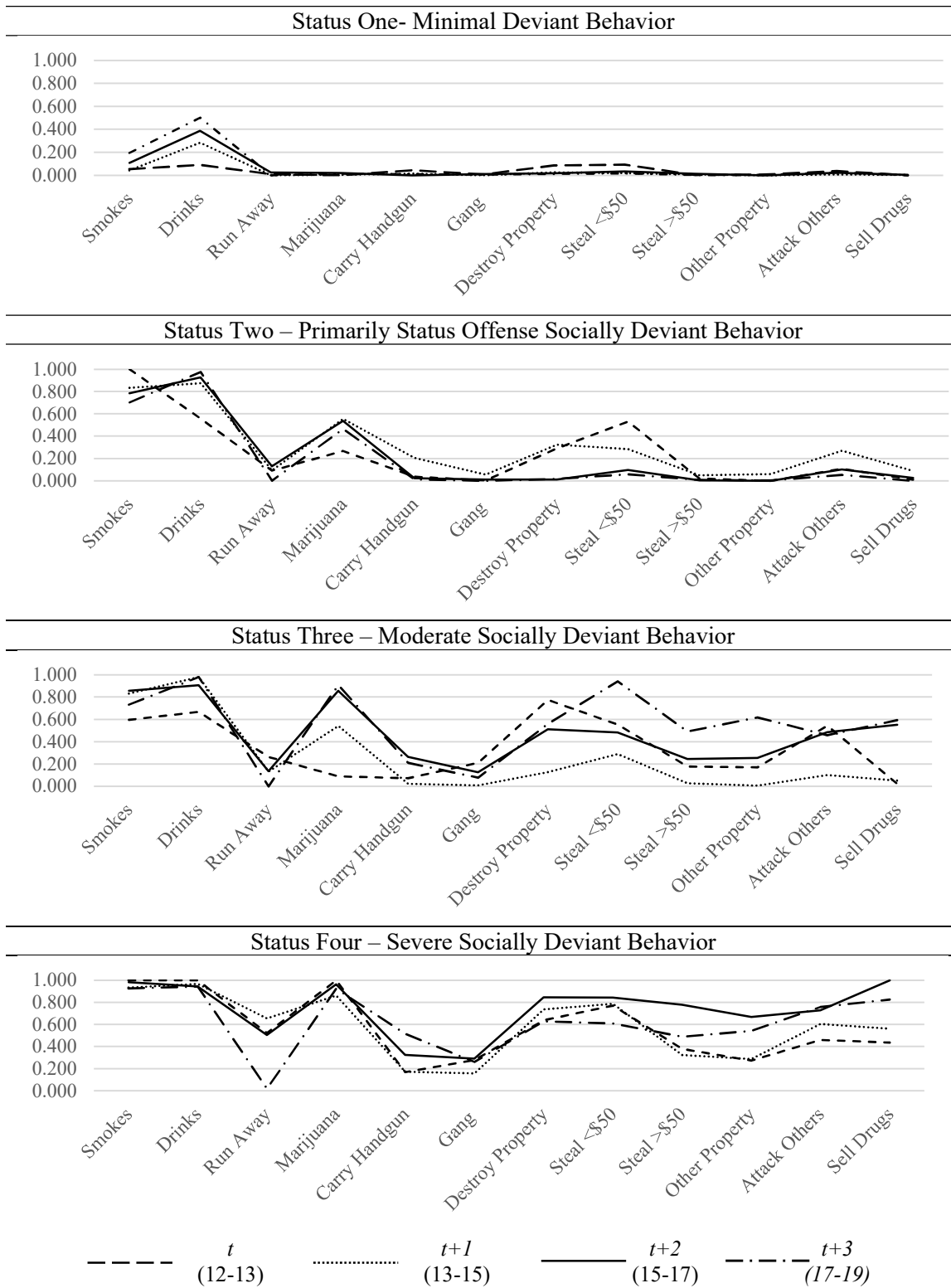


Figure 4.19: Female Adolescent Youth Who Experienced Non-Authoritative Fathers or Have Father Absent from Household: Indicator Probabilities by Status for Specific Behaviors

As shown in Figure 4.20, the status with the most membership growth over the adolescent period were female AY that participated in status offenses ($n_{s2}^t = 19$; $n_{s2}^{t+3} = 736$), whereas the status that experienced the most decrease in proportion was Status Three – Moderate Socially Deviant Behavior ($n_{s3}^t = 418$; $n_{s3}^{t+3} = 19$). The proportion of female AY that participated in serious SDB remained relatively similar at t and $t+3$ ($n_{s4}^t = 72$; $n_{s4}^{t+3} = 94$), but tripled in membership between ages 12-14 ($n_{s4}^{t+1} = 226$).

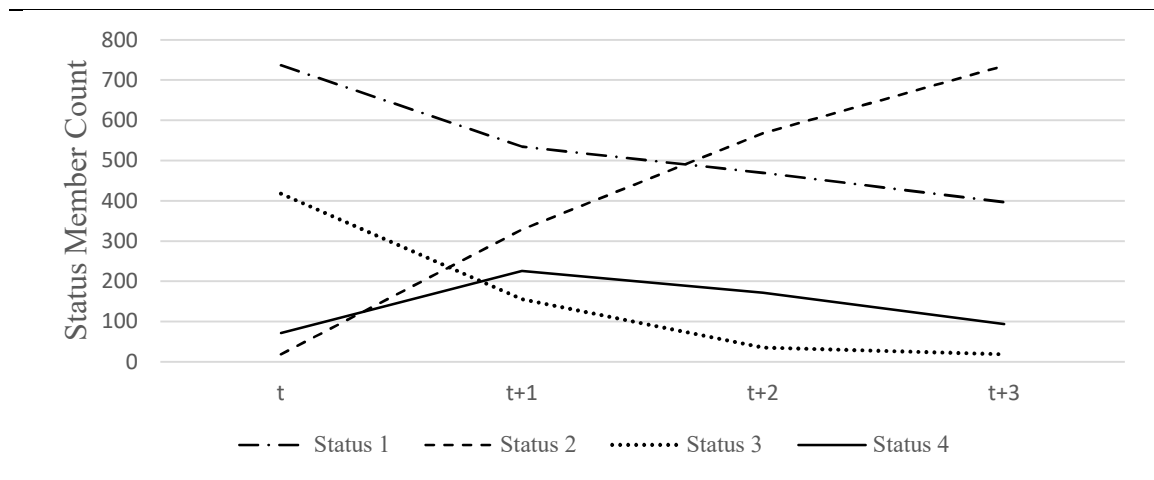


Figure 4.20: *Female Adolescent Youth Who Experienced Non-Authoritative Fathers or Have Father Absent from Household: Status Proportions*

Table 4.22 describes the transition probabilities for female AY who experienced non-authoritative fathers or have father absent from household during the entire adolescent period. Overall, female AY were most likely to remain in the previous status as compared to transitioning to any other status throughout adolescence. The members of Status One were most likely to remain within the status until 15, but were almost as likely to remain within the status as to transition to more harmful statuses thereafter ($t \rightarrow t+1: \tau = .81$; $t+1 \rightarrow t+2: \tau = .54$; $t+2 \rightarrow t+3: \tau = .50$). When transitioning from Status One, most youth transitioned to Status Two, particularly after 15 years old. Status Two was the

least likely of any status to lose members ($t \rightarrow t+1: \tau = .92; t+1 \rightarrow t+2: \tau = .88; t+2 \rightarrow t+3: \tau = .95$), and youth were most likely to transition from Status One and Three to Status Two. The probability of members remaining in Status Three was very low at any point during adolescence, ($t \rightarrow t+1: \tau = .17; t+1 \rightarrow t+2: \tau = .17; t+2 \rightarrow t+3: \tau = .42$) where most members transitioned to less harmful statuses until 17. Many members of Status Four remained within the status throughout adolescence ($t \rightarrow t+1: \tau = .67; t+1 \rightarrow t+2: \tau = .78; t+2 \rightarrow t+3: \tau = .76$), which is unlike most other models. By the conclusion of adolescence, youth were most likely to transition to less harmful statuses, with Status Two being the most probable destination of any transition

Table 4.22: *Transition Probabilities for Female Adolescent Youth Who Experienced Non-Authoritative Fathers or Have Father Absent from Household*

	Status			
	Minimal	Statutory	Moderate	Severe
Transition Probabilities $t \rightarrow t+1$				
Status One – Minimal	.813	.138	.049	.000
Status Two – Statutory	.000	.923	.000	.077
Status Three – Moderate	.323	.414	.168	.094
Status Four – Severe	.043	.174	.112	.671
Transition Probabilities $t+1 \rightarrow t+2$				
Status One – Minimal	.544	.431	.025	.000
Status Two – Statutory	.050	.879	.000	.071
Status Three – Moderate	.170	.461	.170	.199
Status Four – Severe	.011	.204	.008	.777
Transition Probabilities $t+2 \rightarrow t+3$				
Status One – Minimal	.507	.472	.000	.021
Status Two – Statutory	.000	.953	.007	.040
Status Three – Moderate	.192	.031	.419	.357
Status Four – Severe	.000	.239	.000	.761

Note: $n = 580$

Female Adolescent Youth Who Experienced Authoritative Fathers. Four latent statuses were found among female AY who experienced authoritative fathers. Members of Status One – Minimal Socially Deviant Behavior were unlikely to participate most

types of SDB throughout adolescence. The only SDB that has elevated probability is drinking alcohol ($p_{\text{drink}}^t = .03$; $p_{\text{drink}}^{t+1} = .31$; $p_{\text{drink}}^{t+2} = .41$; $p_{\text{drink}}^{t+3} = .53$), which increased in probability as age increased. Members of Status Two – Primarily Status Offense Socially Deviant Behavior were most likely to participate in smoking and drinking at very high levels throughout adolescence. Members were more likely to have tried smoking ($p_{\text{smoke}}^t = .97$) than alcohol ($p_{\text{drink}}^t = .33$) prior to ages 12 & 13, but were much more likely to have consumed alcohol ($p_{\text{drink}}^{t+3} = .99$) than smoke ($p_{\text{smoke}}^{t+3} = .71$) after the age of 17. Consumption of marijuana also had elevated probabilities across adolescence, but peaked in likelihood at age 15 -17 ($p_{\text{mari}}^{t+2} = .58$). Members of Status Three – Moderate Socially Deviant Behavior varied in the SDB across adolescence. Prior to the ages of 12 & 13, they were most likely to participate in property destruction ($p_{\text{dprop}}^t = .73$), while during age 13 – 15 they were most likely to attack others ($p_{\text{attack}}^{t+1} = .71$). After the age of 15, members of this status were also very likely to drink, smoke, and consume marijuana for the remainder of adolescence ($p > .85$), as well as steal during ages 15-17 ($p_{s<50}^{t+2} = .99$; $p_{s>50}^{t+2} = .70$) and sell drugs over the age of 17 ($p_{\text{sell}}^{t+3} = .66$). Last, members of Status Four – Severe Socially Deviant Behavior were likely to participate in every type of SDB throughout adolescence. The least likely SDB was gang membership ($p_{\text{gang}}^t = .02$; $p_{\text{gang}}^{t+1} = .36$; $p_{\text{gang}}^{t+2} = .04$; $p_{\text{gang}}^{t+3} = .26$). The highest likelihood of SDB participation occurred during ages 13-15. Fit indices for female AY who experienced authoritative fathers model are listed in Table 4.23. The results provided within Figure 4.21, *Female Adolescent Youth Who Had Peers that Participated in Socially Deviant Behavior: Indicator Probabilities by Status for Specific Behaviors*, describe the latent characteristics of each status.

Table 4.23: *Fit Indices for Female Adolescent Youth Who Experienced Authoritative Fathers*

Latent Statuses	Number of Parameters Estimated	AIC	BIC	SSABIC	Entropy	Log-likelihood	Log-likelihood Replicated
2	31	10264.106	10393.87	10295.48	0.826	-5101.05	Yes
3	56	9700.560	9934.98	9757.24	0.825	-4794.28	Yes
4	87	9448.110	9812.31	9536.17	0.829	-4637.05	Yes
5	124	9280.555	9799.64	9280.55	0.835	-4516.27	No

Note: n = 484



Figure 4.21: Female Adolescent Youth Who Experienced Authoritative Fathers: Indicator Probabilities by Status for Specific Behaviors

As shown in Figure 4.22, two statuses grew considerably in membership over the adolescent period: Status Two ($n_{s2}^t = 23$; $n_{s2}^{t+3} = 227$) and Status Three ($n_{s3}^t = 24$; $n_{s3}^{t+3} = 161$). Unlike many of the other analyses conducted, Status One lost the most members and were only left with approximately 20% of their original membership by age 17 – 19 ($n_{s1}^t = 414$; $n_{s1}^{t+3} = 83$). The proportion of female AY that participated in serious SDB remained relatively similar at t and $t+3$ ($n_{s4}^t = 23$; $n_{s4}^{t+3} = 13$), but doubled in membership size between ages 12-14 ($n_{s4}^{t+1} = 56$) and then decreased thereafter.

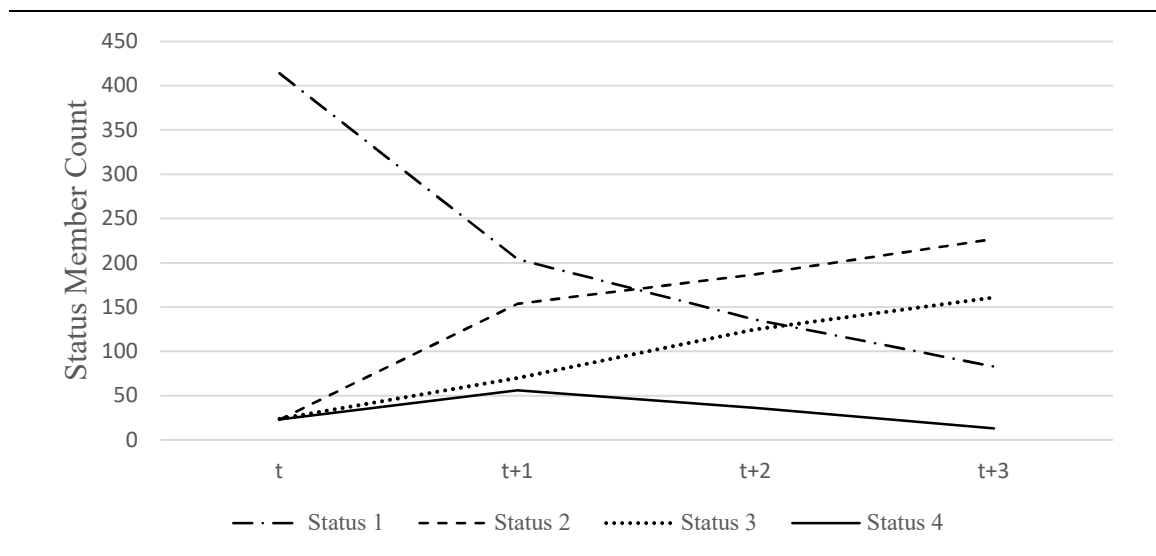


Figure 4.22: *Female Adolescent Youth Who Experienced Authoritative Fathers: Status Proportions*

Table 4.24 describes the transition probabilities for female AY who experienced authoritative fathers during the entire adolescent period. Overall, female AY were most likely to remain in the previous status as compared to transitioning to any other status throughout adolescence. The members of Status One were almost equally likely to remain within the status, as compared to transitioning to more harmful statuses ($t \rightarrow t+1$:

$\tau = .48$; $t+1 \rightarrow t+2$: $\tau = .62$; $t+2 \rightarrow t+3$: $\tau = .62$). When transitioning from Status One, most youth transitioned to Status Two, and after 15 years old were very unlikely to transition to Moderate or Severe SDB. Unlike other models, members of Status Two were very likely to transition to more harmful behaviors before 15 years old, and then were more likely to remain within the status thereafter ($t \rightarrow t+1$: $\tau = .27$; $t+1 \rightarrow t+2$: $\tau = .71$; $t+2 \rightarrow t+3$: $\tau = .84$). The probability of members remaining in Status Three was very high throughout adolescence ($t \rightarrow t+1$: $\tau = 1.00$; $t+1 \rightarrow t+2$: $\tau = .92$; $t+2 \rightarrow t+3$: $\tau = .92$), as well as the most likely destination when youth transitioned from other statuses. The probability of remaining in Status Four steadily decreased throughout adolescence ($t \rightarrow t+1$: $\tau = .58$; $t+1 \rightarrow t+2$: $\tau = .47$; $t+2 \rightarrow t+3$: $\tau = .38$), where most youth transitioned to Status Three. By the conclusion of adolescence, youth were most likely to transition to less harmful statuses, with Status Two being the most probable destination of any transition.

Table 4.24: *Transition Probabilities for Female Adolescent Youth Who Experienced Authoritative Fathers*

	Status			
	Minimal	Statutory	Moderate	Severe
Transition Probabilities $t \rightarrow t+1$				
Status One – Minimal	.484	.347	.069	.100
Status Two – Statutory	.000	.267	.658	.075
Status Three – Moderate	.000	.000	1.000	.000
Status Four – Severe	.120	.211	.085	.584
Transition Probabilities $t+1 \rightarrow t+2$				
Status One – Minimal	.618	.331	.050	.000
Status Two – Statutory	.041	.710	.205	.044
Status Three – Moderate	.043	.000	.923	.034
Status Four – Severe	.024	.179	.323	.474
Transition Probabilities $t+2 \rightarrow t+3$				
Status One – Minimal	.618	.421	.000	.000
Status Two – Statutory	.041	.842	.154	.000
Status Three – Moderate	.043	.064	.916	.000
Status Four – Severe	.024	.108	.477	.376

Note: $n = 580$

As compared to adolescent female AY that experienced non-authoritative fathers or have their father absent from the household, the probability of transitioning to a different status were only higher during ages 13 – 17. For adolescent female AY that have authoritative fathers, they were more likely to transition to more severe statuses from 12 – 15, but the likelihood reduced significantly after age 15. The most influential factor for the difference in likelihood of transitioning to a more severe status during ages 12-15 is that adolescent female AY without authoritative fathers transitioned from Status Three to less severe statuses in high proportions.

