Families on Track Integrated Preventive Intervention Program

Intervention Development and Theory of Change

Background

Fetal alcohol spectrum disorder (FASD) is an umbrella term for a variety of conditions that are associated with prenatal alcohol exposure (PAE). PAE can be associated with facial abnormalities (short palpebral fissures, thin vermilion border of upper lip, smooth philtrum), growth deficiency, abnormal brain growth, structure, or neurophysiology, and/or neurobehavioral impairment (e.g., intellectual functioning, learning, memory, visual-spatial skills, executive functioning, and self-regulation; (Hoyme et al., 2016; Mattson et al., 2011). The specific diagnoses on the fetal alcohol spectrum vary in the combinations of characteristics that are present. This individual variability in features and magnitude of functional impairment are related to complex interactions between the dose and pattern of alcohol exposure and other pre- and post-natal factors such as genetics, nutrition, co-occurring substance exposures, maternal health, and post-natal environment (May et al., 2011; May et al., 2014).

Beyond these proximate impairments, individuals with FASD are also at risk for mental health conditions and other subsequent adverse life outcomes, often referred to as secondary conditions (Streissguth et al., 2004). These secondary conditions manifest across domains of functioning, and can include mental health, school, employment, independent living, and criminal problems. Mental health conditions are prevalent across the lifespan, while other secondary conditions typically emerge during adolescence and adulthood.

The growing evidence-base for interventions for children with FASD is promising but limited (Reid et al., 2015), indicating a need for additional research on effective interventions that improve child and family functioning. An especially important task is identifying effective approaches to prevent the onset or mitigate the severity of mental health problems and secondary conditions. This task was the primary objective in developing what is now called the Families on Track Integrated Preventive Intervention Program.

Theoretical Orientation: Developmental Psychopathology

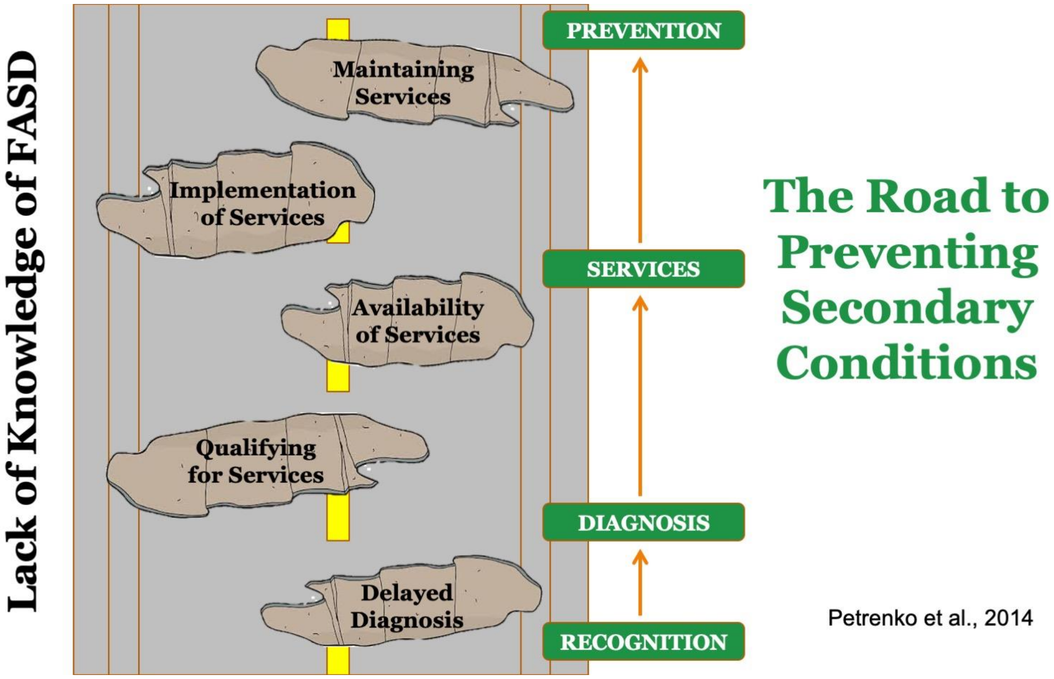
Developmental psychopathology provides a useful theoretical basis for conceptualizing preventive interventions (Cicchetti & Toth, 2009; Toth et al., 2016) and unifies existing theories for FASD interventions (Kodituwakku, 2009; Olson et al., 2009; Petrenko, 2015). From this perspective, preventive interventions target relevant reciprocal transactions among risk and protective factors across ecological levels (e.g., individual, family, community, culture) and multiple levels of analysis (e.g., genetic, neural, physiological, behavioral, interpersonal) to promote more adaptive developmental trajectories. Exerting appropriate, targeted influences to alter a child’s developmental trajectory onto more adaptive pathways enhances the likelihood the child will experience subsequent successful adaptation. As children move from preschool to the early school years, the most salient developmental tasks involve achieving flexible self-regulation and competence in major life spheres such as school and social functioning (Sroufe, 2013). Children with FASD often struggle in these arenas (Kable et al., 2015). This means preventive interventions focused on this crucial developmental period are needed to promote current and future adaptation.

