

Exploring Incentives and Juveniles' Probation Compliance

by

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ABSTRACT

Juvenile justice institutions have been slow to adapt their practices to the developmental challenges of adolescence. Traditional probation, which impacts the vast majority of justice-involved youth, is one such institution considering the primary goal is ensuring youth's compliance with probation terms rather than long-term prosocial change. To better engage youth, jurisdictions are increasingly using graduated response systems that utilize incentives to reinforce desired behaviors in both the short- and long-term. Yet, little is known about what motivates youth. The current study tested three research questions. The first explored what types of incentives would motivate youth to do well on probation. The second tested what parents believe would motivate youth and how it compared to what youth desire. The final question investigated if older youth desired monetary incentives less than younger youth. Youth most desired praise-based incentives followed by privilege-based incentives and monetary incentives. Further, parents' perceptions aligned with youths' perceptions. Overall, these findings highlighted praise may be more impactful than previously thought, and further exploration is needed to understand its effect. Privilege and monetary-based incentives could still prove motivational for youth, but to a lesser degree than previously thought.

Keywords: adolescent, probation, development, incentives, graduated response system

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INTRODUCTION

Even though many studies focus on mass incarceration and the effects of detention, juvenile probation is one of the most common outcomes in juvenile justice courts (Goldstein et al., 2016). For instance, in 2019, courts in the United States adjudicated 203,600 youth delinquents, and 65% (132,200) of those youth received probation (Hockenberry & Puzanchera, 2021). Once placed on probation, youth receive the terms of their disposition, which may require them to pay restitution to victims, engage in periodic substance use screenings, and participate in activities such as community service. Despite this disposition being one of the more desirable outcomes in the juvenile justice system as it often allows youth to remain with their family and within the community, it provides youth a multitude of terms and requirements that they may not understand. Additionally, youth may struggle to adhere to the terms and requirements of probation in the long-term (Goldstein et al., 2016). This issue stems from traditional probation failing to understand the unique developmental circumstances of youth, neglecting to engage youth and their families in probation, and forgetting to identify what would motivate youth to do well on probation (Goldstein et al., 2016; Schwartz, 2018). This is particularly important considering youth who fail to comply with their terms may be subject to sanctions or have their probation revoked.

If the goal of juvenile probation is for youth to be compliant and to abstain from further delinquency, probation programs must find ways to motivate youth to be successful. One such approach is that of a graduated response, a tool that juvenile probation departments may employ to change the behaviors of justice-involved youth. Briefly, driven by operant conditioning, a graduated response system provides incentives

to motivate and reinforce behaviors (i.e., positive reinforcement) in order to increase the likelihood of the behavior of occurring in the future (Skinner, 1953). These incentives can take various forms such as additional privileges or fewer restrictions, instances of praise or recognition, or monetary benefits to the youth and their families. By pairing compliant behavior, such as substance use abstinence, with a positive reward, such as a later curfew, youth should be more likely to be compliant.

Yet, how the different types of incentives have an impact on youth behavior and what types of incentives youth actually desire has only received minimal empirical attention. Given the dearth of literature examining types of incentives and their impact on youths' motivation for compliance, the current study explores what types of incentives youth on probation believe would motivate them to do well and abide by their probation terms. By understanding what youth desire and what motivates them, graduated response systems can be more developmentally informed and geared towards specific youth. In addition, the study explores what types of incentives parents believe youth will desire to motivate youth to comply with the terms of their probation. This can be utilized for case planning and offers insight into parental understanding of youth motivation.

REVIEW OF THE LITERATURE

The Issues of Traditional Probation

The vast majority of youth who are adjudicated delinquent are placed on probation (Hockenberry & Puzanchera, 2021). Traditional probation focuses on keeping youth in their homes and communities while monitoring them through supervision to ensure they abstain from delinquent behaviors and meet the terms of their probation. However, researchers have demonstrated that probation and other surveillance-based

approaches can actually increase the likelihood of incarceration and recidivism (Goldstein et al., 2019). More than half of youth on probation fail to comply with their probationary terms (NeMoyer et al., 2014), and a common reaction to a technical violation (e.g., noncompliance with mandatory school, drug counseling, curfew) is to send the youth to a residential custody facility (Sickmund et al., 2021a).

Juvenile probation is clearly important for promoting youth success. However, it is necessary to understand what types of challenges youth may experience when on probation. For instance, NeMoyer and colleagues (2014) determined that noncompliance was higher when youth received an option which required substance use counseling or drug testing. This finding is especially important as adolescence is a developmental period marked by increased reward-seeking behaviors, and youth may be especially vulnerable to the short-term rewards of substance use (Casey et al., 2008; Pokhrel et al., 2013). Because youth are failing their probation terms most commonly due to the short-term rewards of substance use, then probation should employ a graduated response system with short-term rewards to better motivate youth to comply.

Graduated response systems are a viable option for addressing challenges that youth face on probation, but these changes are only a portion of what must be revised. Probation must use terms that are easily understood by youth, minimize risks to the youth, and maximize youth's potential for success (Schwartz, 2018). Graduated response systems should work to minimize the potential risk for youth and strive for more than just probation compliance. If engaging in delinquent behavior is what leads youth to justice involvement, the justice system should give youth opportunities to engage in prosocial activities and reinforce these positive behaviors. Incentives and rewards can be used to

reinforce these positive changes and seek to not just achieve probation compliance, but broader behavioral improvements as well. Early incentivization research has shown that it is possible to change the behavior of youth, but it requires proper implementation and motivation (Corepal et al., 2018; Long & Sullivan, 2017).

Juvenile Probation is More than its Terms

While youth are the primary party responsible for their own success on juvenile probation, it is necessary to remain aware of how family and probation staff influence youth success as well. Parents of justice-involved youth play an essential role in monitoring their child on and off of juvenile probation (Laird et al., 2003; Fine et al., 2020). In addition, juvenile probation staff must balance the need to be a resource to motivate youth on probation while simultaneously operating as a figure who monitors the youth and issue sanctions, should they fail to be probation compliant (Viglione et al., 2018). Indeed, there are many similarities between probation staff and parents where both require a positive relationship with the youth to increase probation compliance (Vidal & Woolard, 2016).

Changing probation practices to be more developmentally informed is critical for youth, but changes may not achieve their desired effect without support from parents and probation staff. A study conducted by Brogan and colleagues (2021) investigated if community-based participatory action research-informed training would change the views of probation staff to better understand graduated response systems and support practices informed by research. This approach brings together community members, stakeholders, researchers, and other groups to facilitate change. The researchers conducted a study with 559 probation staff trained in community-based participatory

action research (CBPAR). The findings indicated that CBPAR training increased probation staff's interest in graduated response systems and behaviors (Brogan et al., 2021). Proper implementation of developmental programs, therefore, relies heavily on the support of probation staff.