Male Adolescent Youth, Unconditional Model

Results for model fit are listed in Table 4.25, where four unique statuses were identified in the Male Adolescent Youth Unconditional Model (Model 4_{Male}: AIC = 55516.167; BIC = 55996.427; SSABIC = 55720.031; entropy = .806; loglikelihood = -27671.083). The four latent statuses identified were consistently found in all models conducted. Members of Status One – Minimal Socially Deviant Behavior were unlikely to participate most types of SDB throughout adolescence. The only SDB that has elevated probability is drinking alcohol ($p_{\text{drink}}^t = .09$; $p_{\text{drink}}^{t+1} = .30$; $p_{\text{drink}}^{t+2} = .34$; $p_{\text{drink}}^{t+3} = .65$), which increased in probability as age increased. Members of Status Two – Primarily Status Offense Socially Deviant Behavior were most likely to participate in smoking and drinking at very high levels throughout adolescence. Members were more likely to have tried smoking ($p_{\text{smoke}}^t = .93$) than alcohol ($p_{\text{drink}}^t = .67$) prior to ages 12 & 13, but were slightly more likely to have consumed alcohol ($p_{\text{drink}}^{t+3} = .98$) than smoke ($p_{\text{smoke}}^{t+3} = .88$) after the age of 17. Consumption of marijuana steadily increased across adolescence, and peaked in likelihood after age 17 ($p_{\text{mari}}^{t+2} = .90$). Members of Status Three – Moderate

Socially Deviant Behavior varied in the SDB across adolescence. During ages of 12 & 15, they were most likely to participate in property destruction ($p_{dprop}^t = .67$; $p_{dprop}^{t+1} = .67$) and petty theft ($p_{s<50}^t = .51$; $p_{s<50}^{t+1} = .65$). After the age of 15, members of this status were also very likely to drink, smoke, and consume marijuana for the remainder of adolescence, as well as sell drugs during ages 15-17 ($p_{sell}^{t+2} = .551$) and steal over the age of 17 ($p_{s<50}^{t+3} = .59$). Last, members of Status Four – Severe Socially Deviant Behavior were likely to participate in every type of SDB throughout adolescence. The least likely SDB was gang membership ($p_{gang}^t = .27$; $p_{gang}^{t+1} = .37$; $p_{gang}^{t+2} = .46$; $p_{gang}^{t+3} = .26$). The highest likelihood of SDB participation occurred during ages 15-17, where all but gang membership, carrying a hand gun, and running away was $p > .80$. Figure 4.23 provides the latent characteristics of each status, in which the statuses are: Status One – Minimal Deviant Behavior, Status Two – Primarily Status Offense Socially Deviant Behavior, Status Three – Moderate Socially Deviant Behavior, and Status Four – Severe Socially Deviant Behavior.

Table 4.25: *Fit Indices for the Male Adolescent Youth, Unconditional Model*

Latent Statuses	Number of Parameters Estimated	AIC	BIC	SSABIC	Entropy	Log-likelihood	Log-likelihood Replicated
2	31	59966.223	60137.35	60038.86	0.822	-29952.11	Yes
3	56	57082.665	57391.79	57213.88	0.815	-28485.33	Yes
4	87	55516.167	55996.42	55720.03	0.806	-27671.08	Yes
5	124	54744.436	55428.94	55035.00	0.781	-27248.21	Yes

Note: $n = 1842$

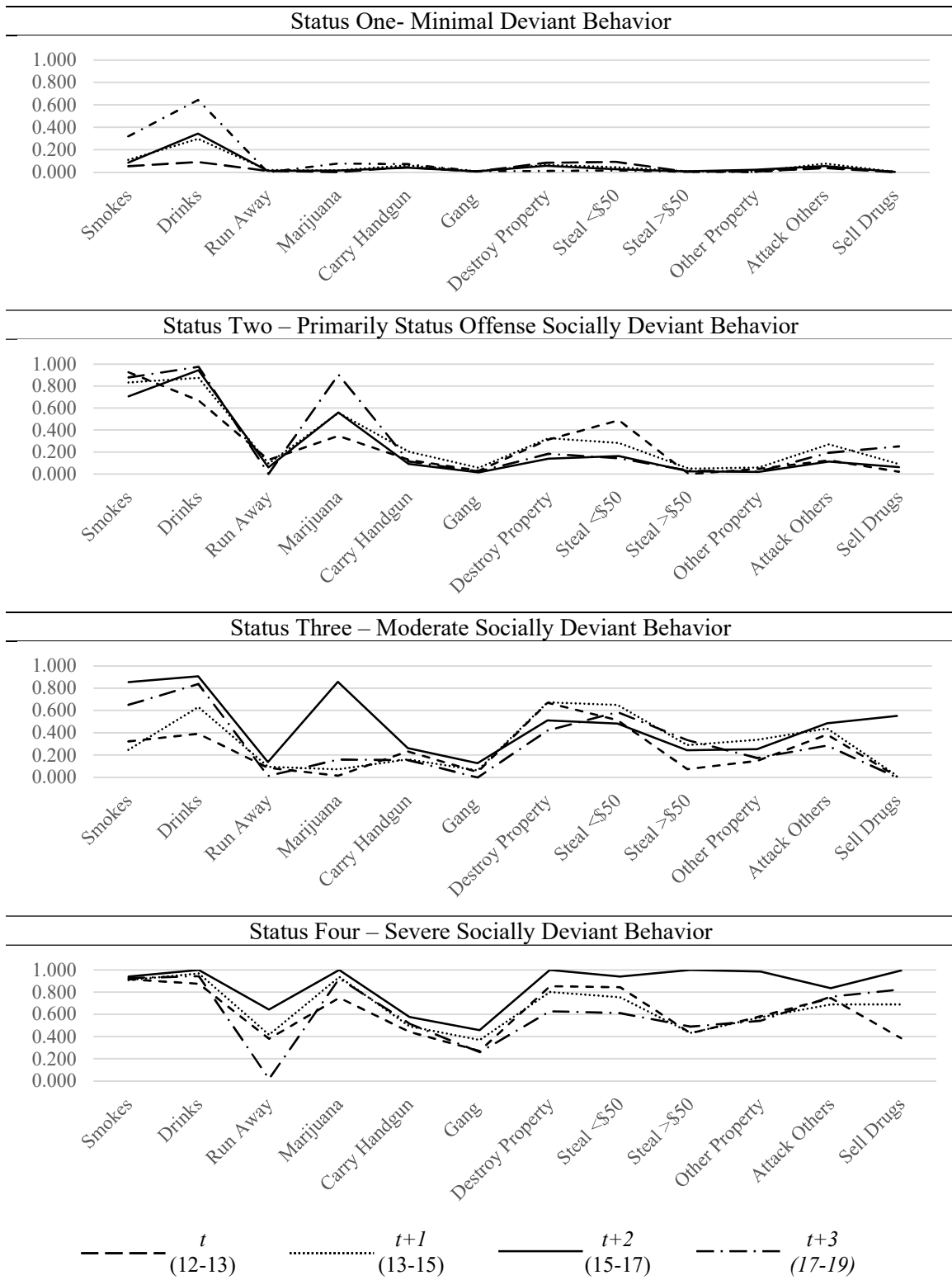


Figure 4.23: Male Adolescent Youth, Unconditional Model: Indicator Probabilities by Status for Specific Behaviors

As shown in Figure 4.24, the status with the most membership growth over the adolescent period were male AY that participated in status offenses ($n_{s2}^t = 43$; $n_{s2}^{t+3} = 1044$), whereas the status that experienced the most decrease in proportion was Status Three – Moderate Socially Deviant Behavior ($n_{s3}^t = 668$; $n_{s3}^{t+3} = 34$). The proportion of male AY that participated in serious SDB we about 50% higher after 17 years old as compared to 12 – 13, ($n_{s4}^t = 114$; $n_{s4}^{t+3} = 177$), and also saw a dramatic increase between ages 12-14 ($n_{s4}^{t+1} = 297$). After which, members of Status Four were most likely to transition to Status Two – Primarily Status Offense Socially Deviant Behavior. Although members of Status One maintained the largest proportion of members overall, by the age of 17, the majority of men had transitioned to other statuses.

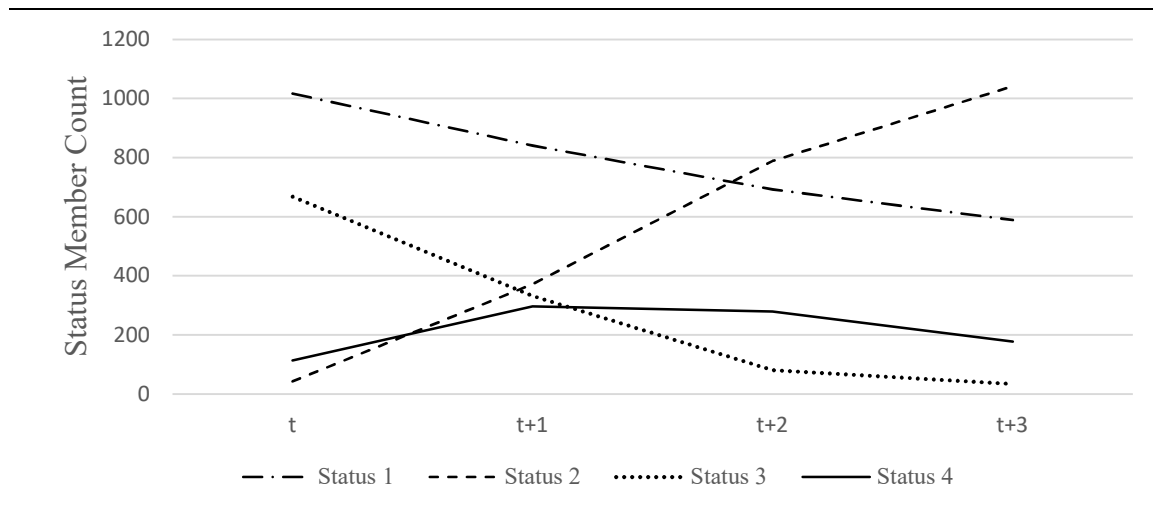


Figure 4.24: Male Adolescent Youth, Unconditional Model: Status Proportions

Table 4.26: Transition Probabilities for Male Adolescent Youth, Unconditional Model describe the transition probabilities among status throughout the adolescent period. Overall, male AY were most likely to remain in the previous status as compared to transitioning to any other status throughout adolescence. The members of Status One

were more likely to remain within the status, as compared to transitioning to more harmful statuses ($t \rightarrow t+1: \tau = .74; t+1 \rightarrow t+2: \tau = .71; t+2 \rightarrow t+3: \tau = .80$). When transitioning from Status One, most youth transitioned to Status Two, and after 15 years old were very unlikely to transition to Moderate or Severe SDB. Members of Status Two were unlikely to transition to more harmful behaviors throughout adolescence ($t \rightarrow t+1: \tau = .81; t+1 \rightarrow t+2: \tau = .89; t+2 \rightarrow t+3: \tau = .94$), however they were most likely to transition to Severe SDB when they did transition. The probability of members remaining in Status Three was unlikely throughout adolescence ($t \rightarrow t+1: \tau = .34; t+1 \rightarrow t+2: \tau = .14; t+2 \rightarrow t+3: \tau = .36$), and were more likely to transition to less harmful statuses as compared to more harmful. The probability of remaining in Status Four steadily decreased throughout adolescence ($t \rightarrow t+1: \tau = .61; t+1 \rightarrow t+2: \tau = .60; t+2 \rightarrow t+3: \tau = .46$), where most youth transitioned to Status Two. By the conclusion of adolescence, youth were most likely to transition to less harmful statuses, with Status Two being the most probable destination of any transition.

Table 4.26: Transition Probabilities for Male Adolescent Youth, Unconditional Model

	Status			
	Minimal	Statutory	Moderate	Severe
Transition Probabilities $t \rightarrow t+1$				
Status One – Minimal	.739	.130	.101	.030
Status Two – Statutory	.000	.811	.000	.189
Status Three – Moderate	.122	.270	.324	.283
Status Four – Severe	.064	.211	.113	.611
Transition Probabilities $t+1 \rightarrow t+2$				
Status One – Minimal	.708	.254	.032	.006
Status Two – Statutory	.023	.886	.000	.091
Status Three – Moderate	.238	.432	.142	.188
Status Four – Severe	.036	.342	.025	.597
Transition Probabilities $t+2 \rightarrow t+3$				
Status One – Minimal	.801	.195	.000	.003
Status Two – Statutory	.011	.938	.000	.051
Status Three – Moderate	.246	.337	.355	.061
Status Four – Severe	.023	.496	.019	.462

Note: The unconditional model is unrestricted by stratified covariates;
 $n = 1842$

Male Adolescent Youth by Race

White Male Adolescent Youth. Four latent statuses were found among White AY males. Members of Status One – Minimal Socially Deviant Behavior were unlikely to participate most types of SDB throughout adolescence. The only SDB that has elevated probability is drinking alcohol ($p_{\text{drink}}^t = .10$; $p_{\text{drink}}^{t+1} = .33$; $p_{\text{drink}}^{t+2} = .35$; $p_{\text{drink}}^{t+3} = .68$), which increased in probability as age increased. Members of Status Two – Primarily Status Offense Socially Deviant Behavior were most likely to participate in smoking and drinking at very high levels throughout adolescence. Members were more likely to have tried smoking ($p_{\text{smoke}}^t = .99$) than alcohol ($p_{\text{drink}}^t = .71$) prior to ages 12 & 13, but were slightly more likely to have consumed alcohol ($p_{\text{drink}}^{t+3} = .98$) than smoke ($p_{\text{smoke}}^{t+3} = .86$) after the age of 17. Consumption of marijuana steadily increased across adolescence, and peaked in likelihood after age 17 ($p_{\text{mari}}^{t+2} = .95$). Members of Status Three – Moderate

Socially Deviant Behavior varied in the SDB across adolescence. During ages of 12 & 15, they were most likely to participate in property destruction ($p_{dprop}^t = .74$; $p_{dprop}^{t+1} = .65$) and petty theft ($p_{s<50}^t = .54$; $p_{s<50}^{t+1} = .64$). After the age of 15, members of this status were also very likely to drink, smoke, and consume marijuana for the remainder during adolescence, as well as sell drugs during ages 15-17 ($p_{sell}^{t+2} = .707$). Last, members of Status Four – Severe Socially Deviant Behavior were likely to participate in every type of SDB throughout adolescence. The least likely SDB was gang membership ($p_{gang}^t = .25$; $p_{gang}^{t+1} = .36$; $p_{gang}^{t+2} = .47$; $p_{gang}^{t+3} = .14$). The highest likelihood of SDB participation occurred during ages 15-17, where all but gang membership, carrying a hand gun, and running away was $p > .80$. Fit indices for the White male AY model are listed in Table 4.27. The results provided within Figure 4.25, *White Male Adolescent Youth: Indicator Probabilities by Status for Specific Behaviors*, describe the latent characteristics of each status.

Table 4.27: Fit Indices for White Male Adolescent Youth

Latent Statuses	Number of Parameters Estimated	AIC	BIC	SSABIC	Entropy	Log-likelihood	Log-likelihood Replicated
2	31	32127.789	32279.74	32181.28	0.829	-16032.89	Yes
3	56	30471.630	30746.12	30568.26	0.831	-15179.81	Yes
4	87	29639.622	30066.07	29789.75	0.821	-14732.81	Yes
5	124	29168.641	29776.45	29382.62	0.798	-14460.32	Yes

Note: $n = 992$

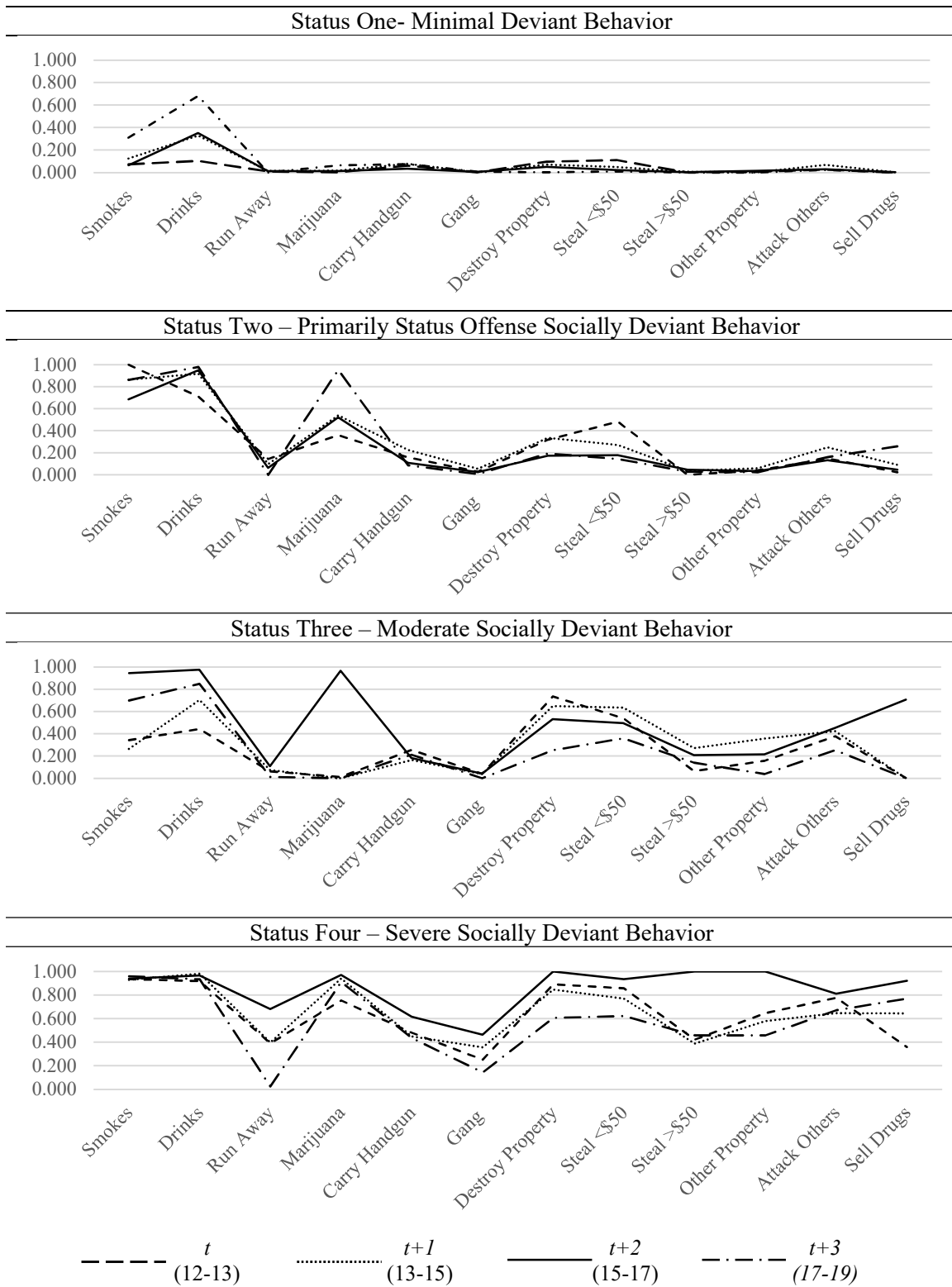


Figure 4.25: *White Male Adolescent Youth: Indicator Probabilities by Status for Specific Behaviors*

The status with the most membership growth over the adolescent period were male AY that participated in status offenses ($n_{s2}^t = 27$; $n_{s2}^{t+3} = 583$), whereas the status that experienced the most decrease in proportion was Status Three – Moderate Socially Deviant Behavior ($n_{s3}^t = 341$; $n_{s3}^{t+3} = 18$). The proportion of male AY that participated in minimal SDB steadily decreased across the adolescent development period, but only reduced membership by 52.87% between t and $t+3$ ($n_{s3}^t = 558$; $n_{s3}^{t+3} = 295$).