Research and theory suggest important risk and protective factors during these early years relating to development of secondary conditions (Olson & Montague, 2011). In one large, cross-sectional clinical sample, the most salient malleable protective factors related to reduced odds of secondary conditions included an early FASD diagnosis (before age 6), a stable and nurturing home during middle childhood, receipt of appropriate developmental services, and not being the victim of violence (Streissguth et al., 2004). Olson and colleagues (2009) identified additional relevant family-level risk and protective factors including parent-child interaction patterns, caregiver cognitive appraisal, parenting self-efficacy, parent stress, and family resource needs. Community service systems also pose significant risk and protective factors for individuals with FASD, such as their level of awareness about FASD, and the availability, accessibility, and implementation of services.

Needs Assessment Using Qualitative Research

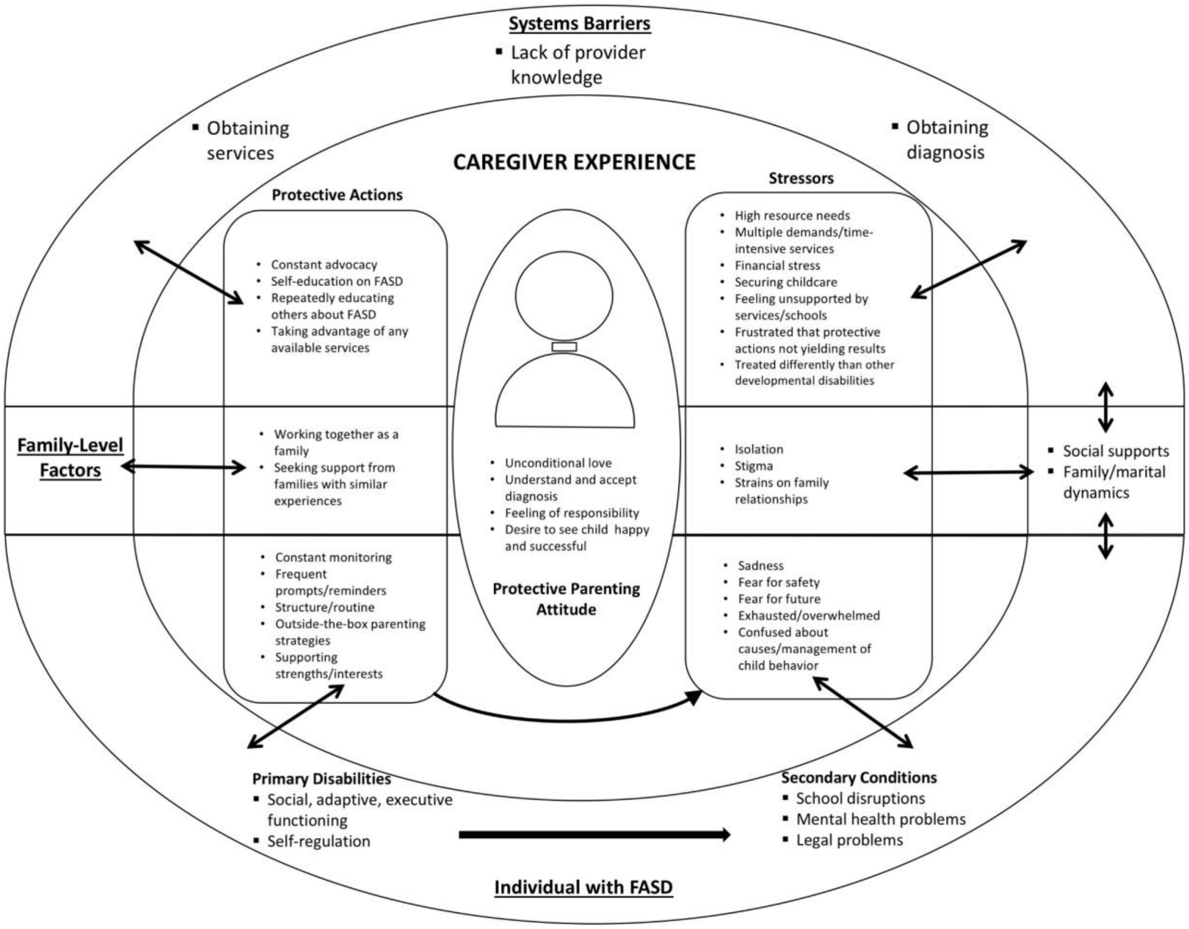
A needs assessment was undertaken using qualitative research methods to inform the development of the Families on Track Program. A series of interviews and focus groups were completed with 25 caregivers raising children and adults with FASD and 18 providers serving this population. Three publications have resulted from this data. Results clearly documented the importance of addressing systems barriers and caregiver needs when developing programs for children with FASD.