Studies suggest that support is essential, and probation practitioners are willing to support new developmentally informed approaches if they are properly trained in and understand the necessity of such approaches (Brogan et al., 2021; Viglione et al., 2018). Juvenile probation staff occupy a challenging role where they must find ways to engage both the youth and their family, connecting them with resources when appropriate, and distributing sanctions if necessary (Viglione et al., 2018). By utilizing incentives to motivate youth and employing developmentally informed approaches, probation staff can work to build relationships with families, which can then increase probation compliance among youth (Vidal & Woolard, 2016). Graduated response systems are one of the most diverse tools a probation staff can use, as incentives can be used to change behaviors and probation staff can inform parents of adolescent development and how that may be impacting behaviors and decision-making (Goldstein et al., 2016). However, these systems have to be supported by juvenile probation practitioners themselves if any impact is to be made. When juvenile justice practitioners internalize beliefs which align with developmentally informed practices, the staff will more comprehensively understand the needs of youth and can appropriately address their developmental challenges.

Adolescence and Developmental Neuroscience

Juvenile probation practices must be developmentally informed in order to best serve youth. Adolescence is a unique developmental period for youth as it is marked by

many neurological milestones (Casey et al., 2009; Galvan et al., 2007; Paus, 2005). Compared to other developmental epochs, adolescents exhibit increased reward-seeking and risk-taking behaviors (Chein et al., 2011; Galvan et al., 2006; Galvan et al., 2007). Their cognitive-control system, related to long-term goal orientation and executive functioning, which works to override impulsivity, is still developing (Casey et al., 2008; Steinberg, 2007). In addition, how youth process information and communicate neurologically is still strengthening and developing (Casey et al., 2005b; Goldstein et al., 2016; Paus, 2005). By understanding these neuro-physiological changes, we can better understand the behaviors of youth, why they may fail with traditional probation, and why approaches that utilize developmentally preferable incentives may serve as a more viable option for motivating youth.

During adolescence, youth are experiencing changes to the volume of both their brain's gray and white matter. As these neural pathways change, youth may become more capable of regulating their emotions, controlling their impulses, and engaging in executive functioning (Pokhrel et al., 2013; Steinberg, 2007). These aspects also impact a youth's ability to engage with traditional probation as youth are at a disadvantage when it comes to achieving long-term goals. Long-term goal orientation is a complex mental task which is comprised of goal setting, monitoring one's behaviors, and actively engaging in decision-making which relates to their goal (Pokhrel et al., 2013). Because youth may already struggle to regulate their impulsivity, focusing on long-term goals such as probation compliance, which can be comprised of a multitude of probation terms, is a disservice to youth. However, if this process utilized short-term goals and rewards for

meeting these short-term goals, achieving long-term goals becomes more practical and may circumvent these challenges.

Reward Seeking

Due to youth being more prone to engage in reward-seeking behavior, youth may be more inclined towards incentivization (Goldstein et al., 2019; Pokhrel et al., 2013). Researchers have found that that youth are more sensitive to the possibility of rewards and are prone to engage in reward-seeking behavior (Cauffman et al., 2010). In addition, other studies have demonstrated that youth are more susceptible to monetary rewards due to the underpinning of adolescence (Galvan et al., 2007). Additionally, research also found that youth are more affected by positive or negative outcomes when compared to adults (Mitchell et al., 2008). In addition, the process of setting short-term goals is an easier cognitive process and only relies on controlling attention and inhibiting unrelated information which helps mitigate possible distractions (Pokhrel et al., 2013). These factors reinforce the need for juvenile probation to implement graduated response systems with rewards and incentives in order to properly motivate youth and work towards their developmental inclinations.

Adolescents are experiencing a multitude of significant developmental events. Normative neurodevelopmental patterns may influence what types of behaviors juveniles are involved in, how well they may resist impulsivity and regulate their emotions, and their ability to maintain or achieve goals. The culmination of these aspects necessitates developmentally informed approaches by probation departments and their staff. Utilizing the correct incentives within juvenile probation may lead to more favorable outcomes for youth.

Incentives as a Tool to Change Behaviors

Incentivization may promote positive changes within youth. For instance, incentivization can be utilized to change the health behavior of youth (e.g. exercise, healthy eating habits, stopping nicotine use) (Corepal et al., 2018). In addition, praise and rewards are related to increases in both extrinsic and intrinsic motivation for prosocial behaviors (Bear et al., 2017). What is more, incentives and possible prize-based incentives can assist youth in abstaining from substance use, which is especially important as substance use is significantly related to probation compliance failures (DeFulio et al., 2013; NeMoyer et al., 2014). These probation interventions must adequately balance the positive pressures of wanting to succeed while mitigating the negative pressure of potential sanctions (Schwalbe, 2019). Counties should seek to employ graduated response systems that utilize incentives and work to address the family's needs and properly engage them in the probation process (Goldstein et al., 2016). Properly addressing the needs of the youth and the family allows for a more comprehensive response which can help motivate and support youth in different ways. These systems are capable of being adapted to respond to positive youth development, but it can also be altered to properly address juvenile sanctions.

A graduated response system would better tailor sanctions to be proportionate to the infractions of youth, which reduces net-widening, provides equal treatment of youth, and allows youth the opportunity to learn from their mistakes (Goldstein et al., 2016). By doing so, probation staff are still able to use sanctions to discipline youth while allowing the youth the possibility of correcting their behavior and further improving their prosocial skills. Additionally, graduated response systems should also strive to connect youth with

various prosocial activities that they are interested in. These activities connect youth with prosocial opportunities and peers, help facilitate long-term behavioral change, and support probation compliance (Goldstein et al., 2016). Such changes allow for a more comprehensive response to justice involved youth, but research regarding best approaches and practices is still unclear.

The literature surrounding incentivization is still in its infancy, and one notable study in the field of health focused on understanding different incentives and changing different health behaviors of youth, such as healthier eating, exercise, and smoking prevention. Corepal and colleagues (2018) conducted a meta-analysis of articles that focused on behavioral incentives for changing the health behaviors of children and adolescents (Corepal et al., 2018). Overall, the authors found evidence suggesting that financial incentives can somewhat impact youth engaging in physical activity, and other limited support for behavioral incentives that influence youth from halting and preventing smoking behaviors (Corepal et al., 2018). The meta-analysis highlighted that this form of incentivization relies on operant conditioning, similar to graduated response systems, and that these incentives can reinforce desired behaviors and their occurrence at later times (Corepal et al., 2018). This study also highlighted that material incentives that are monetary in nature had a more substantial effect when compared to control conditions within the respective studies (Corepal et al., 2018). This finding reinforces youth's susceptibility to reward-seeking behavior. Indeed, fMRIs demonstrated increased neural activity in youths when presented with sizeable monetary gains, when compared to adults (Galvan et al., 2006). If proper incentivization can impact health behaviors, it is

reasonable to test the effectiveness of incentives in other aspects such as juvenile probation.