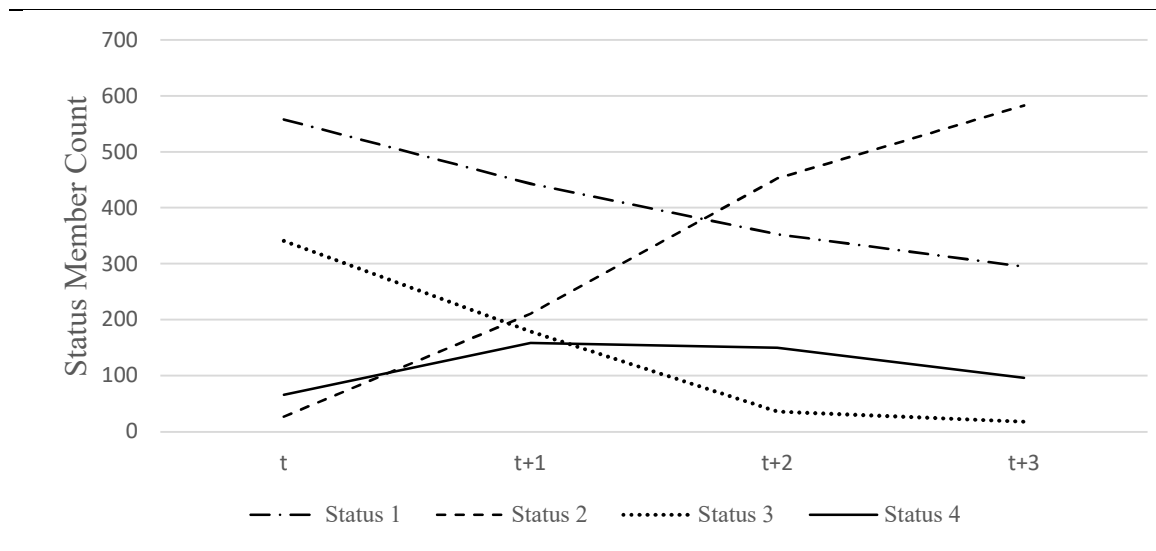


Figure 4.26: *White Male Adolescent Youth Model: Status Proportions*

Table 4.28 describes the transition probabilities for White male AY during the entire adolescent development period. Overall, male AY were most likely to remain in the previous status as compared to transitioning to any other status throughout adolescence. The members of Status One were more likely to remain within the status, as compared to transitioning to more harmful statuses ($t \rightarrow t+1$: $\tau = .72$; $t+1 \rightarrow t+2$: $\tau = .70$; $t+2 \rightarrow t+3$: $\tau = .80$). When transitioning from Status One, most youth transitioned to Status Two, and after 15 years old were very unlikely to transition to Moderate or Severe

SDB. Members of Status Two were unlikely to transition to more harmful behaviors throughout adolescence ($t \rightarrow t+1: \tau = .88; t+1 \rightarrow t+2: \tau = .93; t+2 \rightarrow t+3: \tau = .95$). Conversely to other statuses, members of Status Three were very unlikely to remain within this subgroup ($t \rightarrow t+1: \tau = .30; t+1 \rightarrow t+2: \tau = .10; t+2 \rightarrow t+3: \tau = .47$). Additionally, only between beginning adolescence and early adolescence were youth more likely to transition from Status Three to Status Four (Status 3 to Status Four: [$t \rightarrow t+1: \tau = .31$]), whereas the remainder of the adolescent development period youth were more likely to deescalate in harm. The probability of remaining in Status Four steadily decreased throughout adolescence ($t \rightarrow t+1: \tau = .61; t+1 \rightarrow t+2: \tau = .60; t+2 \rightarrow t+3: \tau = .48$), where most youth transitioned to Status Two. By the conclusion of adolescence, youth were most likely to transition to less harmful statuses, with Status Two being the most probable destination of any transition.

Table 4.28: *Transition Probabilities for White Male Adolescent Youth*

	Status			
	Minimal	Statutory	Moderate	Severe
Transition Probabilities $t \rightarrow t+1$				
Status One – Minimal	.724	.135	.118	.022
Status Two – Statutory	.040	.881	.000	.079
Status Three – Moderate	.106	.285	.304	.306
Status Four – Severe	.012	.228	.150	.610
Transition Probabilities $t+1 \rightarrow t+2$				
Status One – Minimal	.704	.261	.030	.002
Status Two – Statutory	.001	.932	.000	.054
Status Three – Moderate	.202	.482	.104	.000
Status Four – Severe	.037	.338	.027	.598
Transition Probabilities $t+2 \rightarrow t+3$				
Status One – Minimal	.803	.195	.000	.002
Status Two – Statutory	.000	.946	.000	.054
Status Three – Moderate	.181	.349	.470	.000
Status Four – Severe	.025	.487	.011	.478

Note: $n = 992$

Hispanic/Latino Male Adolescent Youth. Four latent statuses were found among Hispanic/Latino male AY. Members of Status One – Minimal Socially Deviant Behavior were unlikely to participate most types of SDB throughout adolescence. The only SDB that has elevated probability is drinking alcohol ($p_{\text{drink}}^t = .09$; $p_{\text{drink}}^{t+1} = .31$; $p_{\text{drink}}^{t+2} = .41$; $p_{\text{drink}}^{t+3} = .63$), which increased in probability as age increased. Members of Status Two – Primarily Status Offense Socially Deviant Behavior were most likely to participate in smoking and drinking at very high levels throughout adolescence. Members were more likely to have tried smoking ($p_{\text{smoke}}^t = .96$) than alcohol ($p_{\text{drink}}^t = .65$) prior to ages 12 & 13, but were slightly more likely to have consumed alcohol ($p_{\text{drink}}^{t+3} = .99$) than smoke ($p_{\text{smoke}}^{t+3} = .97$) after the age of 17. Consumption of marijuana remained constant across adolescence, where even prior to 13 years old, members had a high likelihood of consuming marijuana ($p_{\text{mari}}^t = .53$). Members of Status Three – Moderate Socially Deviant Behavior varied in the SDB across adolescence. During ages of 12 & 13, they were most likely to participate in property destruction ($p_{\text{dprop}}^t = .61$) and petty theft ($p_{s<50}^t = .62$), however during 13-15, they were very likely to participate in most SDB. As compared to all others, Hispanic/Latino male AY were most likely to endorse gang membership and attack others during 13-15. After the age of 15, members of this status were also very likely to drink, smoke, and consume marijuana for the remainder during adolescence, as well as participate in all types of property related SDB. Last, members of Status Four – Severe Socially Deviant Behavior were likely to participate in every type of SDB throughout adolescence. The least likely SDB was gang membership ($p_{\text{gang}}^t = .34$; $p_{\text{gang}}^{t+1} = .39$; $p_{\text{gang}}^{t+2} = .38$; $p_{\text{gang}}^{t+3} = .38$), followed by running away. Additionally, Hispanic Male AY were most likely to carry a handgun during any point of adolescence.

The highest likelihood of SDB participation occurred during ages 13-15. Fit indices for the Hispanic/Latino male AY model are listed in Table 4.29. The results provided within Figure 4.27, *Hispanic/Latino Male Adolescent Youth: Indicator Probabilities by Status for Specific Behaviors*, describe the latent characteristics of each status.

Table 4.29: *Fit Indices for Hispanic/Latino Male Adolescent Youth*

Latent Statuses	Number of Parameters Estimated	AIC	BIC	SSABIC	Entropy	Log-likelihood	Log-likelihood Replicated
2	31	12236.960	12360.14	12261.78	0.812	-6087.48	Yes
3	56	11792.185	12014.71	11837.03	0.791	-5840.09	Yes
4	87	11479.217	11824.93	11548.88	0.809	-5652.60	Yes
5	124	11373.451	11866.20	11472.75	0.796	-5562.72	Yes

Note: $n = 391$



Figure 4.27 Hispanic/Latino Male Adolescent Youth: Indicator Probabilities by Status for Specific Behaviors

As shown in Figure 4.28, the status with the most membership growth over the adolescent period were male AY that participated in status offenses ($n_{s2}^t = 15$; $n_{s2}^{t+3} = 170$), whereas the status that experienced the most decrease in proportion was Status Three – Moderate Socially Deviant Behavior ($n_{s3}^t = 134$; $n_{s3}^{t+3} = 21$). The proportion of members in Status One also decreased significantly between t and $t+3$ ($n_{s1}^t = 216$; $n_{s1}^{t+3} = 139$), which represents a 64.35% reduction. The proportion of AY who were members of Status Four – Severe Socially Deviant Behavior, remained more than twice the level when over 17 ($n_{s4}^{t+3} = 61$) as compared to members at 12 – 13 years old ($n_{s4}^t = 26$).

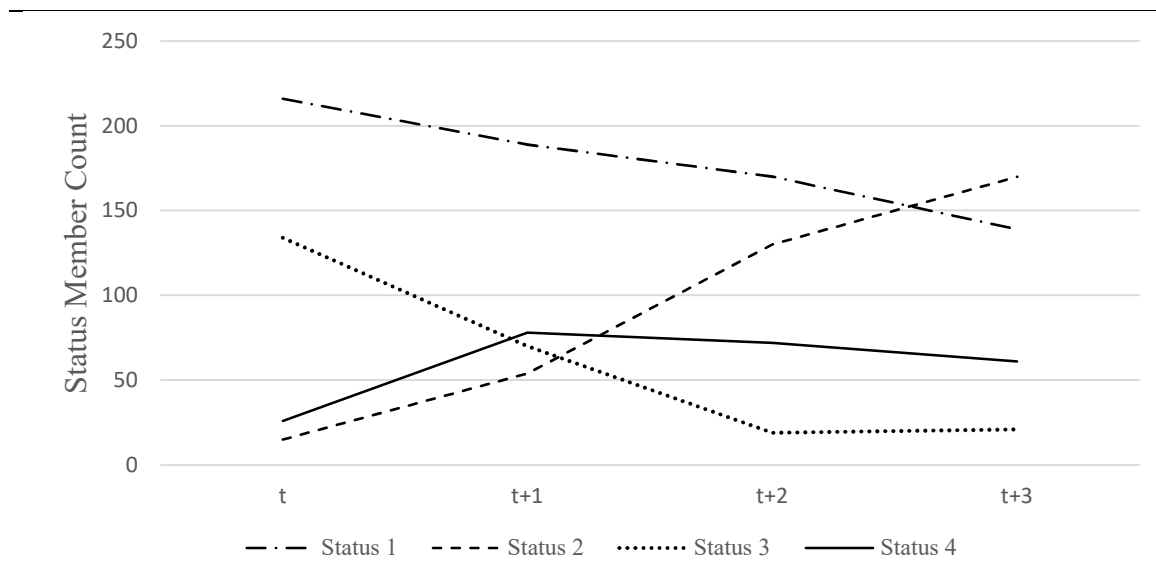


Figure 4.28: *Hispanic/Latino Male Adolescent Youth Model: Status Proportions*

Table 4.30 describes the transition probabilities for Hispanic/Latino male AY during the entire adolescent development period. Overall, male AY were most likely to remain in the previous status as compared to transitioning to any other status throughout adolescence. The members of Status One were more likely to remain within the status, as compared to transitioning to more harmful statuses ($t \rightarrow t+1: \tau = .74$; $t+1 \rightarrow t+2: \tau = .73$;

$t+2 \rightarrow t+3: \tau = .86$). When transitioning from Status One, members were most likely to transition to Moderate and Severe SDB until 15 years old, and then mostly statutory SDB thereafter. Members of Status Two were very unlikely remain within the status during early adolescence, and transitioned to Severe SDB at very high probabilities. Not until after 15, were they likely to remain within Status Two. As compared to other models, very few Hispanic/Latino male AY transitioned to Status Three during any point during adolescence, nor did members remain within the status. Instead, they either transitioned to Severe SDB or less severe SDB. The probability of remaining in Status Four was approximately consistent throughout adolescence ($t \rightarrow t+1: \tau = .65$; $t+1 \rightarrow t+2: \tau = .57$; $t+2 \rightarrow t+3: \tau = .60$), where most youth transitioned to Status Two. By the conclusion of adolescence, youth were most likely to transition to less harmful statuses, with Status Two being the most probable destination of any transition.

Table 4.30: *Transition Probabilities for Hispanic/Latino Male Adolescent Youth*

	Status			
	Minimal	Statutory	Moderate	Severe
Transition Probabilities $t \rightarrow t+1$				
Status One – Minimal	.735	.108	.053	.104
Status Two – Statutory	.000	.282	.000	.718
Status Three – Moderate	.156	.196	.437	.211
Status Four – Severe	.354	.000	.000	.646
Transition Probabilities $t+1 \rightarrow t+2$				
Status One – Minimal	.726	.266	.000	.008
Status Two – Statutory	.065	.735	.000	.200
Status Three – Moderate	.325	.182	.281	.213
Status Four – Severe	.078	.349	.000	.572
Transition Probabilities $t+2 \rightarrow t+3$				
Status One – Minimal	.756	.215	.011	.018
Status Two – Statutory	.079	.810	.000	.111
Status Three – Moderate	.000	.181	.805	.014
Status Four – Severe	.009	.345	.046	.600

Note: $n = 391$

As compared to adolescent White male AY, the probability of remaining within a particular status was higher for Hispanic/Latino male AY only after 17 years old, where Hispanic/Latino male AY were more likely to transition to other statuses than White male AY at younger ages. During the entire adolescent period, the likelihood of Hispanic/Latino male AY transitioning to more severe SDB statuses were constantly higher when compared to White male AY. The probability of Hispanic/Latino male AY transitioning to more severe statuses is particularly elevated when AY are 12-14 years old, where Hispanic/Latino male AY were much more likely to transition to more harmful statuses as compared to White male AY.

African American Male Adolescent Youth. Four latent statuses were found among African American male AY. Members of Status One – Minimal Socially Deviant Behavior were unlikely to participate most types of SDB throughout adolescence. Members of Status Two – Primarily Status Offense Socially Deviant Behavior were most likely to participate in smoking and drinking at very high levels throughout adolescence. Members were more likely to have tried smoking than alcohol prior to ages 12 & 13, but were slightly more likely to have consumed alcohol ($p_{\text{drink}}^{t+3} = .85$) than smoke ($p_{\text{smoke}}^{t+3} = .73$) after the age of 17. Likelihood of marijuana consumption was high during mid adolescence, where peak probability occurred during ages 15-17 ($p_{\text{mari}}^t = .93$). Members of Status Three – Moderate Socially Deviant Behavior varied in the SDB across adolescence. Across the entire adolescent period, African American male AY in this status were likely to attack others, ($p_{\text{attack}}^t = .91$; $p_{\text{attack}}^{t+1} = .59$; $p_{\text{drink}}^{t+2} = .61$; $p_{\text{drink}}^{t+3} = .86$), and more so than any other group. During ages of 12 & 13, they were also likely to participate in property destruction ($p_{\text{dprop}}^t = .74$) and petty theft ($p_{s<50}^t = .62$) from 13-15.

After the age of 15, members of this status were also very likely to drink, smoke, and consume marijuana for the remainder during adolescence, as well as participate in all types of property related SDB. Last, members of Status Four – Severe Socially Deviant Behavior were likely to participate in every type of SDB throughout adolescence. The least likely SDB was gang membership ($p_{\text{gang}}^t = .55$; $p_{\text{gang}}^{t+1} = .79$; $p_{\text{gang}}^{t+2} = .41$; $p_{\text{gang}}^{t+3} = .53$), however was the most consistently endorsed as compared to all other groups. The highest likelihood of SDB participation occurred during ages 13-15. Fit indices for the African American male AY model are listed in Table 4.31. The results provided within Figure 4.29, *African American Male Adolescent Youth: Indicator Probabilities by Status for Specific Behaviors*, describe the latent characteristics of each status.

Table 4.31: *Fit Indices for African American Male Adolescent Youth*

Latent Statuses	Number of Parameters Estimated	AIC	BIC	SSABIC	Entropy	Log-likelihood	Log-likelihood Replicated
2	31	14669.268	14796.30	14697.92	0.801	-7303.63	Yes
3	56	14070.305	14299.79	14122.07	0.800	-6979.15	Yes
4	87	11416.047	11761.76	11485.71	0.805	-5621.02	Yes
5	124	13524.090	14032.25	13638.72	0.809	-6638.04	Yes

Note: $n = 443$



Figure 4.29: African American Male Adolescent Youth: Indicator Probabilities by Status for Specific Behaviors

As shown in Figure 4.30, the status with the most membership growth over the adolescent period were male AY that participated in status offenses ($n_{s2}^t = 1$; $n_{s2}^{t+3} = 211$), whereas the status that experienced the most decrease in proportion was Status Three – Moderate Socially Deviant Behavior ($n_{s3}^t = 193$; $n_{s3}^{t+3} = 7$). Like other groups, African American male AY experienced a steady decrease in membership of Status One throughout adolescence, however the proportion lost was only approximately 35% of the original membership. Last, compared to all other groups, African American male AY were the only group to increase membership of Status Four during all ages of the adolescent period ($n_{s4}^t = 16$; $n_{s4}^{t+1} = 68$; $n_{s4}^{t+2} = 69$; $n_{s4}^{t+3} = 73$).