The first study (Petrenko et al., 2014a) documented the pervasive lack of knowledge of FASD throughout multiple systems of care. Participants described how this lack of knowledge contributes to multi-system barriers including delayed diagnosis, unavailability of services, and difficulty qualifying for, implementing, and maintaining services. These systems-level barriers were the most discussed topic in all interviews and focus groups.

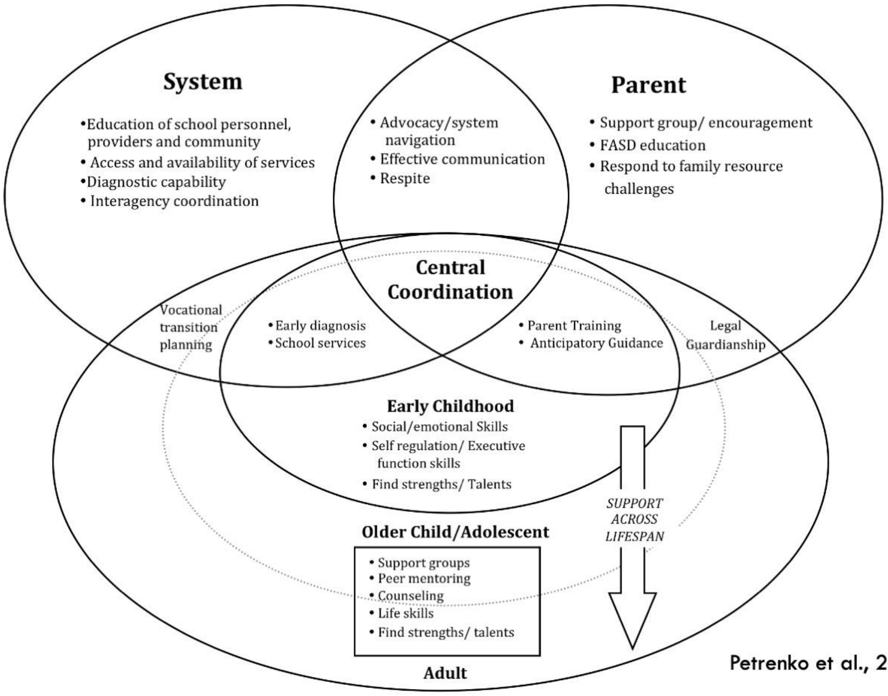


Petrenko et al., 2014

A second publication (Petrenko et al., 2019) described the experiences of foster and adoptive parents raising children with FASD. Consistent with a developmental psychopathology perspective, parents' experiences interacted with the individual (with FASD), family, and broader systems ecological levels. Parents undertook protective actions in an attempt to prevent secondary conditions, support their child and family, and mitigate systems barriers. They also experienced stressors at each level, and stress was increased by protective actions. The overall parenting experience was fueled by a protective parenting attitude. Without understanding the caregiver experience and addressing unmet needs and stressors, interventions with children with FASD are likely to have lower impact.



In the third publication, participants were asked to identify ideal characteristics for people with FASD. They identified that interventions need to consider the "whole person" and provide comprehensive, individualized, and well-coordinated supports to the person with FASD, their family, and across systems to promote successful adaptation. Ideally, services and supports should take a preventive or proactive stance (vs. waiting for a person to fail or symptoms to appear) and be available across the lifespan. Specific strategies and intervention components were recommended (see next figure).



Petrenko et al., 2014b

The Families on Track Integrated Preventive Intervention Program: Selection of Components

The developmental psychopathology and qualitative needs assessment informed the design of the Families on Track Program and selection of components. Given the protective factor of early diagnosis and intervention, the key transition period of school entry was selected (ages 4 to 8). Although identifying children at risk for FASD at birth (or even prenatally) would be ideal, many children do not come to the attention of providers as having learning and behavior difficulties until preschool or school-age. Next, identified risk and protective factors for children, families, and systems were considered and compared with identified needs and existing programs. Two existing programs with empirical support were identified that were a good fit with the theoretical orientation and needs assessment results.