Additionally, the work of juvenile justice researchers has highlighted the benefits of incentivization across different modalities. The work of DeFulio and colleagues (2013) tested the impact of prized-based incentives on outcomes related to being compliant with outpatient substance abuse treatment and abstaining from substance use. While this study likely utilized a sample of adults, it is possible that the benefits of such rewards could have a similar or more prominent effect on youth. The results suggested that combining abstinence incentives with the additional influence of the threat of sanctions could elicit a more potent effect when used simultaneously (DeFulio et al., 2013). Properly balancing these positive and negative reinforcements of probation compliance could lead to better outcomes for both adults and youth. However, the benefits of these pressures are more challenging to balance than they may sound.

The work of Long and Sullivan (2017) further examined benefits of properly balancing incentives and sanctions in juvenile drug courts. When the youth participating in the juvenile drug courts received a proper balance of incentives and sanctions, they were less likely to recidivate and more likely to complete the program (Long & Sullivan, 2017). The results of this study support the belief that juvenile incentives can be a variable strategy to motivate youth to comply with their drug court, but youth in drug courts may represent a unique subpopulation of justice-involved youth with a particular set of considerations. Applying incentives may also benefit juvenile probationers more broadly. Indeed, these sentiments already reflect the growing call for graduated response

systems to motivate youth to comply with probation and make both short- and long-term behavioral changes.

The literature reviewed within this section drew attention to the benefits of utilizing incentives to change behaviors and achieve more favorable outcomes. These studies also touched on the need for a graduated response system to resolve judgment issues that youth experience while empowering youth to find success on probation. Researchers have proposed that a developmentally informed approach should focus on adequate due process, supporting and engaging the family, and reducing unintended sanctions. A graduated response system allows youth to better understand the meaning of their probation requirements, as well as better understand the reasoning behind their probation terms. It reinforces positive probation-compliant behaviors with incentives and relies on short-term goal setting and reinforcing those prosocial behaviors (Goldstein et al., 2016).

Current juvenile justice scholars have called for more developmentally aware approaches within juvenile probation (Goldstein et al., 2019). In addition, the literature suggests that incentives may be vital to changing positive behavior and better outcomes for justice-involved youth (Goldstein et al., 2016; Heilbrun et al., 2017; Schwalbe. 2019). However, there is a lack of literature focusing on the types of incentives that motivate youth to comply with probation. If incentives do not reflect youth's desires, their positive effects may be diminished. Therefore, there is no greater opportunity than to ask youth what they value and what motivates them. By doing so, it becomes possible to better tailor incentives to the youth in order to maximize their ability to motivate youth and lead to positive outcomes.

CURRENT STUDY

Juvenile probation departments have been advised to leverage incentives to motivate youth behavior (Goldstein et al., 2019; Heilbrun et al., 2017). However, studies have not adequately examined from both youth's and parents' perspectives, what actually motivates youth to comply with their probation terms and conditions. The current study fills a gap in the literature by examining youth's perspectives on what types of incentives would motivate them. In addition, the study measures what the youth's parents believe would motivate youth to do well on probation. In doing so, I address three research questions:

Research Question 1: What do youth believe would motivate them to be compliant on probation? I expect youth to prefer financial incentives over privilege or praise-based incentives. This difference is due to reward-seeking behavior and inclination towards monetary rewards peaking in adolescence (Cauffman et al., 2010). Additionally, youth are more focused on short-term rewards and are more likely to struggle with long-term goal setting and decision-making (Pokhrel et al., 2013).

Research Question 2: Do parents' perceptions of what would motivate youth to do well on probation align with what youth believe? I expect parents to believe youth will prefer privilege-based incentives over monetary or praise-based incentives. Youth's desire for freedoms stems from comparisons to their peers' autonomy. When youth feel they have less autonomy than a peer, then their desire for autonomy increases (Daddis, 2011). These sentiments may be understood by the parents of justice-involved youth. Additionally, I expect there to be differences in what youth believe will motivate them to do well on probation and what parents believe youth will *want* to motivate them. For

example, youth being more inclined towards monetary incentives, due to developmental susceptibilities, and parents believing youth would desire privilege-based incentives and the additional freedoms they provide.

Research Question 3: Do older youth desire monetary incentives less than younger youth? As compared with older youth, I expect younger youth will have a stronger preference for immediate monetary incentives. This is due to younger youth being more susceptible to potential immediate rewards, such as monetary incentives, as compared to older youth (Galvan et al., 2006; Mitchell et al., 2008). What's more the current body of literature has focused on monetary incentives (DeFulio et al., 2013; Galvan et al., 2006; Long & Sullivan, 2017).

METHODS

Data & Sampling

The current research utilizes the Family-Youth Engagement (FYE) dataset, which seeks to understand the experiences and feelings of youth currently on juvenile probation, along with the experiences of their parents. The FYE dataset contains data from two different counties in the Southwestern region of the United States which together constitute between 75-85% of youth on probation within the state. In the first county, youth and their parents are surveyed within the first 30 days of probation enrollment, then again at approximately six months on probation, and when their probation term ends. The second county surveys youth after being on probation for three months, again around approximately six months, and when their probation term ends. Youth were eligible to participate if they were on probation but were ineligible if they were dually involved in the juvenile justice system and child welfare services or if they were within an out-of-

home placement (e.g., detention). While the study is ongoing, the data for this project were collected in 2020 and 2021.

Youth Sample

We obtained an initial sample of 521 youth ($n = 521$). Because it was a longitudinal dataset where the youth had multiple opportunities to complete the survey, data were limited to only the first response. Listwise deletion was used to remove 73 responses in which it was the second or third instance a youth had completed the survey ($n = 448$). Within the final sample of 448 youth, the race/ethnic distribution of the youth was 25.45% White ($n = 114$), 44.64% Hispanic ($n = 200$), 10.94% Black ($n = 49$), and 18.97% Other, which included biracial and multiracial individuals ($n = 85$). Additionally, 75.39% of the sample identified as male ($n = 337$), with 23.94% identifying as female ($n = 107$), and 0.67% identifying as Other ($n = 3$). Youth were, on average, 16 years old ($M = 16.30$, $SD = 1.34$). The youths' age, gender, and race/ethnicity are consistent with the demographics of all youth placed on probation within the two counties.

Parent Sample

The initial survey was distributed to the parents/guardians (henceforth parents) of the youth who were on probation. The current sample of parents is 741 participants. Due to the longitudinal nature of the dataset, listwise deletion was utilized to limit the sample to only the first survey response of the parents to correct issues of parents nested within time, which removed 107 cases ($n = 634$). Within the final sample of 634 parents ($n = 634$), the race/ethnic distribution of the parents was 39.97% White ($n = 267$), 36.23% Hispanic ($n = 242$), 11.23% Black ($n = 75$), and 12.57% Other which included biracial and multiracial individuals ($n = 84$). Additionally, 23.13% of the sample identified as

male ($n = 115$), with 76.57% identifying as female ($n = 513$), and 0.30% identifying as Other ($n = 2$). The average age of parents was approximately 44 years old ($M = 43.91$, $SD = 9.53$).