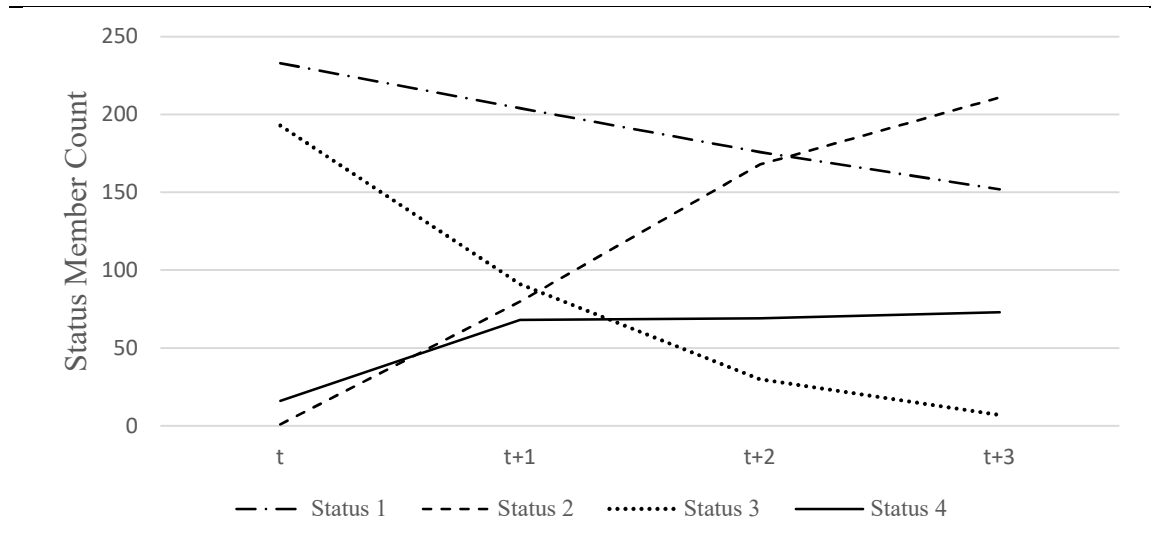


Figure 4.30: African American Male Adolescent Youth Model: Status Proportions

Table 4.32 describes the transition probabilities for African American male AY during the entire adolescent development period. Overall, male AY were most likely to remain in the previous status as compared to transitioning to any other status throughout adolescence. The members of Status One were more likely to remain within the status, as

compared to transitioning to more harmful statuses ($t \rightarrow t+1: \tau = .76$; $t+1 \rightarrow t+2: \tau = .71$; $t+2 \rightarrow t+3: \tau = .78$). When transitioning from Status One, members were most likely to transition to Statutory SDB. Additionally, most youth transitioned from Status One to Status Two. Furthermore, Status Two was the least likely of any status to lose members ($t \rightarrow t+1: \tau = 1.00$; $t+1 \rightarrow t+2: \tau = .78$; $t+2 \rightarrow t+3: \tau = .91$), and was the most likely destination of any transition throughout adolescence. Conversely to other statuses, members of Status Three were very unlikely to remain within this subgroup ($t \rightarrow t+1: \tau = .35$; $t+1 \rightarrow t+2: \tau = .19$; $t+2 \rightarrow t+3: \tau = .24$). Additionally, African American male AY were the only group have high probabilities of transitioning from Status Three to Status Four during early and late adolescence (Status 3 to Status Four: [$t \rightarrow t+1: \tau = .29$; $t+2 \rightarrow t+3: \tau = .40$]), whereas mid-adolescence they were more likely to deescalate in harm. Additionally, the probability of African American male AY remaining in Status Four was fairly high throughout adolescence ($t \rightarrow t+1: \tau = .63$; $t+1 \rightarrow t+2: \tau = .68$; $t+2 \rightarrow t+3: \tau = .69$), where most youth transitioned to Status Two when transition occurred. By the conclusion of adolescence, youth were most likely to transition to less harmful statuses, with Status Two being the most probable destination of any transition.

Table 4.32: Transition Probabilities for African American Male Adolescent Youth

	Status			
	Minimal	Statutory	Moderate	Severe
Transition Probabilities $t \rightarrow t+1$				
Status One – Minimal	.756	.128	.102	.015
Status Two – Statutory	.000	1.000	.000	.000
Status Three – Moderate	.140	.227	.348	.286
Status Four – Severe	.081	.295	.000	.625
Transition Probabilities $t+1 \rightarrow t+2$				
Status One – Minimal	.710	.236	.054	.000
Status Two – Statutory	.067	.757	.000	.176
Status Three – Moderate	.281	.440	.185	.094
Status Four – Severe	.000	.285	.035	.680
Transition Probabilities $t+2 \rightarrow t+3$				
Status One – Minimal	.778	.222	.000	.000
Status Two – Statutory	.010	.907	.000	.083
Status Three – Moderate	.371	.000	.235	.395
Status Four – Severe	.032	.278	.000	.690

Note: $n = 443$

As compared to adolescent White male AY, the likelihood of transitioning to a different status were slightly more for African American male AY during early adolescence, and slightly less after 15 years old. Additionally, African American male AY were more likely to transition to a more severe status than White male AY after the age of 15, while maintaining relatively similar probabilities of transitioning to a more severe status when less than 15 years old. Additionally, African American male AY were also more likely than Hispanic/Latino male AY to transition to more severe statuses after the age of 15.

Male Adolescent Youth by Poverty

Male Adolescent Youth Who Did Not Experienced Poverty. Four latent statuses were found among male AY who did not experienced poverty. Members of Status One – Minimal Socially Deviant Behavior were unlikely to participate most types of SDB throughout adolescence. The only SDB that has elevated probability is drinking alcohol

$(p_{\text{drink}}^t = .12; p_{\text{drink}}^{t+1} = .33; p_{\text{drink}}^{t+2} = .42; p_{\text{drink}}^{t+3} = .48)$, which increased in probability as age increased. Members of Status Two – Primarily Status Offense Socially Deviant Behavior were most likely to participate in smoking and drinking at very high levels throughout adolescence. Members were more likely to have tried smoking ($p_{\text{smoke}}^t = .99$) than alcohol ($p_{\text{drink}}^t = .82$) prior to ages 12 & 13, but were more likely to have consumed alcohol ($p_{\text{drink}}^{t+3} = .88$) than smoke ($p_{\text{smoke}}^{t+3} = .65$) after the age of 17. Consumption of marijuana also had elevated probabilities across adolescence, but peaked in likelihood at age 15 -17 ($p_{\text{mari}}^{t+2} = .63$). Members of Status Three – Moderate Socially Deviant Behavior varied in the SDB across adolescence. During ages of 12 & 15, they were most likely to participate in property destruction ($p_{\text{dprop}}^t = .74; p_{\text{dprop}}^{t+1} = .58$) and petty theft ($p_{s<50}^t = .67; p_{s<50}^{t+1} = .67$). After the age of 15, members of this status were also very likely to drink, smoke, and consume marijuana for the remainder of adolescence, as well as attack others during ages 15-17 ($p_{\text{attack}}^{t+2} = .75$) and steal over the age of 17 ($p_{s<50}^{t+3} = .58$). Last, members of Status Four – Severe Socially Deviant Behavior were likely to participate in every type of SDB throughout adolescence. The least likely SDB was gang membership ($p_{\text{gang}}^t = .39; p_{\text{gang}}^{t+1} = .33; p_{\text{gang}}^{t+2} = .12; p_{\text{gang}}^{t+3} = .21$). The highest likelihood of SDB participation occurred during ages 13-15. Fit indices for male AY who did not experience Poverty model are listed in Table 4.33. The results provided within Figure 4.31, *Male Adolescent Youth Who Did Not Experience Poverty: Indicator Probabilities by Status for Specific Behaviors*, describe the latent characteristics of each status.

Table 4.33: *Fit Indices for Male Adolescent Youth Who Have Not Experienced Poverty*

Latent Statuses	Number of Parameters Estimated	AIC	BIC	SSABIC	Entropy	Log-likelihood	Log-likelihood Replicated
2	31	34769.215	34923.42	34824.96	0.835	-17353.60	Yes
3	56	33060.019	33338.58	33160.72	0.832	-16474.00	Yes
4	87	32145.227	32578.00	32301.67	0.825	-15985.61	Yes
5	124	31679.228	32296.06	31902.21	0.803	-15715.61	No

Note: $n = 1067$

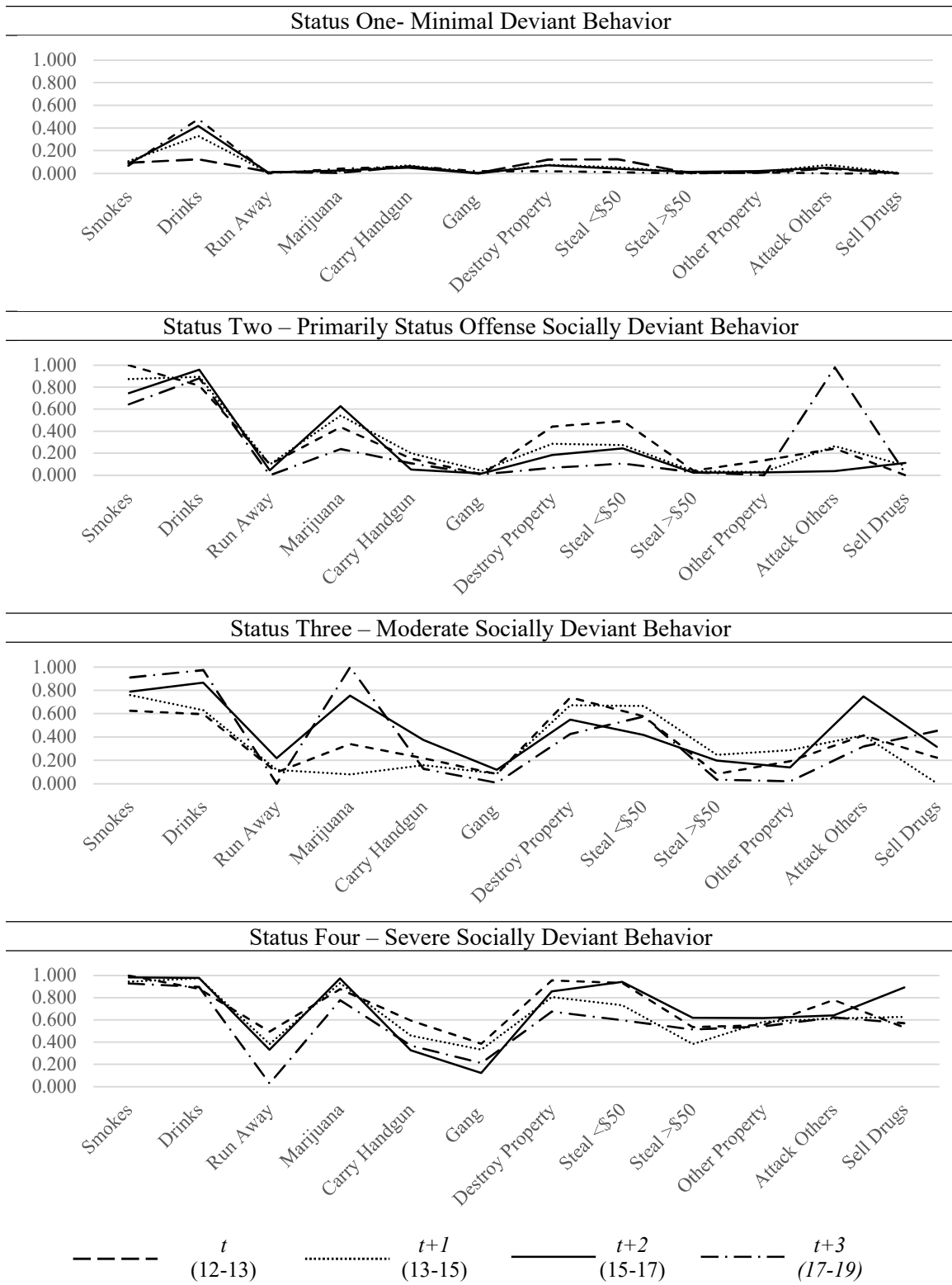


Figure 4.31: Male Adolescent Youth Who Did Not Experience Poverty: Indicator Probabilities by Status for Specific Behaviors

As Shown in Figure 4.32, the status with the most membership growth over the adolescent period were male AY that participated in status offenses ($n_{s2}^t = 32$; $n_{s2}^{t+3} = 609$), whereas the status that experienced the most decrease in proportion was Status Three – Moderate Socially Deviant Behavior ($n_{s3}^t = 389$; $n_{s3}^{t+3} = 17$). The proportion of male AY that participated in serious SDB remained higher the end of adolescence as compared to the beginning ($n_{s4}^t = 66$; $n_{s4}^{t+3} = 102$), and saw the highest level of membership between ages 13-15 ($n_{s4}^{t+1} = 170$).

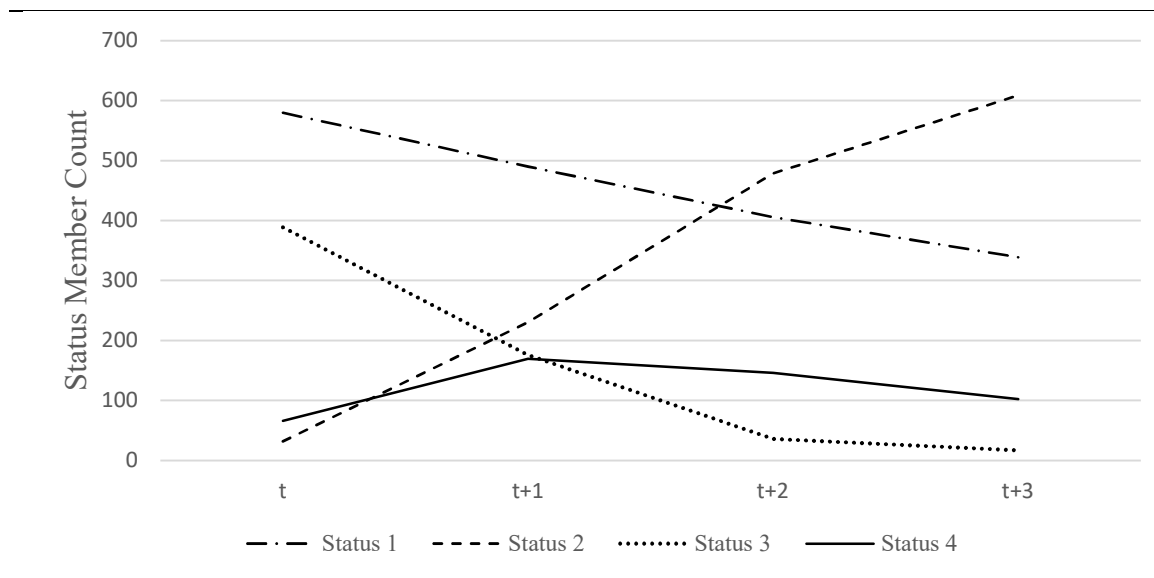


Figure 4.32: Male Adolescent Youth Who Did Not Experience Poverty: Status Proportions

Table 4.34 describes the transition probabilities for male AY who did not experience poverty during the entire adolescent development period. Overall, male AY were most likely to remain in the previous status as compared to transitioning to any other status throughout adolescence. Unlike most other models, members of Status One were more likely to transition to more harmful SDB, as compared to remaining within the status ($t \rightarrow t+1: \tau = .34$; $t+1 \rightarrow t+2: \tau = .12$; $t+2 \rightarrow t+3: \tau = .48$). When transitioning

from Status One, members were most likely to transition to Moderate and Severe SDB, except during mid-adolescence. Furthermore, Status Two was the least likely of any status to lose members ($t \rightarrow t+1: \tau = .80; t+1 \rightarrow t+2: \tau = .91; t+2 \rightarrow t+3: \tau = .94$), and was the most likely destination of any transition throughout adolescence. Conversely to other most other models, the probability of remaining in Status Three rather than transition to other subgroups was high ($t \rightarrow t+1: \tau = .76; t+1 \rightarrow t+2: \tau = .74; t+2 \rightarrow t+3: \tau = .80$), however most youth transitioned to Status Two when transitions occurred. Additionally, the probability of male AY remaining in Status Four was fairly high during early adolescence, but decreased thereafter ($t \rightarrow t+1: \tau = .70; t+1 \rightarrow t+2: \tau = .57; t+2 \rightarrow t+3: \tau = .48$), where most youth transitioned to Status Two when transition occurred. By the conclusion of adolescence, youth were most likely to transition to less harmful statuses, with Status Two being the most probable destination of any transition.

Table 4.34: *Transition Probabilities for Male Adolescent Youth Who Did Not Experience Poverty*

	Status			
	Minimal	Statutory	Moderate	Severe
Transition Probabilities $t \rightarrow t+1$				
Status One – Minimal	.336	.271	.118	.275
Status Two – Statutory	.000	.798	.057	.145
Status Three – Moderate	.072	.148	.759	.021
Status Four – Severe	.053	.224	.028	.696
Transition Probabilities $t+1 \rightarrow t+2$				
Status One – Minimal	.116	.495	.207	.182
Status Two – Statutory	.000	.915	.006	.079
Status Three – Moderate	.023	.242	.735	.000
Status Four – Severe	.026	.361	.048	.565
Transition Probabilities $t+2 \rightarrow t+3$				
Status One – Minimal	.482	.171	.346	.000
Status Two – Statutory	.000	.935	.000	.065
Status Three – Moderate	.000	.192	.804	.003
Status Four – Severe	.000	.524	.000	.476

Note: $n = 329$

Male Adolescent Youth Who Experienced Poverty. Four latent statuses were found among male AY who experienced poverty. Members of Status One – Minimal Socially Deviant Behavior were unlikely to participate most types of SDB throughout adolescence. The only SDB that has elevated probability is drinking alcohol ($p_{\text{drink}}^t = .07$; $p_{\text{drink}}^{t+1} = .23$; $p_{\text{drink}}^{t+2} = .19$; $p_{\text{drink}}^{t+3} = .46$), which increased in probability as age increased. Members of Status Two – Primarily Status Offense Socially Deviant Behavior were most likely to participate in smoking and drinking at very high levels throughout adolescence. Members were equally likely to have tried smoking ($p_{\text{smoke}}^t = .57$) than alcohol ($p_{\text{drink}}^t = .57$) prior to ages 12 & 13, but were more likely to have consumed alcohol ($p_{\text{drink}}^{t+3} = .84$) than smoke ($p_{\text{smoke}}^{t+3} = .68$) after the age of 17. Conversely to all other groups, including female AY, the likelihood of marijuana consumption decreased across adolescence, where smoking marijuana is highly probable prior to 13 years old ($p_{\text{mari}}^t = .94$) and concluded at $p = .36$ after 17 years old. Members of Status Three – Moderate Socially Deviant Behavior varied in the SDB across adolescence. During ages of 12 & 15, they were most likely to participate in property destruction ($p_{\text{dprop}}^t = .61$; $p_{\text{dprop}}^{t+1} = .77$) and attacking others ($p_{\text{attack}}^t = .68$; $p_{\text{attack}}^{t+1} = .78$). After the age of 15, members of this status were also very likely to drink, smoke, and consume marijuana for the remainder of adolescence, as well as attack others during ages 15-17 ($p_{\text{attack}}^{t+2} = .87$) and sell drugs over the age of 17 ($p_{\text{sell}}^{t+3} = .61$). Last, members of Status Four – Severe Socially Deviant Behavior were likely to participate in every type of SDB throughout adolescence. The least likely SDB was gang membership ($p_{\text{gang}}^t = .06$; $p_{\text{gang}}^{t+1} = .77$; $p_{\text{gang}}^{t+2} = .43$; $p_{\text{gang}}^{t+3} = .60$). The highest likelihood of SDB participation occurred during ages 13-15, where all SDB indicators were highly endorsed. Fit indices for male AY who

did not experience poverty model are listed in Table 4.33. The results provided within Figure 4.31, *Male Adolescent Youth Who Experienced Poverty: Indicator Probabilities by Status for Specific Behaviors*, describe the latent characteristics of each status.

Table 4.35: *Fit Indices for Male Adolescent Youth Who Experienced Poverty*

Latent Statuses	Number of Parameters Estimated	AIC	BIC	SSABIC	Entropy	Log-likelihood	Log-likelihood Replicated
2	31	11508.867	11626.73	11528.39	0.781	-5723.43	Yes
3	56	10990.786	11203.70	11026.07	0.779	-5439.39	Yes
4	87	10717.377	11048.16	10772.19	0.805	-5271.68	Yes
5	124	10647.264	11118.72	10725.39	0.814	-5199.63	No

Note: $n = 329$

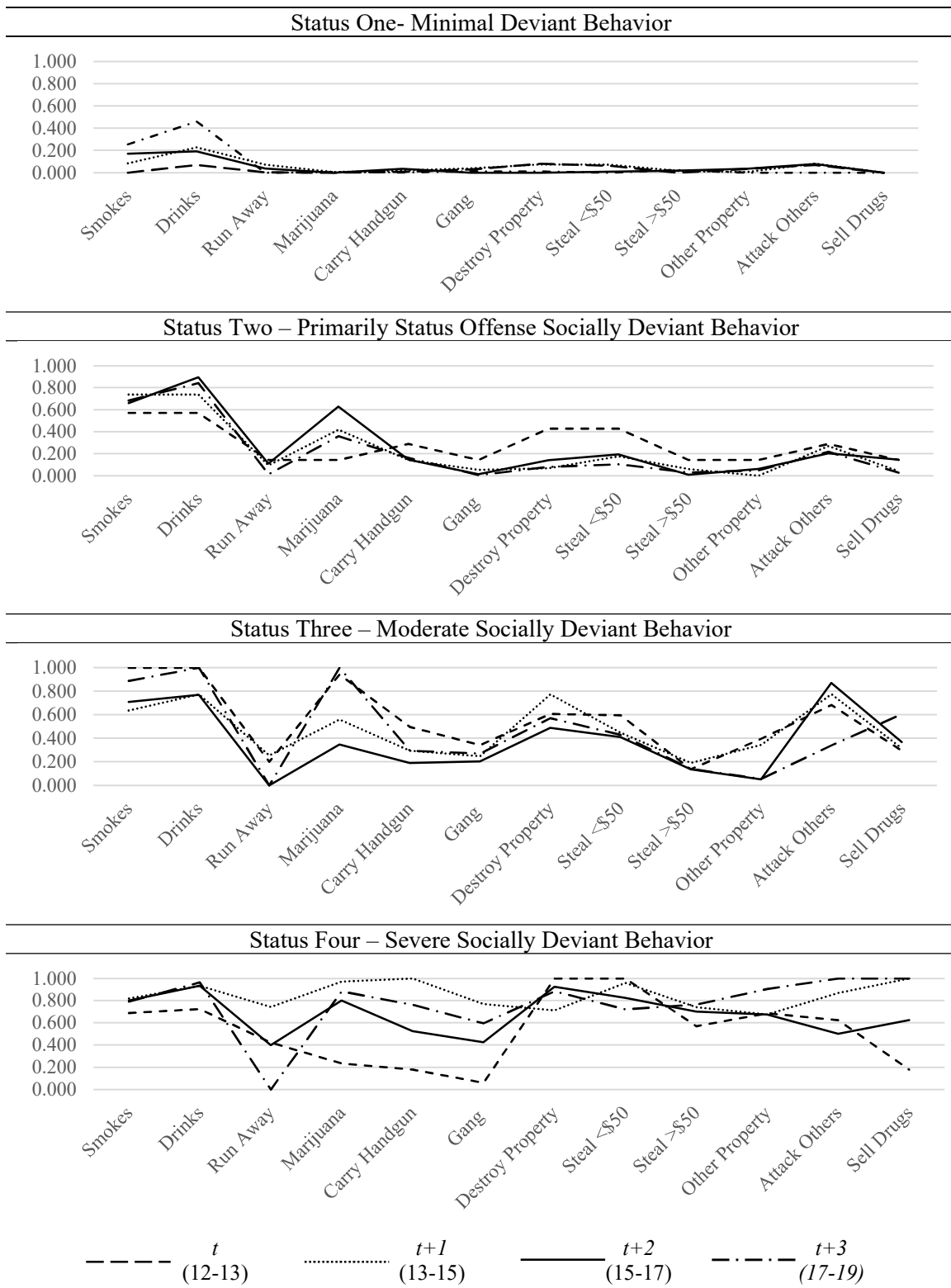


Figure 4.33: Male Adolescent Youth Who Experienced Poverty: Indicator Probabilities by Status for Specific Behaviors

As shown in Figure 4.34, the status with the most membership growth over the adolescent period were male that participated in status offenses ($n_{s2}^t = 7$; $n_{s2}^{t+3} = 170$), whereas the status that experienced the most decrease in proportion was Status Three – Moderate Socially Deviant Behavior ($n_{s3}^t = 117$; $n_{s3}^{t+3} = 14$). The proportion of male AY that participated in serious SDB remained relatively stable after 13 ($n_{s4}^{t+1} = 46$; $n_{s4}^{t+1} = 40$; $n_{s4}^{t+3} = 42$), where membership of Status Four almost quadrupled between 13-14. Similar to other models, members of Status One constantly decreased throughout the adolescent period, and was roughly half of the original proportion by age 17.

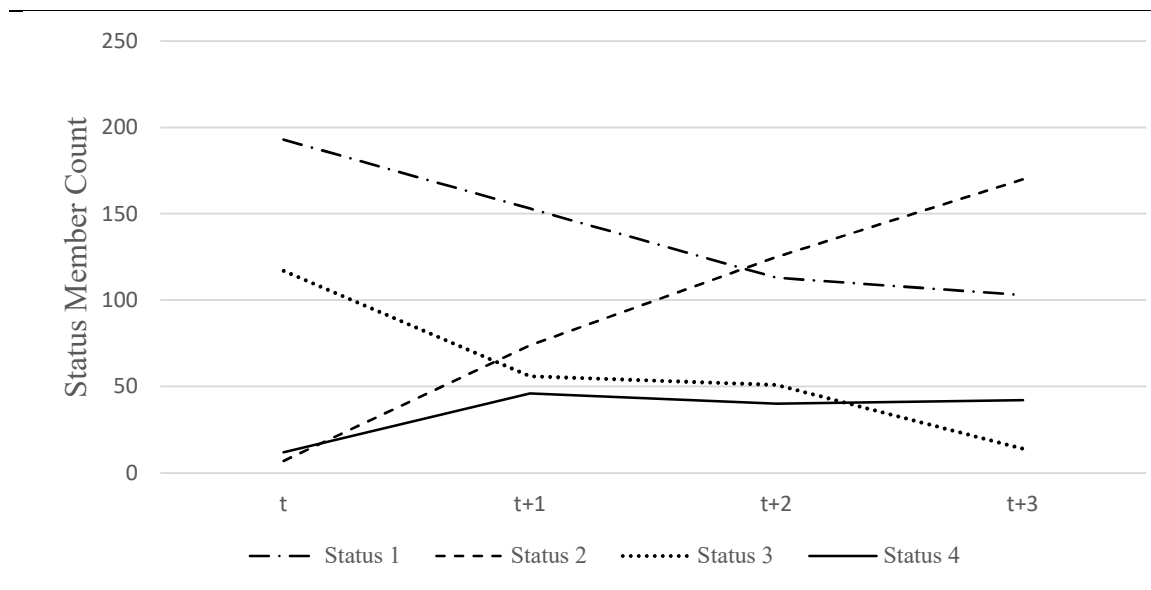


Figure 4.34: Male Adolescent Youth Who Experienced Poverty: Status Proportions

Table 4.36 describes the transition probabilities for male AY who experienced poverty during the entire adolescent development period. Overall, male AY were most likely to remain in the previous status as compared to transitioning to any other status throughout adolescence. Members of Status One were less likely to transition to more harmful SDB as compared to remaining within the status ($t \rightarrow t+1$: $\tau = .71$; $t+1 \rightarrow t+2$: τ

= .62; $t+2 \rightarrow t+3: \tau = .83$). When transitioning from Status One, members were most likely to transition to Status Two. Status Two was the least likely of any status to lose members ($t \rightarrow t+1: \tau = 1.00$; $t+1 \rightarrow t+2: \tau = .68$; $t+2 \rightarrow t+3: \tau = .87$), and was the most likely destination of any transition throughout adolescence. The probability of remaining in Status Three rather than transition to other subgroups was very low throughout adolescence ($t \rightarrow t+1: \tau = .36$; $t+1 \rightarrow t+2: \tau = .21$; $t+2 \rightarrow t+3: \tau = .17$), however most youth transitioned to Status Two when transitions occurred. Last, the probability of male AY remaining in Status Four were about even during the entire adolescence period. By the conclusion of adolescence, youth were most likely to transition to less harmful statuses, with Status Two being the most probable destination of any transition.

Table 4.36: *Transition Probabilities for Male Adolescent Youth Who Experienced Poverty*

	Status			
	Minimal	Statutory	Moderate	Severe
Transition Probabilities $t \rightarrow t+1$				
Status One – Minimal	.707	.142	.076	.075
Status Two – Statutory	.000	1.000	.000	.000
Status Three – Moderate	.122	.302	.359	.217
Status Four – Severe	.166	.270	.000	.564
Transition Probabilities $t+1 \rightarrow t+2$				
Status One – Minimal	.616	.203	.181	.000
Status Two – Statutory	.050	.683	.155	.112
Status Three – Moderate	.214	.393	.209	.184
Status Four – Severe	.061	.470	.000	.469
Transition Probabilities $t+2 \rightarrow t+3$				
Status One – Minimal	.834	.148	.000	.018
Status Two – Statutory	.020	.866	.011	.102
Status Three – Moderate	.078	.686	.173	.063
Status Four – Severe	.049	.235	.115	.602

Note: $n = 329$

As compared to adolescent male AY that do not experience poverty, the probability of transitioning to a different status were less during the entire adolescent period. Additionally, as compared to adolescent male AY that do not experience poverty, adolescent male AY that experienced poverty were more likely to transition to a more severe status throughout adolescence.

Male Adolescent Youth by Peer Participation in Socially Deviant Behavior

Male Adolescent Youth Who Do Not Have Peers that Participated in Socially Deviant Behavior. Four latent statuses were found among male AY who do not have peers that participated in socially deviant behavior. Members of Status One – Minimal Socially Deviant Behavior were unlikely to participate most types of SDB throughout adolescence. The only SDB that has elevated probability is drinking alcohol ($p_{\text{drink}}^t = .07$; $p_{\text{drink}}^{t+1} = .26$; $p_{\text{drink}}^{t+2} = .34$; $p_{\text{drink}}^{t+3} = .60$), which increased in probability as age increased. Members of Status Two – Primarily Status Offense Socially Deviant Behavior were most likely to participate in smoking and drinking at very high levels throughout adolescence. Members were equally likely to have tried smoking ($p_{\text{smoke}}^t = .52$) than alcohol ($p_{\text{drink}}^t = .54$) prior to ages 12 & 13, but were more likely to have consumed alcohol ($p_{\text{drink}}^{t+3} = .98$) than smoke ($p_{\text{smoke}}^{t+3} = .83$) after the age of 17. The likelihood of marijuana consumption steadily increased across adolescence, where smoking marijuana is most probable after 17 years old ($p_{\text{mari}}^t = .74$). Members of Status Three – Moderate Socially Deviant Behavior varied in the SDB across adolescence. During ages of 12 & 15, they were most likely to participate in property destruction ($p_{\text{dprop}}^t = .99$; $p_{\text{dprop}}^{t+1} = .78$) and petty theft ($p_{s<50}^t = .62$; $p_{s<50}^{t+1} = .67$). After the age of 15, members of this status were also very likely to drink, smoke, and consume marijuana for the remainder of

adolescence, as well as attack others during ages 15-17 ($p_{\text{attack}}^{t+2} = .78$). Last, members of Status Four – Severe Socially Deviant Behavior were likely to participate in every type of SDB throughout adolescence. The least likely SDB was gang membership ($p_{\text{gang}}^t = .12$; $p_{\text{gang}}^{t+1} = .19$; $p_{\text{gang}}^{t+2} = .28$; $p_{\text{gang}}^{t+3} = .23$). The highest likelihood of SDB participation occurred during ages 13-15, where most SDB indicators were highly endorsed. Fit indices for male AY who do not have peers that participated in socially deviant behavior model are listed in Table 4.37. The results provided within Figure 4.35, *Male Adolescent Youth Who Do Not Have Peers that Participated in Socially Deviant Behavior: Indicator Probabilities by Status for Specific Behaviors*, describe the latent characteristics of each status.

Table 4.37: *Fit Indices for Male Adolescent Youth Who Do Not Have Peers that Participate in Socially Deviant Behavior*

Latent Statuses	Number of Parameters Estimated	AIC	BIC	SSABIC	Entropy	Log-likelihood	Log-likelihood Replicated
2	31	40169.865	40325.65	40227.19	0.791	-20053.93	Yes
3	56	38116.407	38397.83	38219.96	0.803	-19002.20	Yes
4	87	37035.865	37473.08	37196.75	0.799	-18430.93	Yes
5	124	36423.653	37046.82	36652.96	0.769	-18087.82	Yes

Note: $n = 718$



Figure 4.35: Male Adolescent Youth Who Do Not Have Peers that Participated in Socially Deviant Behavior: Indicator Probabilities by Status for Specific Behaviors

The status with the most membership growth over the adolescent period were male AY that participated in status offenses ($n_{s2}^t = 3$; $n_{s2}^{t+3} = 369$), whereas the status that experienced the most decrease in proportion was Status Three – Moderate Socially Deviant Behavior ($n_{s3}^t = 177$; $n_{s3}^{t+3} = 17$). The proportion of male AY that participated in serious SDB remained relatively similar after 14 years old ($n_{s4}^{t+1} = 81$; $n_{s4}^{t+2} = 88$; $n_{s4}^{t+3} = 80$), but grew by more than ten-times in membership size between ages 12 – 14.

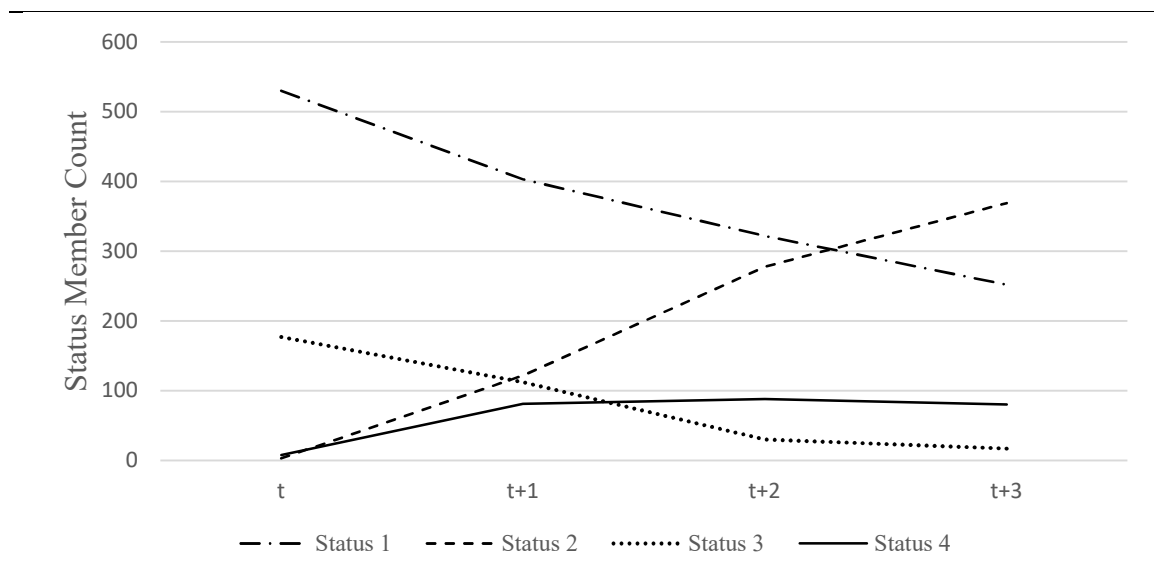


Figure 4.36: *Male Adolescent Youth Who Do Not Have Peers that Participated in Socially Deviant Behavior: Status Proportions*

Table 4.38 describes the transition probabilities for male AY who do not have peers that participated in socially deviant behavior during the entire adolescent development period. Overall, male AY were most likely to remain in the previous status as compared to transitioning to any other status throughout adolescence. Members of Status One were less likely to transition to more harmful SDB as compared to remaining within the status ($t \rightarrow t+1: \tau = .74$; $t+1 \rightarrow t+2: \tau = .71$; $t+2 \rightarrow t+3: \tau = .75$). When

transitioning from Status One, members were most likely to transition to Status Two. Status Two was the least likely of any status to lose members, and was the most likely destination of any transition throughout adolescence. The probability of remaining in Status Three rather than transition to other subgroups was very low throughout adolescence ($t \rightarrow t+1: \tau = .27$; $t+1 \rightarrow t+2: \tau = .21$; $t+2 \rightarrow t+3: \tau = .52$), however most youth transitioned to Status Two when transitions occurred. Additionally, only between beginning adolescence and early adolescence were youth more likely to transition from Status Three to Status Four (Status 3 to Status Four: [$t \rightarrow t+1: \tau = .33$]), whereas the remainder of the adolescent development period youth were more likely to deescalate in harm. Last, the probability of male AY remaining in Status Four was high between beginning adolescence and early adolescence, and about even after 15 years old. By the conclusion of adolescence, youth were most likely to transition to less harmful statuses, with Status Two being the most probable destination of any transition.