Dependent Variable

The dependent variable for the current study is incentive motivation. The question prompt read: "*How much would each of the following motivate you (your child) to do well on probation?*" Then, ten items, drawn from the incentive ladders utilized in the counties, were asked of youth and parents, and each question utilized a five-point Likert-type response scale (*1 – Not at all to 5 – A ton*).

An exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) were conducted to examine the factor structure of the dependent variable. First, the youth sample was randomly split into two (Fine et al., 2019). EFAs are the first step in scale development (Flora & Flake, 2017), thus the EFA was conducted on the first half of the youth sample to determine the number of latent variables between the ten incentive questions and their factor loadings. Due to the response options' nature, items were specified as categorical (ordinal) in Mplus. Within the study a good root mean square error of approximation (RMSEA) was considered .07 and below, with up to .1 being considered adequate for comparing how far the current hypothesized model compared to a perfect model. In addition, the cutoff for a good fit for the comparative fit index (CFI) and Tucker-Lewis index (TLI) was .95 with above .90 being considered adequate. The CFI and TLI compare the hypothesized model to the worst model, also referred to as the baseline model, to determine fit (Xia & Yang, 2018). The EFA produced three factors that fit the data well across a variety of metrics (RMSEA: 0.068; CFI: 0.99; TLI: 0.98).

Then, a 3-factor CFA was conducted on the second half of the youth sample (i.e., no cases were used for both the EFA and CFA). The model fit the data well across multiple metrics (RMSEA: 0.08; CFI: 0.98; TLI: 0.97), and factor loadings were all high (above 0.7). Finally, due to consistent results within the youth sample, a CFA was conducted on the adult sample, and the model fit the data well (RMSEA: 0.09; CFI: 0.97; TLI: 0.95) and the minimum factor loading being 0.57. Overall, these methods supported the creation of three factors that are consistent with prior literature: (1) praise incentives, (2) monetary incentives, and (3) privilege incentives.

Based on the results of the factor analysis, three mean-scored variables were created for both youth and parents (Table 1). First, the praise incentive average was created from the following three items: “the probation officer (PO) telling my family about my positive changes,” “the PO telling the judge/court about my positive changes.” and “the PO telling the victim about my positive changes.” The privilege-based incentive average was created from the following five items: “fewer meetings with my PO,” “special permission to attend an event (concert, sporting event, etc.),” “getting off of probation earlier,” “having a later official curfew,” and “removing electronic monitoring.” Finally, the monetary incentive average was created from two items: “Gift Cards (Target, Amazon, or others)” and “reducing my fees/fines.”

Independent Variables

Demographics

The main predictor variable for the youth model was youth age. Youth age was operationalized as a continuous variable, ranging from twelve to nineteen. Additionally, self-identified race/ethnicity and gender were utilized within both models as control

variables. Race was operationalized as a categorical variable, with White as the reference category in the model. Gender was operationalized as a categorical variable, with male as the reference category. See Table 1 for additional information for both samples.

ANALYSIS PLAN

To answer RQ1, regarding what motivates youth to be compliant with probation, a series of within-group t-tests were utilized to determine if there were any differences in what motivates youth to do well on probation. To answer RQ2, a series of within-group t-tests were conducted to determine if there were differences in what parents believed would motivate youth. Afterwards, between-groups t-tests were used to compare if there were differences across the incentive types. To answer RQ3, a multivariate regression was used to identify possible relationships between youth characteristics and monetary incentives as a motivational tool.

RESULTS

Research Question One: Youth's Perceptions of Incentives

To determine what incentive type would most motivate youth to be compliant, a series of within-group t-tests were used which compared the average score of each incentive type (Table 1). The first test indicated that youth preferred praise-based incentives ($M = 3.72$, $SD = .05$) over privilege-based incentives ($M = 3.45$, $SD = .05$, $t(357) = 4.83$, $p < .001$, Cohen's $d = .26$, 95% CI [.11, .40]) as motivation for doing well on probation. The second comparison suggested that youth preferred privilege-based incentives ($M = 3.45$, $SD = .05$) over monetary-based incentives ($M = 3.11$, $SD = .07$, $t(352) = 6.29$, $p < .001$, Cohen's $d = .33$, 95% CI [.19, .48]). The final test suggest that youth wanted praise-based incentives ($M = 3.72$, $SD = .05$) rather than monetary-based

incentives ($M = 3.11$, $SD = .07$, $t(353) = 8.92$, $p < .001$, Cohen's $d = .47$, 95% CI [.32, .62]). Overall, youth thought that praise-based incentives would motivate them most, followed by privilege-based and finally monetary-based incentives.

Research Question Two: Parent's Perceptions of Incentives and Comparison to Youth

In order to explore what types of incentives parents believed would motivate youth to be compliant, a series of within group t-tests were used to compare the average scores of each incentive type to one another. Then, these averages were compared between parents and youth to determine how similar or different each set was. The first test demonstrated that parents believed youth would desire praise-based incentives ($M = 3.78$, $SD = .04$) over privilege-based incentives ($M = 3.25$, $SD = .04$, $t(490) = 12.5$, $p < .001$, Cohen's $d = .56$, 95% CI [.44, .69]). The second comparison suggested that parents believed youth would prefer privilege-based incentives ($M = 3.23$, $SD = .04$) over monetary-based incentives ($M = 3.13$, $SD = .06$, $t(481) = 2.1$, $p = .036$, Cohen's $d = .10$, 95% CI [-.03, .22]). The final model found that parents believed youth would prefer praise-based incentives ($M = 3.77$, $SD = .04$) over monetary-based incentives ($M = 3.13$, $SD = .06$, $t(484) = 11.5$, $p < .001$, Cohen's $d = .52$, 95% CI [.39, .65]). These results indicate that parents believed youth would prefer praise-based incentives the most followed by privilege-based incentives, and monetary-based incentives last.

Based on pure rank-ordering of the incentives, both youth and their parents ranked praise-based the highest, followed by privilege- and then monetary-based incentives. To determine if there were differences between what motivates youth and what parents believe will motivate youth, additional between-group t-tests were utilized

(Table 2 and Figure 1). The first t-test determined that youth ($M = 3.73$, $SD = .05$) and parents ($M = 3.79$, $SD = .04$) did not differ in their belief of how much praise-based incentives would motivate youth, $t(710.8) = .83$, $p = .34$, Cohen's $d = -.07$, 95% CI [-.2, .07]. The second t-test found that youth ($M = 3.45$, $SD = .05$) rated privilege-based incentives significantly higher than did their parents ($M = 3.25$, $SD = .04$, $t(731.23) = 3.01$, $p = .003$, Cohen's $d = .21$, 95% CI [.08, .35]. The final t-test found that between youth ($M = 3.11$, $SD = .07$) and parents ($M = 3.13$, $SD = .06$), there were no significant differences in beliefs of how much monetary-based incentives would motivate youth, $t(742.15) = -.19$, $p = .85$, Cohen's $d = -.01$, 95% CI [-.15, .12]. Overall, these results suggest that both youth and parents not only viewed praise-based incentives similarly, but also thought they would most effectively motivate youth to do well on probation. There were some notable differences between the privilege-based incentive scores between youth and parents, such that youth thought they would be more motivational than parents did. Finally, youth and parents viewed monetary-based incentives similarly and believed it would motivate youth the least to do well on probation as compared to the other forms of incentives.