Table 4.38: *Transition Probabilities for Male Adolescent Youth Who Do Not Have Peers that Participated in Socially Deviant Behavior*

	Status			
	Minimal	Statutory	Moderate	Severe
Transition Probabilities $t \rightarrow t+1$				
Status One – Minimal	.738	.120	.112	.030
Status Two – Statutory	.000	.870	.000	.130
Status Three – Moderate	.064	.317	.286	.333
Status Four – Severe	.000	.000	.273	.727
Transition Probabilities $t+1 \rightarrow t+2$				
Status One – Minimal	.711	.272	.008	.009
Status Two – Statutory	.012	.857	.000	.131
Status Three – Moderate	.296	.311	.209	.184
Status Four – Severe	.015	.351	.045	.590
Transition Probabilities $t+2 \rightarrow t+3$				
Status One – Minimal	.750	.246	.005	.000
Status Two – Statutory	.007	.899	.000	.094
Status Three – Moderate	.127	.234	.521	.117
Status Four – Severe	.058	.365	.000	.576

Note: $n = 718$

Male Adolescent Youth Who Have Peers that Participated in Socially Deviant Behavior. Four latent statuses were found among male AY who have peers that participated in socially deviant behavior. Members of Status One – Minimal Socially Deviant Behavior were unlikely to participate most types of SDB throughout adolescence. The only SDB that has elevated probability is drinking alcohol ($p_{\text{drink}}^t = .11$; $p_{\text{drink}}^{t+1} = .35$; $p_{\text{drink}}^{t+2} = .38$; $p_{\text{drink}}^{t+3} = .47$), which increased in probability as age increased. Members of Status Two – Primarily Status Offense Socially Deviant Behavior were most likely to participate in smoking and drinking at very high levels throughout adolescence. Members were more likely to have tried smoking ($p_{\text{smoke}}^t = .97$) than alcohol ($p_{\text{drink}}^t = .76$) prior to ages 12 & 13, but were more likely to have consumed alcohol ($p_{\text{drink}}^{t+3} = .87$) than smoke ($p_{\text{smoke}}^{t+3} = .73$) after the age of 17. The likelihood of marijuana consumption increased across adolescence, where smoking marijuana is most

probable after 17 years old ($p_{\text{mari}}^t = .95$). Members of Status Three – Moderate Socially Deviant Behavior varied in the SDB across adolescence. Throughout adolescence, they were most likely to participate in property destruction ($p_{\text{dprop}}^t = .65$; $p_{\text{dprop}}^{t+1} = .58$, $p_{\text{dprop}}^{t+2} = .55$; $p_{\text{dprop}}^{t+3} = .50$) and petty theft ($p_{s<50}^t = .50$; $p_{s<50}^{t+1} = .49$; $p_{s<50}^{t+1} = .58$; $p_{s<50}^{t+1} = .50$). After the age of 13, members of this status were also very likely to drink, smoke, and consume marijuana for the remainder of adolescence, as well as sell drugs after the age 17 ($p_{\text{attack}}^{t+2} = .55$). Notably, as compared to other male AY in Status Three, these members were the least likely to endorse attacking others. Last, members of Status Four – Severe Socially Deviant Behavior were likely to participate in every type of SDB throughout adolescence. The least likely SDB was gang membership ($p_{\text{gang}}^t = .34$; $p_{\text{gang}}^{t+1} = .44$; $p_{\text{gang}}^{t+2} = .20$; $p_{\text{gang}}^{t+3} = .28$). The highest likelihood of SDB participation occurred during ages 13-15, where most SDB indicators were highly endorsed. Fit indices for male AY who have peers that participated in socially deviant behavior model are listed in Table 4.39. The results provided within Figure 4.37, *Males Adolescent Youth Who Had Peers that Participated in Socially Deviant Behavior: Indicator Probabilities by Status for Specific Behaviors*, describe the latent characteristics of each status.

Table 4.39: *Fit Indices for Male Adolescent Youth Who Have Peers that Participate in Socially Deviant Behavior*

Latent Statuses	Number of Parameters Estimated	AIC	BIC	SSABIC	Entropy	Log-likelihood	Log-likelihood Replicated
2	31	19635.931	19777.88	19679.45	0.841	-9786.96	Yes
3	56	18923.468	19179.90	19002.09	0.838	-9405.73	Yes
4	87	18538.100	18936.49	18660.24	0.817	-9182.05	Yes
5	124	18142.121	18709.94	18316.21	0.799	-8947.06	Yes

Note: n = 1122

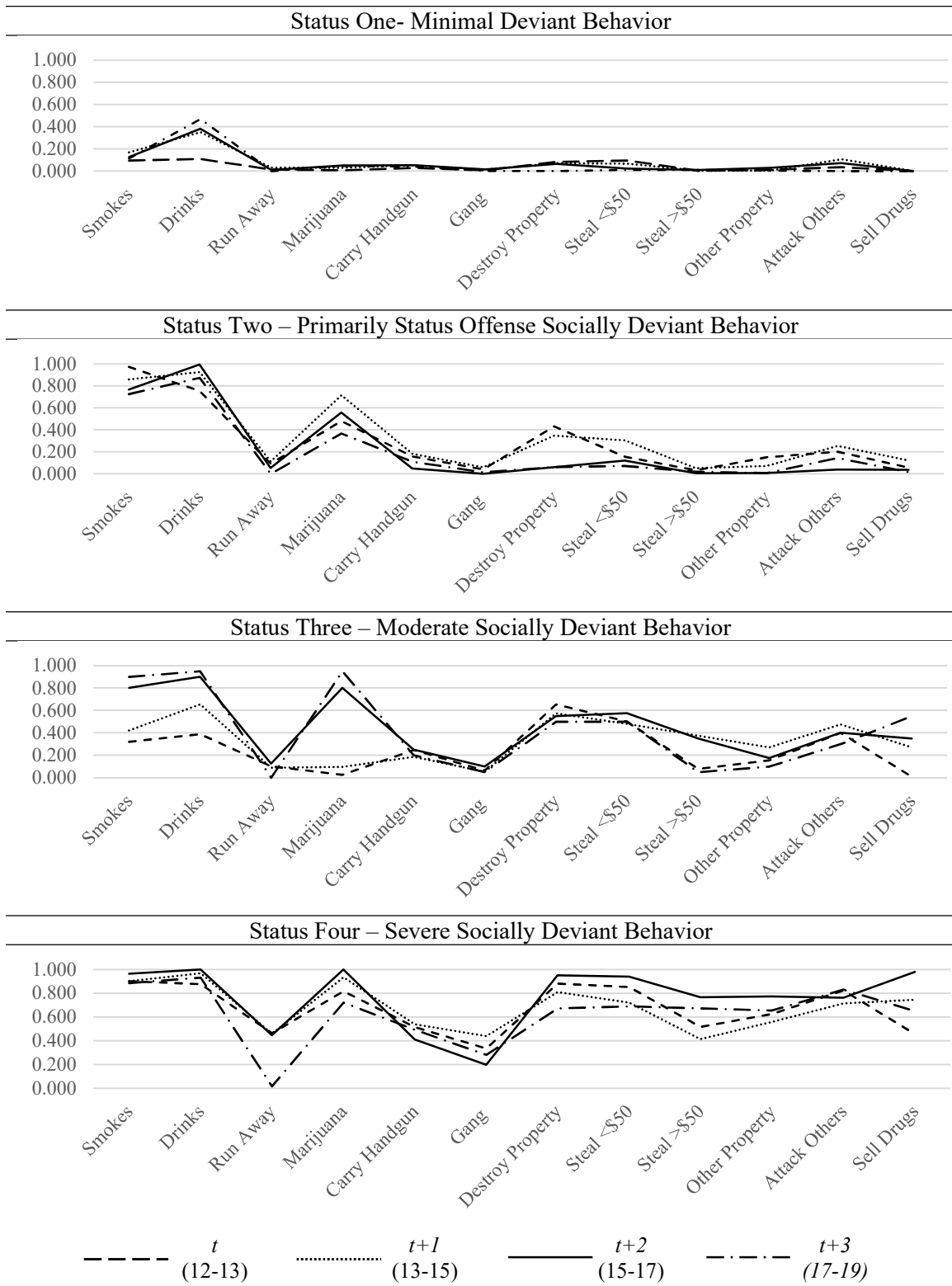


Figure 4.37: Male Adolescent Youth Who Had Peers that Participated in Socially Deviant Behavior: Indicator Probabilities by Status for Specific Behaviors

As shown in Figure 4.38, the status with the most membership growth over the adolescent period were male AY that participated in status offenses ($n_{s2}^t = 40$; $n_{s2}^{t+3} = 666$), whereas the status that experienced the most decrease in proportion was Status Three – Moderate Socially Deviant Behavior ($n_{s3}^t = 493$; $n_{s3}^{t+3} = 20$). The proportion of members in Status One also decreased significantly between t and $t+3$ ($n_{s1}^t = 489$; $n_{s1}^{t+3} = 303$), which represents a 38.14% reduction. The proportion of male AY that participated in serious SDB remained higher the end of adolescence as compared to the beginning ($n_{s4}^t = 100$; $n_{s4}^{t+3} = 133$), and saw the highest level of membership between ages 13-15 ($n_{s4}^{t+1} = 226$).

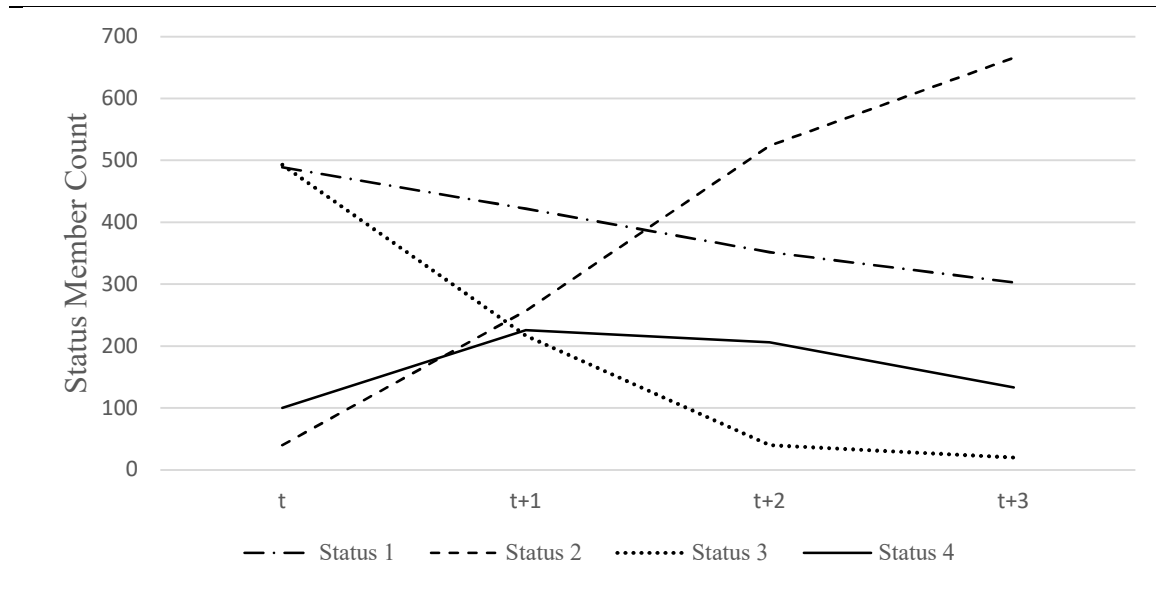


Figure 4.38: Male Adolescent Youth Who Had Peers that Participated in Socially Deviant Behavior: Status Proportions

Table 4.40 describes the transition probabilities for male AY who have peers that participated in socially deviant behavior during the entire adolescent development period. Overall, male AY were most likely to remain in the previous status as compared to

transitioning to any other status throughout adolescence. Members of Status One were less likely to transition to more harmful SDB as compared to remaining within the status ($t \rightarrow t+1: \tau = .71; t+1 \rightarrow t+2: \tau = .69; t+2 \rightarrow t+3: \tau = .82$). When transitioning from Status One, members were most likely to transition to Status Two. Status Two was the least likely of any status to lose members ($t \rightarrow t+1: \tau = .80; t+1 \rightarrow t+2: \tau = .90; t+2 \rightarrow t+3: \tau = .92$), and was the most likely destination of any transition throughout adolescence. The probability of remaining in Status Three rather than transition to other subgroups was very low throughout adolescence ($t \rightarrow t+1: \tau = .34; t+1 \rightarrow t+2: \tau = .09; t+2 \rightarrow t+3: \tau = .40$), however most youth transitioned to Status Two when transitions occurred. Status Four was most likely to retain members from ages 13-17, however after age 17 members were only half as likely to remain in the status. By the conclusion of adolescence, youth were most likely to transition to less harmful statuses, with Status Two being the most probable destination of any transition.

Table 4.40: *Transition Probabilities for Male Adolescent Youth Who Had Peers that Participated in Socially Deviant Behavior*

	Status			
	Minimal	Statutory	Moderate	Severe
Transition Probabilities $t \rightarrow t+1$				
Status One – Minimal	.709	.165	.088	.038
Status Two – Statutory	.001	.798	.000	.201
Status Three – Moderate	.139	.248	.336	.277
Status Four – Severe	.084	.215	.079	.622
Transition Probabilities $t+1 \rightarrow t+2$				
Status One – Minimal	.685	.267	.039	.009
Status Two – Statutory	.022	.903	.000	.074
Status Three – Moderate	.220	.481	.090	.209
Status Four – Severe	.035	.337	.020	.609
Transition Probabilities $t+2 \rightarrow t+3$				
Status One – Minimal	.821	.176	.000	.003
Status Two – Statutory	.013	.923	.000	.064
Status Three – Moderate	.135	.461	.404	.001
Status Four – Severe	.013	.486	.023	.479

Note: $n = 1122$

As compared to adolescent male AY that do not have peers who participated in SDB, the likelihood of remaining in any particular status as compared to transitioning to any other status remained the less throughout adolescence. Furthermore, adolescent male AY who had peers that participated in SDB were only slightly more likely to transition to a more severe status as compared to male AY that did not have peers that participated in SDB from ages 12-17, however they were more likely to transition to a more severe status after 17.

Male Adolescent Youth by Father Parenting Style

Male Adolescent Youth Who Experienced Non-Authoritative Fathers or Have Father Absent from Household. Four latent statuses were found among male AY who experienced non-authoritative fathers or have father absent from household. Members of Status One – Minimal Socially Deviant Behavior were unlikely to participate most types of SDB throughout adolescence. The only SDB that has elevated probability is drinking alcohol ($p_{\text{drink}}^t = .11$; $p_{\text{drink}}^{t+1} = .31$; $p_{\text{drink}}^{t+2} = .34$; $p_{\text{drink}}^{t+3} = .65$), which increased in probability as age increased. Members of Status Two – Primarily Status Offense Socially Deviant Behavior were most likely to participate in smoking and drinking at very high levels throughout adolescence. Members were more likely to have tried smoking ($p_{\text{smoke}}^t = .95$) than alcohol ($p_{\text{drink}}^t = .66$) prior to ages 12 & 13, but were more likely to have consumed alcohol ($p_{\text{drink}}^{t+3} = .83$) than smoke ($p_{\text{smoke}}^{t+3} = .62$) after the age of 17. The likelihood of marijuana consumption increased during mid adolescence, where smoking marijuana is most probable during 15-17 years old ($p_{\text{mari}}^t = .58$). Members of Status Three – Moderate Socially Deviant Behavior varied in the SDB across adolescence. Throughout adolescence, they were most likely to participate in property destruction ($p_{\text{dprop}}^t = .69$;

$p_{dprop}^{t+1} = .70$; $p_{dprop}^{t+2} = .52$; $p_{dprop}^{t+3} = .52$) and petty theft ($p_{s<50}^t = .58$; $p_{s<50}^{t+1} = .70$; $p_{s<50}^{t+1} = .51$; $p_{s<50}^{t+1} = .60$). After the age of 13, members of this status were also very likely to drink, smoke, and consume marijuana for the remainder of adolescence, as well as sell drugs from 15 - 17 ($p_{sell}^{t+2} = .50$). Notably, as compared to other male AY in Status Three, these members were the least likely to endorse attacking others. Last, members of Status Four – Severe Socially Deviant Behavior were likely to participate in every type of SDB throughout adolescence. The least likely SDB was gang membership ($p_{gang}^t = .27$; $p_{gang}^{t+1} = .37$; $p_{gang}^{t+2} = .46$; $p_{gang}^{t+3} = .25$). The highest likelihood of SDB participation occurred during ages 15-17, where most SDB indicators were highly endorsed. Fit indices for male AY who experienced non-authoritative fathers or have father absent from household model are listed in Table 4.41. The results provided within Figure 4.39, *Male Adolescent Youth Who Had Peers that Participated in Socially Deviant Behavior: Indicator Probabilities by Status for Specific Behaviors*, describe the latent characteristics of each status.

Table 4.41: *Fit Indices for Male Adolescent Youth Who Experienced Non-Authoritative Fathers or Have Father Absent from Household*

Latent Statuses	Number of Parameters Estimated	AIC	BIC	SSABIC	Entropy	Log-likelihood	Log-likelihood Replicated
2	31	41075.492	41233.92	41135.45	0.806	-20506.74	Yes
3	56	39095.361	39381.56	39203.68	0.806	-19491.68	Yes
4	87	38012.736	38457.36	38181.01	0.796	-18919.36	Yes
5	124	37547.84	38181.56	37787.69	0.772	-18649.92	Yes

Note: $n = 1224$



Figure 4.39: Male Adolescent Youth Who Did Not Experience Non-Authoritative Fathers or Have Father Absent from Household: Indicator Probabilities by Status for Specific Behaviors

As shown in Figure 4.40, the status with the most membership growth over the adolescent period were male AY that participated in status offenses ($n_{s2}^t = 43$; $n_{s2}^{t+3} = 697$), whereas the status that experienced the most decrease in proportion was Status Three – Moderate Socially Deviant Behavior ($n_{s3}^t = 483$; $n_{s3}^{t+3} = 26$). The proportion of male AY that participated in serious SDB grew between t and $t+3$ ($n_{s4}^t = 90$; $n_{s4}^{t+3} = 126$), and more than doubled in membership between ages 12-14 ($n_{s4}^{t+1} = 213$).

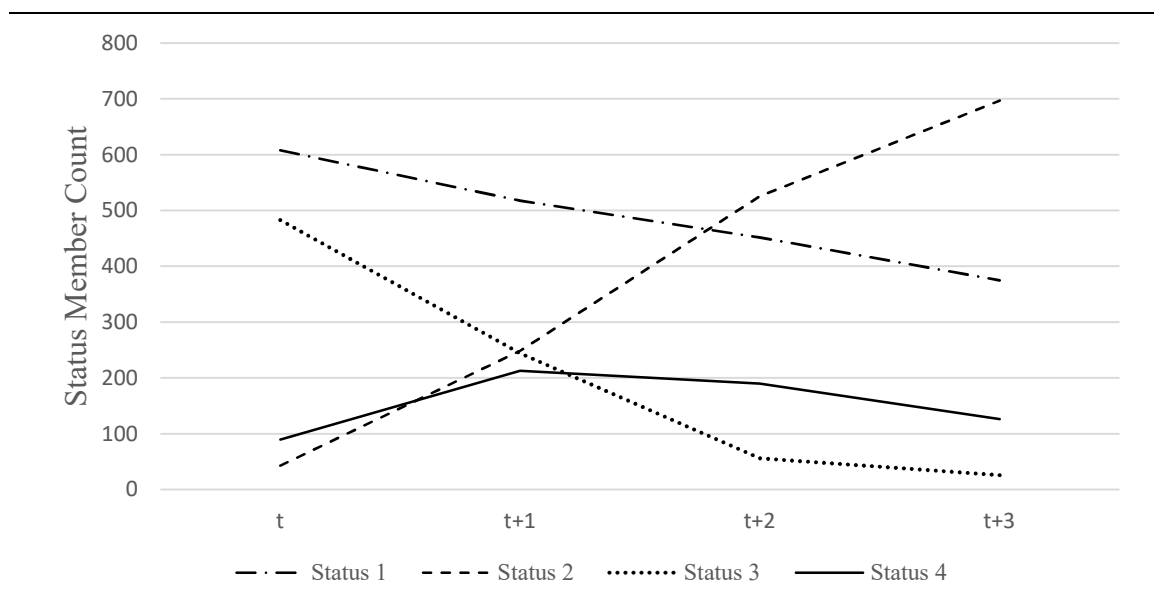


Figure 4.40: Male Adolescent Youth Who Experienced Non-Authoritative Fathers or Have Father Absent from Household: Status Proportions

Table 4.42 describes the transition probabilities for male AY who experienced non-authoritative fathers or have father absent from household during the entire adolescent development period. Overall, male AY were most likely to remain in the previous status as compared to transitioning to any other status throughout adolescence. Members of Status One were less likely to transition to more harmful SDB as compared to remaining within the status ($t \rightarrow t+1$: $\tau = .72$; $t+1 \rightarrow t+2$: $\tau = .73$; $t+2 \rightarrow t+3$: $\tau = .77$).

When transitioning from Status One, members were most likely to transition to Status Two. Status Two was the least likely of any status to lose members ($t \rightarrow t+1: \tau = .82; t+1 \rightarrow t+2: \tau = .89; t+2 \rightarrow t+3: \tau = .93$), and was the most likely destination of any transition throughout adolescence. The probability of remaining in Status Three rather than transition to other subgroups was very low throughout adolescence ($t \rightarrow t+1: \tau = .36; t+1 \rightarrow t+2: \tau = .17; t+2 \rightarrow t+3: \tau = .40$), however most youth transitioned to Status Two when transitions occurred. Members of Status Four maintained approximately equal probabilities to remain in the status as to remain in the status, where Status Two was the most likely destination. By the conclusion of adolescence, youth were most likely to transition to less harmful statuses, with Status Two being the most probable destination of any transition.

Table 4.42: *Transition Probabilities for Male Adolescent Youth Who Experienced Non-Authoritative Fathers or Have Father Absent from Household*

	Status			
	Minimal	Statutory	Moderate	Severe
Transition Probabilities $t \rightarrow t+1$				
Status One – Minimal	.723	.136	.100	.041
Status Two – Statutory	.000	.819	.000	.181
Status Three – Moderate	.146	.251	.354	.249
Status Four – Severe	.080	.113	.142	.665
Transition Probabilities $t+1 \rightarrow t+2$				
Status One – Minimal	.726	.224	.033	.017
Status Two – Statutory	.032	.888	.000	.080
Status Three – Moderate	.252	.484	.116	.148
Status Four – Severe	.034	.333	.044	.590
Transition Probabilities $t+2 \rightarrow t+3$				
Status One – Minimal	.772	.217	.004	.007
Status Two – Statutory	.013	.933	.000	.055
Status Three – Moderate	.264	.219	.393	.124
Status Four – Severe	.025	.506	.010	.459

Note: $n = 1224$

Male Adolescent Youth Who Experienced Authoritative Fathers Four latent statuses were found among male AY who experienced authoritative fathers. Members of Status One – Minimal Socially Deviant Behavior were unlikely to participate most types of SDB throughout adolescence. The only SDB that has elevated probability is drinking alcohol ($p_{\text{drink}}^t = .05$; $p_{\text{drink}}^{t+1} = .27$; $p_{\text{drink}}^{t+2} = .34$; $p_{\text{drink}}^{t+3} = .64$), which increased in probability as age increased. Members of Status Two – Primarily Status Offense Socially Deviant Behavior were most likely to participate in smoking and drinking at very high levels throughout adolescence. Members were more likely to have tried smoking ($p_{\text{smoke}}^t = .84$) than alcohol ($p_{\text{drink}}^t = .67$) prior to ages 12 & 13, but were more likely to have consumed alcohol ($p_{\text{drink}}^{t+3} = .99$) than smoke ($p_{\text{smoke}}^{t+3} = .87$) after the age of 17. The likelihood of marijuana consumption was consistently high throughout adolescence, where smoking marijuana is most probable after 17 years old ($p_{\text{mari}}^{t+3} = .87$). Members of Status Three – Moderate Socially Deviant Behavior varied in the SDB across adolescence. Throughout adolescence, they were most likely to participate in property destruction ($p_{\text{dprop}}^t = .57$; $p_{\text{dprop}}^{t+1} = .63$; $p_{\text{dprop}}^{t+2} = .52$; $p_{\text{dprop}}^{t+3} = .70$) and petty theft ($p_{s<50}^t = .60$; $p_{s<50}^{t+1} = .58$; $p_{s<50}^{t+2} = .57$; $p_{s<50}^{t+3} = .99$). After the age of 13, members of this status were also very likely to drink, smoke, and consume marijuana for the remainder of adolescence, as well as sell drugs from 15 - 17 ($p_{\text{sell}}^{t+2} = .50$). Last, members of Status Four – Severe Socially Deviant Behavior were likely to participate in every type of SDB throughout adolescence. The least likely SDB was gang membership ($p_{\text{gang}}^t = .36$; $p_{\text{gang}}^{t+1} = .18$; $p_{\text{gang}}^{t+2} = .46$; $p_{\text{gang}}^{t+3} = .32$). The highest likelihood of SDB participation occurred during ages 15-17, where most SDB indicators were highly endorsed. Fit indices for male AY who experienced authoritative fathers' model are listed in Table 4.43. The results

provided within Figure 4.44, *Male Adolescent Youth Who Had Peers that Participated in Socially Deviant Behavior: Indicator Probabilities by Status for Specific Behaviors*, describe the latent characteristics of each status.

Table 4.43: *Fit Indices for Male Adolescent Youth Who Experience Authoritative Fathers*

Latent Statuses	Number of Parameters Estimated	AIC	BIC	SSABIC	Entropy	Log-likelihood	Log-likelihood Replicated
2	31	18569.243	18706.56	18608.14	0.852	-9253.62	Yes
3	56	17795.881	18043.94	17866.15	0.824	-8841.94	Yes
4	87	17327.870	17713.25	17437.04	0.829	-8576.93	Yes
5	124	17084.905	1764.190	17240.51	0.811	-8418.45	Yes

Note: $n = 618$



Figure 4.41: Male Adolescent Youth Who Experienced Authoritative Fathers: Indicator Probabilities by Status for Specific Behaviors

The status with the most membership growth over the adolescent period were male AY that participated in status offenses ($n_{s2}^t = 6$; $n_{s2}^{t+3} = 325$), whereas the status that experienced the most decrease in proportion was Status Three – Moderate Socially Deviant Behavior ($n_{s3}^t = 186$; $n_{s3}^{t+3} = 13$). Status One lost approximately half the members ($n_{s1}^t = 403$ $n_{s1}^{t+3} = 192$). The proportion of AY who were members of Status Four – Severe Socially Deviant Behavior, remained approximately four times the level when over 17 ($n_{s4}^{t+3} = 23$) as compared to members at 12 – 13 years old ($n_{s4}^t = 88$).

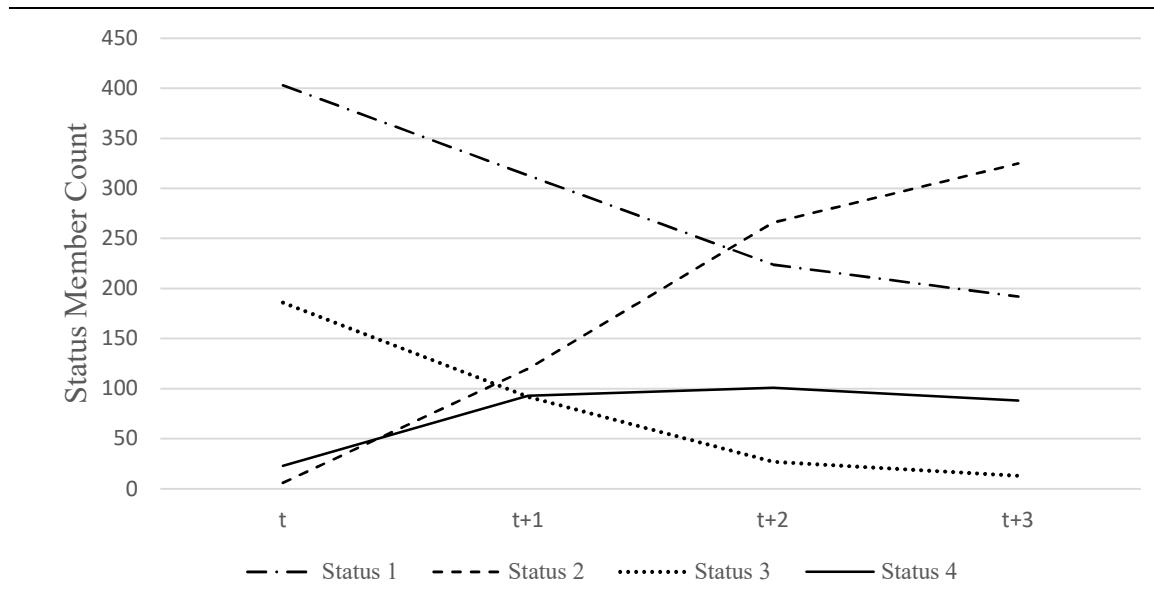


Figure 4.42: Male Adolescent Youth Who Experienced Authoritative Fathers: Status Proportions

Table 4.44 describes the transition probabilities for male AY who experienced authoritative fathers during the entire adolescent development period. Overall, male AY were most likely to remain in the previous status as compared to transitioning to any other status throughout adolescence. Members of Status One were less likely to transition

to more harmful SDB as compared to remaining within the status ($t \rightarrow t+1: \tau = .74; t+1 \rightarrow t+2: \tau = .66; t+2 \rightarrow t+3: \tau = .61$). When transitioning from Status One, members were most likely to transition to Status Two. Status Two was the least likely of any status to lose members ($t \rightarrow t+1: \tau = .81; t+1 \rightarrow t+2: \tau = .91; t+2 \rightarrow t+3: \tau = .89$), and was the most likely destination of any transition throughout adolescence. The probability of remaining in Status Three rather than transition to other subgroups was very low throughout adolescence ($t \rightarrow t+1: \tau = .28; t+1 \rightarrow t+2: \tau = .20; t+2 \rightarrow t+3: \tau = .32$). Unlike many other models, youths in Status Three continued to transition to Severe SDB until 17, as compared to most other models where increased probabilities of transition to Status Four only lasted through early adolescence. Members of Status Four maintained higher probabilities of remaining in the status as compared to transitioning out. When transitions occurred, they were most likely to transition to Status Two. By the conclusion of adolescence, youth were most likely to transition to less harmful statuses, with Status Two being the most probable destination of any transition.

As compared to adolescent male AY that experienced non-authoritative fathers or have their father absent from the household, the likelihood of transitioning to a different status were only higher during ages 13 – 17. The probability of transitioning to a more severe status as compared to a less severe status were equal between 12-14, however transitioning to a less severe status was more likely during later ages.

Table 4.44: *Transition Probabilities for Male Adolescent Youth Who Experienced Authoritative Fathers*

	Status			
	Minimal	Statutory	Moderate	Severe
Transition Probabilities $t \rightarrow t+1$				
Status One – Minimal	.744	.145	.099	.012
Status Two – Statutory	.000	.809	.000	.191
Status Three – Moderate	.073	.241	.278	.409
Status Four – Severe	.000	.492	.054	.454
Transition Probabilities $t+1 \rightarrow t+2$				
Status One – Minimal	.655	.318	.027	.000
Status Two – Statutory	.000	.905	.000	.095
Status Three – Moderate	.181	.313	.201	.305
Status Four – Severe	.029	.306	.000	.660
Transition Probabilities $t+2 \rightarrow t+3$				
Status One – Minimal	.614	.155	.000	.000
Status Two – Statutory	.028	.894	.000	.097
Status Three – Moderate	.097	.654	.318	.028
Status Four – Severe	.000	.343	.042	.614

Note: $n = 618$

CHAPTER 5: DISCUSSION

Introduction

Overall, the goal of this study was more accurately identify and describe patterns of adolescent perpetrated SDB as they occur across adolescence. To accomplish this goal, four research questions were developed to empirically identify unique subgroups of adolescent youth (AY) based on the type of socially deviant behavior (SDB) they participated in, examine how proportions of AY fluctuated between these groups during the adolescent developmental period, and describe the likelihood of AY remaining or moving among the groups. Because some research suggests that AY participate in SDB differently, separate analyses were conducted by sex and then further moderated by race/ethnicity, poverty, peer participation in socially deviant behavior or paternal parenting style.

Addressing the Research Questions

The first goal of this study was to explore if AY could be separated into mutually exclusive groups based on the characteristics of self-reported SDB to better understand the varied severity of behavior that AY participate in. To meet this goal, the following research question was posed: What sex specific subgroups of adolescent youth can be identified by the characteristics of socially deviant behavior that they participate in? This question was expanded upon by also examining if subgroups differed when moderated by

race/ethnicity, poverty, peer participation in socially deviant behavior or fathers parenting style.

Within every analysis conducted, four subgroups were consistently identified: Status One – Minimal Deviant Behavior, Status Two – Primarily Status Offense Socially Deviant Behavior, Status Three – Moderate Socially Deviant Behavior, and Status Four – Severe Socially Deviant Behavior. Results among this sample conclusively suggest that AY can be separated into unique subgroups based on the type of SDB that they participate in. These subgroups can be distinguished by the potential to harm self, others, or the community through the probability of participation in specific types of SDB. Results indicate that in addition to increased rates of participation SDB, AY are also most likely to participate in the most harmful types of SDB during ages 13-15, as evidenced by the highest proportion of AY being members of Status Three and Four during these ages, where the SDB type would most likely victimize others. Additionally, very little difference was found between sex when examining the types of SDB or when examining the sample for moderating effects of race/ethnicity, poverty, peer participation in socially deviant behavior or parenting style.

The second goal of this study was to explore how the proportions of AY changed within the subgroups, and how the characteristics of the SDB changed over the development period. To meet this goal, the following research question was posed: How do the proportions of AY differ during adolescence by sex and how do the characteristics of socially deviant behavior change? This question was expanded upon by also examining if subgroups differed when moderated by race/ethnicity, poverty, peer participation in socially deviant behavior or fathers' parenting style. This question was

answered using the four subgroups identified when investigating the first research question.

In answering how status membership changes during the adolescent period, results suggest that the proportion of members within each status maintained a regular pattern for most of the analyses conducted. Typically, Status One – Minimal Deviant Behavior began with approximately half of all AY, yet members left this status at constant rates and membership concluded with approximately half the original proportion. In all but three models, Status Two was the only status with higher proportions of members than Status One when AY were older than 17. White Female AY, when female AY had friends that participated in SDB, or when female AY had authoritative fathers were the only conditions where Status Two and Status Three had higher proportions than Status One when female AY were older than 17 years old.

Membership of Status Two – Primarily Status Offense Socially Deviant Behavior and Status Three – Moderate Socially Deviant Behavior were practically inverse of each other with the exception of the three female AY models mentioned above. In every analysis conducted, Status Two always began with the smallest proportion of members, typically less than 5% of the sample, yet always concluded with approximately half of AY becoming members. Additionally, Status Two maintained the highest proportion of members aged >17, with the only exception being female AY with friends that participated SDB. Membership within Status Three typically maintained proportions opposite of Status Two: When AY were < 12 years, approximately one third of the sample were members of Status Three and membership steadily declined to less than 5% by late adolescence when they were older than 17 years old. As previously noted, only

female AY members of Status Three who were white, had friends that participated in SDB, or who had authoritative fathers varied from this trend.

The proportional membership of Status Four – Severe Socially Deviant Behavior maintained the closest trend of the age-crime curve relationship as compared to any other status. When AY were < 12 years old, approximately 5% of AY were members of this status. From ages 13-15, membership of this status almost tripled for most analyses conducted, and then steadily declined to approximately 7% of AY when they were older than 17 years old. When examining this trend by sex, results indicated that the proportion of male AY in Status Four were higher overall than female AY, and moderating conditions did not change membership proportions significantly.

Like proportions, when considering the probabilities of each unique SDB indicator used to identify a subgroup, the characteristics of SDB for each subgroup maintain a consistent pattern throughout the adolescent development period. The most notable change in SDB characteristics within any status was to increase the probabilities of endorsement of an SDB noted when AY were 12 & 13 years old. For example, Status Two is described as primarily status offenses because AY are most likely to smoke and drink while under-age, and after age twelve probabilities for these SDBs increased. On the other hand, members of Status Three and Four often engaged in behaviors that have the potential to harm others (through theft or assault) or the community (participating in gang activities or selling drugs), and the probability of participating in these events increased with age. Additionally, these findings differ minimally between sex, as well as selected moderators, where probability fluctuates only slightly between indicators.

Exploring how the proportions of AY changed within the subgroups and how characteristics of the SDB changed over the development period, findings for the second goal of this study suggest that most AY participate in some form of SDB during adolescence and that SDBs that victimize others continually decrease across the adolescent period. The support for this finding specifically is that less than one third of AY remained in Status One by the age of 17. This did not preclude participation in SDB, but suggested that the probability was low with the exception of drinking under age. In support of AY continually reducing SDB that victimizes others, results indicate the constant reduction in proportion of Status Three, where AY are participating in moderate SDB at very high levels prior to age twelve, maintain a constant reduction in proportion throughout adolescence, and conclude with less than 5% of the total proportion of the sample. Indeed, Status Four gains an abrupt increase in proportion when AY are 13-15 years old that is consistent with the age-crime curve, however the proportion gained in this status is considerably less than the exodus from Status Three to less serious statuses.

The last goal of this study was to examine how AY moved among the subgroups identified within the study. To meet this goal, the following research question was posed: Throughout adolescence, what are the probabilities of continuing, escalating or de-escalating among subgroups, dependent on the previous characteristics of socially deviant behavior participation? This question was expanded upon by also examining if subgroups differed when moderated by race/ethnicity, poverty, peer participation in socially deviant behavior or fathers parenting style. The research question was addressed using the four subgroups identified when investigating the first research question.

The most consistent finding of all analyses conducted was that AY were most likely to remain within the previous status between measurements. Remaining within status was particularly true during early adolescence, with the exception of Status Three. Additionally, during late adolescence, transitions from Status Three and Four became more likely; that being said, most AY transitioned to Status Two – Primarily Status Offense Socially Deviant Behavior. Overall, AY were most likely to transition to less severe statuses than escalate to more severe statuses.