Research Question Three: Youth's Age and the Desire for Monetary Incentives

The regression model investigated if there were demographic differences in youths' preferences for monetary incentives, specifically whether age was related to higher or lower scores regarding the desire for monetary-based incentives. The results suggest that age was not associated with the desire for monetary-based incentives ($b = 0.08$, $SD = 0.05$), 95% CI [-.029, 0.18]. The model suggested slightly more desire for monetary-based incentives in older youth, but no significant difference between youth of

different ages (Table 3). The model also suggested that there are no significant differences between White youth and youth of other race/ethnic background, nor significant differences between male and female youth.

DISCUSSION

Juvenile justice advocates have long called for juvenile probation to utilize more developmentally informed approaches that focus on incentives to engage and motivate youth (Goldstein et al., 2016; Schwartz, 2018). Incentives within probation can reinforce youth's positive behaviors and lead to behavioral changes. When probation programs implement a graduated response system, it may be easier to engage youth by responding to their motivations and tailoring approaches accordingly. By better engaging and motivating youth, it may be easier to change the trajectory of youth and promote both short-term and long-term prosocial outcomes in addition to simply ensuring probation compliance (Goldstein et al., 2016). If juvenile justice adapts to youth's needs, it is essential that the adaptation is based on what youth find most motivational. However, both justice practitioners and researchers have neglected to ask youth what incentives they actually want.

In this study, youth on probation were asked the extent to which a variety of frequently utilized probationary incentives would motivate them. I employed exploratory and confirmatory factor analyses to identify three categories of incentives: praise, privilege, and monetary. The praise-based incentive category was created using incentives related to the youth's probation staff telling the family, judge, or victim about the positive changes the youth had made. The privilege-based incentive category is related to giving the youth greater freedoms, such as a later curfew, less meetings with

the probation staff, or special permission to attend an event. Lastly, the monetary-based incentive category comprised a reduction in fines or fees or receiving gift cards to various stores.

I expected that youth would be more motivated by monetary incentives based on developmental literature demonstrating that adolescents have a developmentally normative, heightened sensitivity to monetary rewards (Cauffman et al., 2010). However, the current study indicates that youth have the strongest desire for praise-based incentives, followed by privilege-based incentives, and finally monetary-based incentives. These results indicate that the power of praise may be undervalued when motivating youth to do well on probation. Even though privilege-based incentives allow youth to have more freedoms or potential opportunities for prosocial activities (Daddis, 2011) and monetary rewards provide non-coercive incentives to families, such as gift cards or reduction in fees (Cauffman et al., 2010; Chein et al., 2011), the results from the current study suggest these two incentives may not be as important to youth compared to praise-based incentives in the form of their family, the judge, or the victim hearing about their positive efforts. This result reinforces previous research which finds that positive attention from others may peak in late adolescence (Altikulaç et al., 2019). These instances of praise may serve to acknowledge the positive changes of the youth verbally, reinforce prosocial behavior, and allow for a redemption script. Supporting the positive growth of youth could relate to both short-term and long-term prosocial change.

The findings of the study highlight that youth may not only be motivated by monetary incentives but also incentives that focus on praise and the restoration of privileges. While previous studies have highlighted the use of prize-based incentives to

increase retention and compliance with substance abuse treatment (DeFulio et al., 2013), the current study suggests there may be other alternatives for youth. In addition, the current work reinforces previous studies that positive pressures, such as praise, could be a viable option for leading to prosocial outcomes, and youth desire these types of incentives (Schwalbe, 2009). Moreover, the results of this study contribute to what is known regarding youth and what motivates them to complete probation while highlighting options that should be considered when implementing a graduated response system.

In addition, youth may not be the only individuals capable of informing juvenile probation staff of their preferred incentives for motivation. Parents can be a resource to juvenile probation staff and assist in case planning. The pattern of incentives in which praise was the most desired, followed by privilege, and lastly, monetary incentives were mirrored when measuring what parents believed would motivate youth. This finding indicates that parents understand what motivates youth and what incentives youth prefer. Juvenile probation staff can work with both the youth and their parents during case planning to identify what aspects motivate youth while building a working relationship with the family unit. There must be a supportive relationship between juvenile probation staff and parents, as the controls exerted by the juvenile probation staff may place them in conflict with the parent (Fine et al., 2020). For example, if a probation staff perceives the home environment as problematic, they may implement more controlling conditions related to a decline in parental supervision. In addition, if a parent perceives their relationship with the probation staff as anything less than respectful, fair, and supportive, they may be less likely to assist with probation compliance (Vidal & Woolard, 2016).

Because youth only meet with their PO about once a month, a parent can offer essential additional supervision and insight into the activities of their child. Parent's insights can also help determine incentives for youth, juvenile probation staff may be able to build better working relationships with youth and garner additional support for keeping youth probation compliant and tailoring response systems to youth.

The present study had numerous strengths. The incentivization categories were derived from actual incentives ladders utilized by jurisdictions, producing external validity. The study also had a large sample size of hard-to-reach youth who were racially and ethnically diverse and demographically similar to the broader population of youthful probationers in the jurisdictions, which increases the relevancy to policy and representativeness. In addition, the study utilized dual reporters of youth and parents, which better reflects the beliefs of the family unit and may be useful for triangulating the findings. Lastly, the survey utilized juvenile probationers and their families within two large jurisdictions that together constitute over 75% of youth on probation within the state, which helps increase the generalizability of the results.

Despite the strengths of the study, it is not without its limitations. The current study utilizes a convenience sampling technique of youth on probation and their parents; this may impact how generalizable these results are to different samples. Additionally, the study could not incorporate youth on probation who were involved in the child welfare system (i.e., dually involved youth) or youth in detention facilities. Youth in detention facilities would likely reflect more severe offenses or possible repeat offenders, and they may have different developmental needs and necessitate different approaches and incentivization. Future studies may remedy this challenge and include a more diverse

sample than two counties located in the Southwestern United States. These changes would further enhance the methodological strengths of this study and may allow for greater generalization of the results. Additionally, a longitudinal study can explore the nuance of developmental trends rather than age-graded trends, allowing for a deeper understanding of how these desires and motivations may shift as youth develop. By employing such changes, findings may inform policy and help inform best practices of graduated response systems and juvenile probation practices.

Although multiple studies have highlighted that youth have a developmentally normative, increased responsivity to monetary-based incentives, the current study found that other incentives are more highly desired (Cauffman et al., 2010; Galvan et al., 2007). This is perhaps a result of how monetary-based incentives were measured. Youth were only surveyed regarding how much they believed it would motivate them, but there may be differences when presented with real, tangible monetary rewards. In addition, it may be harder to measure monetary-based incentives as a reduction in fines or fees is a benefit to the family as a whole, and a gift card may not invoke the same response as cash. Further research is necessary to contextualize these outcomes and understand the nuances of youth and monetary incentives.

One of the most surprising findings was that youth desired praise-based incentives more than either the privilege-based or monetary-based incentive types, and this result was mirrored by the parents as well. Further research should investigate the effects of praise on youth and its relationship with prosocial behavior, as studies measuring incentives have focused primarily on monetary rewards (e.g., DeFulio et al., 2013; Long & Sullivan, 2017). In addition to their parents, justice-involved youth have other

authority figures in their lives, such as their probation staff and judge. Receiving verbal praise from these individuals and making an effort to acknowledge the positive changes of youth may be quite impactful.

One of the most important messages of the study is the power of praise and recognition. Studies that focus on juveniles and incentives often focus on money or similar prizes to change youth behavior, but these findings suggest viable alternatives (e.g., DeFulio et al., 2013; Long & Sullivan, 2017). Praising juveniles when they engage in prosocial activities or act positively may reinforce such behaviors rather than relying on monetary reinforcement. While additional research must be conducted to better understand the nuanced relationship between youth, incentives, and probation outcomes, the results of this study demonstrate distinct differences in how youth conceptualize and desire incentives. If the juvenile justice system seeks to operate in the best interests of youth, it is necessary for policy and probation implementation to mirror those interests.

This study draws attention to the necessity of considering different incentives to motivate youth to comply with probation. By identifying what types of incentives youth desire the most, graduated response systems can be tailored to the youth's desire and thus their motivation. Additionally, this can serve as an initial point in which juvenile probation staff, youth, and the parents of youth may collaborate regarding case planning and identifying pathways to success for youth placed on probation. This meeting may also give juvenile probation staff the ability to build an early supportive, positive relationship with parents, which may help increase youth's compliance later on (Vidal & Woolard, 2016). Finally, establishing short-term attainable goals for youth can help them

engage with probation, reinforce their positive behaviors, and translate to long-term probation compliance and success.

Graduated response systems provide juvenile justice services the ability to support and engage families while tailoring their response to their needs. They are developmentally responsive and can facilitate prosocial outcomes (Goldstein et al., 2016). The ability to capitalize on short-term goals for long-term change helps mitigate aspects of adolescent development, which may hinder youth from being compliant. By properly motivating youth, it is possible to reduce the net-widening effects of probation revocation and provide youth with opportunities to find success and reinforce their achievements. Juvenile probation can significantly influence the life-course trajectory of youth, but probation practices must be fully committed to meeting youth where they are at developmentally and finding pathways to youth success.

Conclusion

If juvenile justice practitioners understand the unique developmental challenges and why youth fail probation, programs can be adapted to be more responsive to the needs of youth. Juvenile probation can use innovative responses, such as graduated response systems, to not just have youth be compliant with their terms, but to leverage these interventions to create prosocial young adults. Probation staff can ally early on in case planning with youth and their parents to build a positive working relationship and align the goals of probation staff and the family (Fine et al., 2020). Yet, if such changes are going to be made, they must be based on research and tailored to the needs of both youth and their families.

This study helps researchers, policymakers, and practitioners better understand what types of incentives youth believe would most effectively motivate them to do well on probation and seeks to guide juvenile justice institutions along the path to more appropriate juvenile interventions. It may serve as a steppingstone for change and suggest opportunities for improving juvenile probation. Youth on probation are at a malleable time in their life and a significant intervention may be able to impact their life-course trajectory and give them the skills to desist from delinquency. Incentives are a means not just to help probation succeed, but to help youth find success in the program and beyond.

REFERENCES

- Altikulaç, Bos, M. G. ., Foulkes, L., Crone, E. A., & van Hoorn, J. (2019). Age and Gender Effects in Sensitivity to Social Rewards in Adolescents and Young Adults. *Frontiers in Behavioral Neuroscience*, 13(JULY), 1–11. <https://doi.org/10.3389/fnbeh.2019.00171>
- Bear, S. G., Slaughter, J. C., Mantz, L. S., & Farley-Ripple, E. (2017). Rewards, praise, and punitive consequences: Relations with intrinsic and extrinsic motivation. *Teaching and Teacher Education*, 65, 10–20. <https://doi.org/10.1016/j.tate.2017.03.001>
- Brogan, L., McPhee, J., Gale-Bentz, E., Rudd, B., & Goldstein, N. (2021). Shifting probation culture and advancing juvenile probation reform through a community-based, participatory action research-informed training. *Behavioral Sciences & the Law*, 39(1), 6–25. <https://doi.org/10.1002/bsl.2497>
- Casey, B., Galvan, A., & Hare, T. A. (2005a). Changes in cerebral functional organization during cognitive development. *Current Opinion in Neurobiology*, 15(2), 239–244. <https://doi.org/10.1016/j.conb.2005.03.012>
- Casey, B. ., Tottenham, N., Liston, C., & Durston, S. (2005b). Imaging the developing brain: what have we learned about cognitive development? *Trends in Cognitive Sciences*, 9(3), 104–110. <https://doi.org/10.1016/j.tics.2005.01.011>
- Casey, B. ., Jones, R. M., & Hare, T. A. (2008). The Adolescent Brain. *Annals of the New York Academy of Sciences*, 1124(1), 111–126. <https://doi.org/10.1196/annals.1440.010>
- Cauffman, E., Shulman, E. P., Steinberg, L., Claus, E., Banich, M. T., Graham, S., & Woolard, J. (2010). Age Differences in Affective Decision Making as Indexed by Performance on the Iowa Gambling Task. *Developmental Psychology*, 46(1), 193–207. <https://doi.org/10.1037/a0016128>
- Chein, J., Albert, D., O'Brien, L., Uckert, K., & Steinberg, L. (2011). Peers increase adolescent risk taking by enhancing activity in the brain's reward circuitry. *Developmental Science*, 14(2), F1–F10. <https://doi.org/10.1111/j.1467-7687.2010.01035.x>
- Corepal, R., Tully, M. A., Kee, F., Miller, S. J., & Hunter, R. F. (2018). Behavioural incentive interventions for health behaviour change in young people (5–18 years old): A systematic review and meta-analysis. *Preventive Medicine*, 110, 55–66. <https://doi.org/10.1016/j.ypmed.2018.02.004>
- Daddis, C. (2011). Desire for Increased Autonomy and Adolescents' Perceptions of Peer Autonomy: “Everyone Else Can; Why Can't I?” *Child Development*, 82(4), 1310–1326. <https://doi.org/10.1111/j.1467-8624.2011.01587.x>