Status Three maintained the highest variance of transition among statuses across the entire adolescent period. In fact, from 12-15, AY had equal probability of transitioning to a less severe status, remaining in Status Three or transitioning to Status Four. As AY matured, however, youth became less likely to remain in Status Three or transition to Status Four and were most likely to transition to status Two. High rates of transition remained similar between male and female AY within Status Three, as well as when moderated by race/ethnicity, poverty, peer participation in socially deviant behavior or parenting style in separate analyses.

Examining how AY moved among the subgroups identified within the study, findings suggest that although most AY participate in some form of SDB during adolescence, AY are continually transitioning to less severe participation in SDB during the entire adolescent period. Even when AY are 13-15 and have the potential to cause the most harm by participating severe SDB, the probability of transitioning to less severe SDB is greater than transitions to behavior that is considered more severe.

Discussion

Research suggests that AY participate in SDB in prolific proportions throughout the adolescent development period. The actual proportion of youth participating in SDB is unknown because judicial information regarding AY perpetrated SDB is often misrepresentative of actual participation in SDB (Ahonen et al., 2017). Adolescent youth participating in SDBs, however, will begin during early-adolescence (ages 12-14), escalate in rate, frequency, and severity by mid-adolescence (ages 14-17), and begin to desist during late adolescence (ages 17 and older) (Kim & Bushway, 2018; Thornberry, 2018). In addition to escalating rates of participation, research also suggests that certain types of SDB correlate with progressively more severe types of SDB (DeCamp et al., 2018; Kopak et al., 2014; Kopak & Hoffmann, 2014; Loeber et al., 1998). Despite increasing rates and severity when participating in SDB, Moffitt (1993, 2006) suggests AY can be separated into three unique subgroups based on the characteristics of SDB: 1) abstainers – AY that do not participate in any SDB, 2) adolescent limited offenders – AY who participate in limited types of SDB and only for a given period of time, and 3) persistence offenders – AY who will participate in many types of offending that occurs well past the adolescent development period. Therefore, the goal of this study was to expand upon current literature by more accurately identifying and describing patterns of adolescent perpetrated SDB as they occur across adolescence. These patterns are important to identify as they provide practitioners and policy makers better methods to identify potential sources of harm to individuals and communities, they provide more informed methods of identifying AY who are at-risk of perpetrating harmful behaviors

that victimizes self and others, as well as providing key data necessary for developing targeted interventions.

Results of these analyses suggest that youth can be divided into four groups rather than three as suggested by Moffitt (1993, 2006). Although Moffitt (1993, 2006) suggests AY participating in SDB can be separated into subgroups based on the three factors of non-offending, relatively non-harmful types of offending, and severe offending the victimizes self and others, results of these analyses suggest that AY can be further separated by the specific characteristics of the SDB that they participate in. Specifically, four subgroups were identified within this study that maintained unique distinctions across adolescence. These subgroups are: 1) Status One – nondeviant (unlikely to participate in any SDB), 2) Status Two – status offenders (most likely to limit SDB to activities that are deviant due to youths' age), 3) Status Three – moderate SDB (participating in a variety of SDB that victimized others), and 4) Status Four – severe SDB that incorporates every type of SDB.

Members of Status One, non-deviant, are unlikely to participate in any SDB, with the exception of status offenses toward the end of the adolescent development period. This subgroup most closely resembles abstainers as described by Moffitt (1993), where Moffit suggested that members of the abstainer subgroup do not participate in any SDB throughout the adolescent development period. Findings from these analyses, however, suggest that members of the non-deviant group may actually participate in SDB, although their participation is limited in severity and is most likely to occur during late adolescence. In fact, when youth were older than 17, members were very likely to drink while under-age ($p > .5$), however all other indicators of SDB were not significant ($p <$

.05). Although the indicators of SDB for this subgroup suggest participation was unlikely, these members were not necessarily precluded from participating in SDB. When considering SDB indicator differences by sex, members of Status One maintained similar probabilities of participating in SDB throughout the adolescent period whether they were male or female AY. Similarly, when the stratified samples were moderated by race/ethnicity, poverty, peer participation in socially deviant behavior or parenting style, the probabilities of participating in SDB for members of Status One varied very little throughout the adolescent period.

Contrary to the suggestion that the proportion of abstainers is limited to only 5-7% of all AY (Moffitt, 1993), findings from these analyses suggest the proportion is much larger. In fact, during early adolescence and through mid-adolescence, members of this status consistently maintained the largest proportion of members for every model analyzed. Only when youth reached age 15 and older did another status supersede the non-deviant status in proportion. Yet, with the exception of White Female AY and Female AY who had peers that participated in SDB, even during late adolescence the non-deviant subgroup still consisted of approximately one-third of all youth, which is much more than the low proportional size as described by the abstainer subgroup (Moffitt, 1993, 2006; Jolliffe et al., 2017).

When comparing members of the non-deviant group to research focusing on the relationship between age and crime (Thornberry, 2018) or that participation in SDB directly correlates to more severe type of SDB (DeCamp et al, 2018), findings from these analyses also differ for members of status one. Previous age-crime research suggest that AY will participate in SDB at the highest rates during mid-adolescence (15-17 years old)

(Kim & Bushway, 2018), however members of this status were most likely to participate in SDB during late adolescence (17 or older), thus a “curve” in the relationship is not noted for this status. The second major difference between the non-deviant status and previous research is the noticeable absence of escalating SDB, even though youth are continually increasing the probability of drinking while under age as they age. Granted, these members may participate in more harmful SDB after adolescence, members of Status One have very low correlation in these analyses with participating in any SDB that victimizes others even while maintaining high indices of drinking while under age.

Moffitt’s second group, adolescent limited offenders, suggests members will most likely participate in statutory offenses or behaviors related to minor offenses, which also have limited potential to cause serious harm (Moffitt, 1993, 2006). Additionally, members of the adolescent limited offender subgroup will only participate in SDB for a limited period of time while resolving discrepancies between discrepancies between social, emotional and physical maturity while concurrently building a unique concept of self (Erikson, 1950, 1968). In fact, these AY will participate in behavior that is deviant of what is expected of them as a self-perceived act of independence and autonomous decision-making from adult oversight (Mercer et al., 2017). Within this study, Status Two – Primarily Statutory Offenders and Status Three – Moderate SDB each have characteristics outlined by Moffitt (1993), but neither status found within this study are holistically described by the adolescent limited offender characteristics.

Given the description of SDB types outlined within adolescent limited offenders, the endorsed SDBs included within Status Two are the most closely related, where members of the Primarily Statutory SDB status are most likely to limit SDB to drinking

and smoking across the adolescent period. In fact, members of Status Two have very high probabilities of drinking and smoking throughout adolescence, where almost all members have smoked at least once prior to 12 years of age and more than half would have consumed alcohol. From age 13 and beyond, the probability of smoking and drinking remains very high. Additionally, from ages 13-17, members of Status Two also have increased probability of smoking marijuana, and at age 12 or less they have increased probability of stealing property valued at less than \$50. Additionally, differences by sex or moderating effects in Status Two during early adolescence (ages 15 or less) are not examined due to extremely low sample sizes. During later adolescence, the most prominent difference in Status Two occurs between sex, when most male AY participate in smoking marijuana ($p > .90$), whereas less than half of female AY indicate that they smoked marijuana. Despite the differences in marijuana consumption, most other SDB indicators maintain similar values throughout adolescence regardless of sex or other moderating effects.

Like adolescent limited offenders, members of the Primarily Statutory SDB status are unlikely to engage in SDB that is very harmful to others. Another similarity between these subgroups is the prediction that AY will participate in SDB at increased rates between 12-17 (Thornberry, 2018), and will include most AY at some point during the adolescent development period (Moffitt, 1993, 2006; Jolliffe et al., 2017). Indeed, membership of the Primarily Statutory SDB status went from the lowest proportion at ages 12-13, to containing the highest proportion at ages 15-17, in a pattern similar to adolescent limited offenders. Yet, membership of the adolescent limited offender subgroup as described by Moffitt (1993) will begin to desist from all SDB after 16-17

because the discrepancies between social, emotional and physical maturity will become resolved as they gain independent function from adult oversight (Mercer et al., 2017; Lamb & Sim, 2013). Conversely, these analyses did not identify a reduction of proportion after 16-17 years old within any of the models conducted for members of the Primarily Statutory SDB status. In fact, membership of Status Two continued to increase in all models after 16-17 and continued to maintain the highest proportion of members after 15-17 years old in all models except White Female AY and female AY that had peers that participated in SDB.

Research suggests that participation in most minor SDB will directly correlate to more severe type of SDB during later points in life (Kopak et al., 2014; Kopak & Hoffmann, 2014). Within these analyses, findings suggest that youth may participate in more serious types of SDB, although only in limited capacities and only during a limited time. After beginning adolescence (12-13), Status Two members begin to drink and smoke at very high rates, and the probability of using marijuana, theft and other property offenses also begin to increase shortly thereafter. The reciprocating correlations between status offenses and other types of SDB continue to increase until 15-17, yet severely decrease thereafter. Given, members of status two may participate in more harmful SDB after adolescence, results of these analyses cannot conclude that there is a correlation between minor offenses and more serious types SDB after ages 15-17 years old.

Status Three was designated Moderate Socially Deviant Behavior due to the likelihood of AY participating in a variety of SDB that potentially victimizes others, and also had similar characteristics to Moffitt's (1993) subgroup of adolescent limited offenders. As outlined by Moffitt (1993, 2006), the endorsed SDBs perpetrated by this

group were mostly minor and participation was limited to the adolescent development period. In fact, results of these analyses found the SDBs primarily included within Status three were damaging property, minor theft, status offenses and marijuana endorsement. Unlike the SDBs outlined by Moffitt (1993), youth in this status were also very likely to assault others with the intent to hurt others, particularly during mid-adolescence. Interestingly, one major difference between female and male AY during mid-adolescence was that female AY were more likely to assault others than male AY, and male AY were more likely to participate in the sale of illegal drugs than female AY. Among female AY, Hispanic/Latina and African Americans were much more likely to attack others than White female AY, whereas White male AY were more likely to sell illegal drugs than Hispanic/Latino and African American male AY. Male AY that experienced poverty in Status Three were most likely to participate in many SDBs prior to the age of 12 and were particularly likely to attack others during most of the adolescent period. Differences by sex or moderating effects in Status Three during late adolescence (ages 17 or older) are not examined due to extremely low sample sizes.

The proportional membership of Status Three also correlates to the theory that AY will only participate in SDB while discrepancies in emotional, physical and social maturity is resolved (Erikson, 1950, 1968). In fact, all models except White female AY and female AY who had peers that participated in SDB, the proportional membership in moderate SDB continually decreases throughout adolescence and becomes less than 5% after age 17. Yet, membership of Status Three does not correlate with other age-crime research, where a small proportion participates in SDB during early adolescence, peaks at mid-adolescence, and desists thereafter (Kim & Bushway, 2018; Thornberry, 2018).

Instead, membership of Moderate Socially Deviant Behavior status begins with the highest proportion of AY participating in SDB at beginning adolescence and steadily divest members until late adolescence, thus the “curve” is absent within this status.

Research suggesting that participation in most minor SDB will directly correlate to more severe type of SDB during later points in life (Kopak et al., 2014; Kopak & Hoffmann, 2014) is met with limited support within these analyses. On the one hand, results suggest that AY participate in relatively minor SDB at the beginning of adolescence and then increase in severity through attacking others during early and mid-adolescence. The endorsement of attacking others, however, becomes substantially less after mid-adolescence and selling drugs becomes much more significant. On the other hand, there are so few members remaining in Status Three after mid-adolescence, inferences cannot be made for most models due to low proportions. For White Female AY and female AY with peers who participate in SDB, however, results suggest there is evidence that relatively minor participation SDB will correlate with more serious later life SDB.

The last status, Severe Socially Deviant Behavior, most likely correlates with characteristics described within Moffitt’s (1993) persistent offenders, where AY endorse the most severe types of SDBs. In fact, AY who were members of this status maintained increased probabilities for participating in behaviors that crossed the entire spectrum of harm, or potential of harm, to self, others, and the community. Typically, male AY had slightly higher probabilities than female AY to participate in SDB, however the types of SDB that AY participated in were relatively similar throughout the entire adolescent period. Additionally, participation increased in severity from age 12 until it peaked

during ages 15-17, where every indicator except gang membership was a significant. Participation in these behaviors for members of Status Four continued after seventeen. Female AY, however, became much less likely to carry a handgun than males AY, though they were more likely to steal property valued over \$50. Moderating effects appear to have little impact on probabilities of Status Four behaviors, however small sample sizes made some comparisons difficult.

Additionally, proportional changes of membership within Status Four most closely resembled the relationship between age and crime described in other age-crime research (Kim & Bushway, 2018; Thornberry, 2018). The results from all models conducted within this study suggest that during early adolescence, membership was approximately 5-7% of AY, significantly increased until mid-adolescence, and then steadily decreased thereafter to approximately 10% of AY, which is slightly more than described for persistent offenders (Jolliffe et al., 2017).

Unfortunately, further characteristic comparisons of SDB perpetrated by members of Status Four and persistent offenders cannot be made due to the limited scope of this study. This study was limited to the adolescent development period, which is ages 12-19 (VandenBos, 2015), while persistent offenders are described as individuals who participate in SDB throughout their entire lifespan (Moffitt, 1993, 2006; Jolliffe et al., 2017).

Overall, findings of these analyses were incongruent with other age-crime relationship research, where proportions of AY participating in SDB in this study were different from most other age-crime relationship studies. Specifically, results of these analyses suggest that SDB can be framed using two perspectives: including or excluding

status offenses as SDB. On the one hand, if status offenses are included as an SDB, then the age-crime relationship maintains stable rates across adolescence and proportions fluctuate very little. On the other hand, if status offenses are excluded, then proportions of AY participating in SDB continually decrease across the adolescent development period, thus inconsistent with the curve described in other age-crime relationship research.

Whether including status offenses or not within the age-crime relationship, describing the simple proportion or rates of AY participating in SDB limits the explanation of how AY participate in socially deviant behavior. Results of these analyses suggest that AY participate in SDB differently, and these differences can be defined by the types of behaviors they engage in. This differentiation is important because of the harm, or potential to harm, that is associated with the behavior. While any SDB is potentially harmful, results from these analyses suggests that when AY are aged 13-15 they are more likely to cause harm through the victimization of others.

When examining subgroups of AY aged 13-15, the first observation is that this period maintains the largest proportions of AY in Status Three – Moderate Socially Deviant Behavior and Status Four – Socially Deviant Behavior, representing approximately 20% of AY. The second observation of this age group is that the probabilities of participating in SDBs that victimize others, such as theft and assault, increase significantly, which is magnified by the proportion of AY participating in these types of behaviors. The last observation of note is the probability of transitioning to more harmful behaviors is greater during this period, where movement from Status Three to Status Four becomes the most probable. Thus, when re-examining the age-crime

relationship using findings from these analyses, the potential of harm matches the curvilinear description in previous age-crime research. The rates of participation, however, differed from previous research.

Although these findings suggest that AY are most probable to participate in harmful behaviors between 13-15, they also suggest that social workers also have the largest opportunity to provide interventional techniques to prevent escalations in harmful behavior. To support this finding, results suggest that AY are participating in moderate SDB prior to age 12 and 13, which is indicated by membership in Status Three. Additionally, AY who are members of Status Three are most likely to transition to other statuses, not only during early adolescence, but also during the entire adolescent period. In fact, between ages 12-15, there is approximately equal chance of participating in less harmful SDB, maintaining the same level of SDB or escalating the severity of SDB participation. After age 15, the probability of escalating the severity becomes less, however the probability remains higher than any other status. By identifying factors that affect transitions from Status Three to less severe types of SDB, social workers could potentially develop interventions that promote less harmful behaviors to self, others and the community.

Conclusion

Research has identified that AY participate in SDB at increased rates during adolescence, and that the characteristics of their participation also varies during this period. Specifically, there is a correlation between age and crime that can be described by the changing rates of SDB participation by AY. In addition, AY participate in SDB differently, and these behaviors will vary by the harm caused to self, others and the

community through the severity of the behavior. Unfortunately, any participation in SDB has the potential to inflict detrimental, life-long consequences, particularly when AY participate in more serious types of SDB.

During the adolescent period, AY become aware of their physiological transformation to adulthood and their growing sense of self, yet they are simultaneously aware of the lack of autonomy afforded by parents and other social institutions within society. Therefore, many AY will participate in SDB during the adolescent period as an expression autonomous function from parental and adult oversight. Therefore, the purpose of this research was to identify patterned juvenile perpetrated socially delinquent behaviors as they occur over the adolescent development period.

Using the National Longitudinal Survey of Youth, 1997, a latent transition analysis was used to examine patterns of self-reported, socially deviant behavior among a sample of AY across the adolescent development period. The analysis incorporated four points of measurement starting with beginning adolescence (ages 12 & 13), followed by early adolescence (ages 13-15), mid adolescence (ages 15-17), and late adolescence (ages 17-19). Socially deviant behavior was measured using twelve indicators that ranged from statutory offenses, to potentially felonious behavior.

Results of these analyses consistently found subgroups of AY that were based on the types of socially deviant behavior that they participated in. The harm posed to self, others or the community ranged from very little among members of Status One – Minimal Deviant Behavior, to potentially very severe harm perpetrated by members of Status Four – Severe Socially Deviant Behavior. Consistent with the developmental

research, findings from this study suggest that most AY participate in SDB, with AY participating in statutory offenses in the highest frequency.

Contrary to prior age-crime relationship research, however, results from these analyses suggested that AY were either static in their rates of participation or the rates of SDB participation continually decreased during the entire period, depending on the incorporation of status offenses when analyzing results. When examining severity within the statuses, results from these analyses suggested that AY aged 13-15 maintained the highest propensity to participate in behaviors that victimized others. Transitions occurring between subgroups primarily consisted of AY moving from groups that participated in more severe behavior to less severe behavior.

Among subgroups, patterns of SDB varied little when examining stratified samples by sex. The most notable difference were higher proportions of female AY participating in moderate socially deviant behavior as compared to male AY when 17 years or older. The moderators incorporated within the study also showed very little variance among outcome parameters. As previously noted, the same four statuses were found, however, sample proportions within the statuses often limited how the result could be interpreted, other than noting four statuses could be identified.

Future research using findings from this study should examine how AY participating in moderate socially deviant behavior transition among statuses. Results indicated that members of this status were most likely to transition to other statuses. By identifying what influences AY to transition from this status, social workers could develop more targeted interventions that facilitate less severe SDB. Through targeted interventions reducing SDB severity, social workers could potentially reduce harm

caused by AY to others and the community, while concurrently improving later-life outcomes for AY participating in socially deviant behavior.

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