- DeFulio, A., Stitzer, M., Roll, J., Petry, N., Nuzzo, P., Schwartz, R. P., & Stabile, P. (2013). Criminal justice referral and incentives in outpatient substance abuse treatment. *Journal of Substance Abuse Treatment*, 45(1), 70–75.
<https://doi.org/10.1016/j.jsat.2012.12.012>
- Fine, Kan, E., & Cauffman, E. (2019). Adolescents' Confidence in Institutions: Do America's Youth Differentiate Between Legal and Social Institutions? *Developmental Psychology*, 55(8), 1758–1767.
<https://doi.org/10.1037/dev0000760>
- Fine, Rowan, Z. R., & Cauffman, E. (2020). Partners or adversaries? The relation between juvenile diversion supervision and parenting practices. *Law and Human Behavior*, 44(6), 461–473. <https://doi.org/10.1037/lhb0000428>
- Flora, & Flake, J. K. (2017). The Purpose and Practice of Exploratory and Confirmatory Factor Analysis in Psychological Research: Decisions for Scale Development and Validation. *Canadian Journal of Behavioural Science*, 49(2), 78–88.
<https://doi.org/10.1037/cbs0000069>
- Galvan, A., Hare, T. A., Parra, C. E., Penn, J., Voss, H., Glover, G., & Casey, B. J. (2006). Earlier Development of the Accumbens Relative to Orbitofrontal Cortex Might Underlie Risk-Taking Behavior in Adolescents. *The Journal of Neuroscience*, 26(25), 6885–6892. <https://doi.org/10.1523/JNEUROSCI.1062-06.2006>
- Galvan, A., Hare, T., Voss, H., Glover, G., & Casey, B. . (2007). Risk-taking and the adolescent brain: who is at risk? *Developmental Science*, 10(2), F8–F14.
<https://doi.org/10.1111/j.1467-7687.2006.00579.x>
- Goldstein, N. E. ., NeMoyer, A., Gale-Bentz, E., Levick, M., & Feierman, J. (2016). “You’re on the right track!” using graduated response systems to address immaturity of judgment and enhance youth’s capacities to successfully complete probation. *Temple Law Review*, 88(4), 803–836.
- Goldstein, N. E. S., Gale-Bentz, E., McPhee, J., NeMoyer, A., Walker, S., Bishop, S., Soler, M., Szanyi, J., & Schwartz, R. G. (2019). Applying the National Council of Juvenile and * Court Judges’ Resolution to Juvenile Probation Reform. *Translational Issues in Psychological Science*, 5(2), 170–181.
<https://doi.org/10.1037/tps0000192>
- Heilbrun, K., Goldstein, N. E. ., DeMatteo, D., Newsham, R., Gale-Bentz, E., Cole, L., & Arnold, S. (2017). The Sequential Intercept Model and Juvenile Justice: Review and Prospectus. *Behavioral Sciences & the Law*, 35(4), 319–336.
<https://doi.org/10.1002/bsl.2291>

- Hockenberry, S., & Puzanchera, C. (2021). "Juvenile Court Statistics, 2019." Office of Justice Programs. Available: <https://www.ojp.gov/library/publications/juvenile-court-statistics-2019>
- Hooper, Luciana, M., Conklin, H. M., & Yarger, R. S. (2004). Adolescents' Performance on the Iowa Gambling Task: Implications for the Development of Decision Making and Ventromedial Prefrontal Cortex. *Developmental Psychology*, 40(6), 1148–1158. <https://doi.org/10.1037/0012-1649.40.6.1148>
- Laird, R. D., Pettit, G. S., Bates, J. E., & Dodge, K. A. (2003). Parents Monitoring-Relevant Knowledge and Adolescents Delinquent Behavior: Evidence of Correlated Developmental Changes and Reciprocal Influences. *Child Development*, 74(3), 752–768. <https://doi.org/10.1111/1467-8624.00566>
- Long, J., & Sullivan, C. J. (2017). Learning More From Evaluation of Justice Interventions: Further Consideration of Theoretical Mechanisms in Juvenile Drug Courts. *Crime and Delinquency*, 63(9), 1091–1115. <https://doi.org/10.1177/0011128716629757>
- Mitchell, H. S., Schoel, C., & Stevens, A. A. (2008). Mechanisms underlying heightened risk taking in adolescents as compared with adults. *Psychonomic Bulletin & Review*, 15(2), 272–277. <https://doi.org/10.3758/PBR.15.2.272>
- NeMoyer, A., Goldstein, N. E. S., McKitten, R. L., Prelic, A., Ebbecke, J., Foster, E., & Burkard, C. (2014). Predictors of Juveniles' Noncompliance With Probation Requirements. *Law and Human Behavior*, 38(6), 580–591. <https://doi.org/10.1037/lhb0000083>
- Paus, T. (2005). Mapping brain maturation and cognitive development during adolescence. *Trends in Cognitive Sciences*, 9(2), 60–68. <https://doi.org/10.1016/j.tics.2004.12.008>
- Pokhrel, P., Herzog, T. A., Black, D. S., Zaman, A., Riggs, N. R., & Sussman, S. (2013). Adolescent Neurocognitive Development, Self-Regulation, and School-Based Drug Use Prevention. *Prevention Science*, 14(3), 218–228. <https://doi.org/10.1007/s11121-012-0345-7>
- Schwalbe, C. S. . (2019). Impact of probation interventions on drug use outcomes for youths under probation supervision. *Children and Youth Services Review*, 98, 58–64. <https://doi.org/10.1016/j.childyouth.2018.12.019>
- Schwartz, R. G. (2018). A 21st Century Developmentally Appropriate Juvenile Probation Approach. *Juvenile & Family Court Journal*, 69(1), 41–54. <https://doi.org/10.1111/jfcj.12108>
- Schwartz, K., Alexander, A. O., Lau, K. S. L., Holloway, E. D., & Aalsma, M. C. (2017). Motivating compliance: Juvenile probation staff strategies and skills. *Journal of*

- Offender Rehabilitation, 56(1), 20–37.
<https://doi.org/10.1080/10509674.2016.1257532>
- Sickmund, M., Sladky, T.J., Puzzanchera, C., & Kang, W. (2021a). "Easy Access to the Census of Juveniles in Residential Placement." Available:
<https://www.ojjdp.gov/ojstatbb/ezacjrp/>
- Sickmund, M., Sladky, A., and Kang, W. (2021b). "Easy Access to Juvenile Court Statistics: 1985-2019." Online. Available: <https://www.ojjdp.gov/ojstatbb/ezajcs/>
- Skinner, B. F. (1953). *Science and human behavior* (No. 92904). Simon and Schuster.
- Steinberg. (2007). Risk Taking in Adolescence: New Perspectives from Brain and Behavioral Science. *Current Directions in Psychological Science : a Journal of the American Psychological Society*, 16(2), 55–59. <https://doi.org/10.1111/j.1467-8721.2007.00475.x>
- Vidal, S., & Woolard, J. (2016). Parents' perceptions of juvenile probation: Relationship and interaction with juvenile probation staffs, parent strategies, and youth's compliance on probation. *Children and Youth Services Review*, 66, 1–8.
<https://doi.org/10.1016/j.childyouth.2016.04.019>
- Viglione, J., Rudes, D., Nightingale, V., Watson, C., & Taxman, F. (2018). The Many Hats of Juvenile Probation Officers: A Latent Class Analysis of Work-Related Activities. *Criminal Justice Review (Atlanta, Ga.)*, 43(2), 252–269.
<https://doi.org/10.1177/0734016817742688>
- Xia, Y., & Yang, Y. (2018). RMSEA, CFI, and TLI in structural equation modeling with ordered categorical data: The story they tell depends on the estimation methods. *Behavior Research Methods*, 51(1), 409–428.
<https://doi.org/10.3758/s13428-018-1055-2>

APPENDIX A
TABLES AND FIGURES

Table 1.

Summary Statistics for Youth and Parent Variables

Variable	Youth	Parent
	Mean (SD) / %	Mean (SD) / %
Age	16.3 (1.35)	43.91 (9.18)
Gender		
Male	75.39	23.13
Female	23.94	76.57
Other	0.67	0.3
Race/Ethnicity		
White	25.45	39.97
Hispanic	44.64	36.23
Black	10.94	11.23
Other	18.97	12.57
Incentives		
Praise	3.73 (1)	3.79 (.87)
Privilege	3.45 (1)	3.25 (.93)
Monetary	3.11 (1.32)	3.13 (1.26)

Note. Standard deviations are in parentheses, and percentages are presented for noncontinuous variables. The variables of praise, privilege, and monetary are averages.

Table 2.

T-tests Between Incentive Types for Youth and Parent

Incentive Means	Youth		Parent		<i>t</i>	<i>p</i>	Cohen's <i>d</i>	95% CI	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>				<i>LL</i>	<i>UL</i>
	Praise	3.73	1.01	3.79				0.87	0.96
Privilege	3.45	1.01	3.25	0.93	3.01	0.003	0.21	[.08 0.35]	
Monetary	3.11	1.32	3.13	1.26	0.19	0.85	-0.01	[-.15 .12]	

Note. The praise, privilege, and monetary scores were created using an exploratory, then confirmatory factor analysis both parents and youth. All sets of incentive averages used the same questions for both the parent and youth sample, and results were derived from *t* tests (assuming unequal variance) by comparing each incentive score between youth and parents.

Table 3.

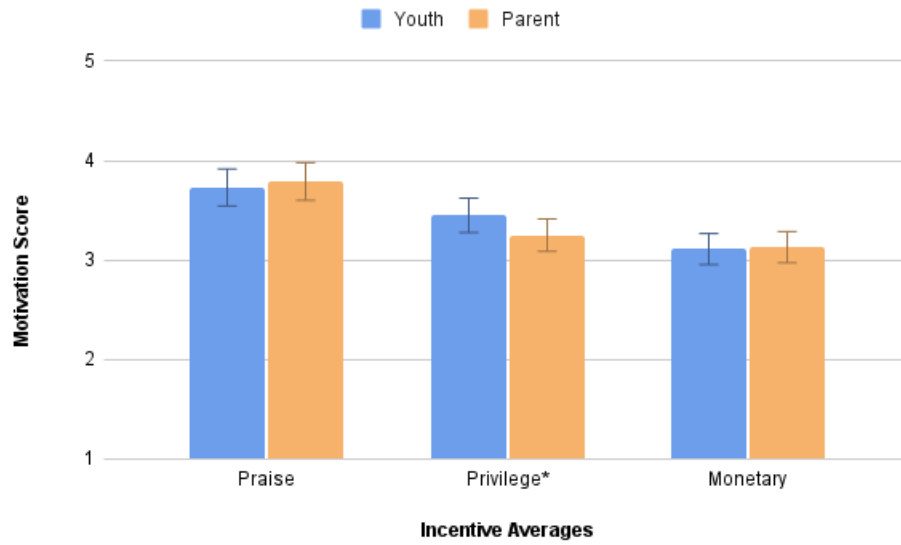
Results of the Youth Multivariate Regressions on Monetary Incentives

Variable	<i>b</i>	<i>SE</i>	<i>t</i>	<i>p</i>	<i>95% CI</i>	
Age	0.08	0.05	1.43	0.15	[-.03	.18]
Gender						
Female	-0.06	0.18	-0.34	0.73	[-.41	.29]
Other	-0.74	0.94	-0.78	0.43	[-2.59	1.12]
Race/Ethnicity						
Hispanic	-0.24	0.18	-1.33	0.19	[-.58	.11]
Black	0.09	0.27	0.32	0.75	[-.44	.61]
Other	-0.09	0.21	-0.44	0.66	[-.51	.32]
Constant	1.98	0.89	2.22	0.027	[.23	3.73]

Note. CI = confidence interval

Figure 1

Youth and Parent Incentive Score Comparisons



Note. A comparison of mean scores between youth and parent for each scale. Figure was created with data from three two-sample t-tests (assuming unequal variance).

* $p < .05$.

APPENDIX B

UNIVERSITY APPROVAL FOR HUMAN SUBJECT TESTING



APPROVAL: MODIFICATION

[Adam Fine](#)
[WATTS: Criminology and Criminal Justice, School of](#)
602/496-2337
adfine@asu.edu

Dear [Adam Fine](#):

On 12/13/2021 the ASU IRB reviewed the following protocol:

Type of Review:	Modification / Update
Title:	Parent/youth engagement study
Investigator:	Adam Fine
IRB ID:	STUDY00012404
Funding:	None
Grant Title:	None
Grant ID:	None
Documents Reviewed:	None

The IRB approved the modification.

When consent is appropriate, you must use final, watermarked versions available under the "Documents" tab in ERA-IRB.

In conducting this protocol you are required to follow the requirements listed in the INVESTIGATOR MANUAL (HRP-103).

REMINDER - All in-person interactions with human subjects require the completion of the ASU Daily Health Check by the ASU members prior to the interaction and the use of face coverings by researchers, research teams and research participants during the interaction. These requirements will minimize risk, protect health and support a safe research environment. These requirements apply both on- and off-campus.

The above change is effective as of July 29th 2021 until further notice and replaces all previously published guidance. Thank you for your continued commitment to ensuring a healthy and productive ASU community.

Sincerely,

IRB Administrator

cc:

Justin Richardson