The Families on Track Integrated Preventive Intervention Program targets key risk and protective factors for children with FASD or PAE (ages 4 to 8) and their families to prevent secondary conditions and improve family adaptation. The program begins with a neuropsychological and diagnostic evaluation to promote the protective factor of early diagnosis and to identify the child's neuropsychological profile. Children and their families then receive a 30-week multi-component intervention that integrates two existing empirically-validated programs: the preschool/kindergarten Promoting Alternative THinking Strategies (PATHS) curriculum (Domitrovich et al., 2005) and the Families Moving Forward (FMF) Program for caregivers of children with FASD created by Olson and colleagues (Study #5 in Bertrand, 2009; Olson & Montague, 2011).

The PATHS curriculum was developed for children in grades preK-6 to prevent violence, aggression, and other behavioral problems by promoting social competence (Domitrovich et al., 2005; Kusche & Greenberg, 1994). Found effective with students in regular and special education classrooms, it has been recognized nationally by multiple organizations as a model program (Greenberg et al., 1998). For the Families on Track Program, the pre-K/Kindergarten curriculum was selected to best match the developmental level and attentional abilities of children (ages 4-8) with FASD. The curriculum was delivered over 30 weeks in weekly skills groups that included children with FASD and typically developing positive peer models. Skills taught in the PreK-K PATHS curriculum emphasize self-control, emotional understanding, positive self-esteem, peer relationships, and interpersonal problem-solving skills. These skills are particularly relevant for age-appropriate, crucial developmental tasks, and successful attainment of these skills in childhood are related to better outcomes in adulthood (e.g., Jones, Greenberg, & Crowley, 2015; Moffitt et al., 2011). These skills are also particularly critical to target for children with FASD as they often represent areas of impairment relative to same-aged peers (e.g., Kable et al., 2015; Kully-Martens et al., 2012), and are consistent with the areas identified by caregivers and providers in needs assessment (Petrenko et al., 2014b, Petrenko et al., 2019). Teacher implementation and generalization of skills have been found to be important predictors of improved outcomes in prior PATHS studies in the school environment (Domitrovich et al., 2010; Kam et al., 2003); the Families on Track program teaches caregivers how to generalize PATHS skills at home to promote this finding.

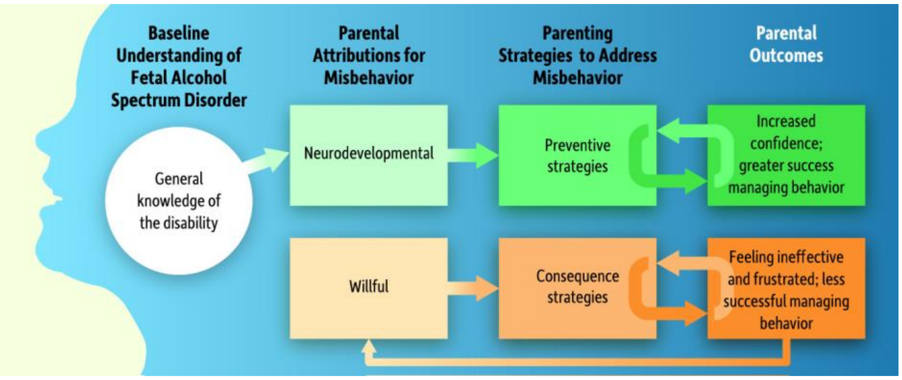
The innovative FMF Program targets relevant individual and transactional family-level risk and protective factors including parent-child interaction patterns, caregiver cognitive appraisal, parenting self-efficacy, caregiving stress, family resource needs, and a factor central to family adaptation: child behavior problems. Targeting these factors promotes a stable and nurturing home and reduces the risk of violence toward the child, which have been identified as universal protective factors against secondary conditions in FASD (Streissguth et al., 2004). Grounded in developmental and family systems theories, the caregiver-focused FMF Program is designed to modify specific parenting attitudes and responses to children’s problem behaviors via integration of a PBS approach taught to families, cognitive behavioral strategies, and motivational interviewing (Bertrand, 2009; Olson et al., 2009; Olson & Montague, 2011). By helping caregivers interpret their children’s behavior from a neurodevelopmental perspective (called “reframing” in FMF), it is theorized they will develop a more positive and realistic appraisal of the child, use more effective antecedent-based behavioral strategies to promote adaptive child functioning and decrease challenging behavior, and feel more efficacious as a parent. The FMF Program was found to be acceptable to caregivers and clinicians, and significantly met important, unmet family needs in previous trials (Bertrand, 2009). Intervention families also demonstrated increased knowledge of FASD and advocacy skills, specific caregiving attitudes (including positive appraisal of the child and parenting efficacy), increased self-care, use of targeted parenting practices, and decreased child disruptive behavior (Bertrand, 2009; Olson & Sparrow, unpublished presentation 2016). The FMF Program also includes targeted consultation with the child’s school and other community providers, and efforts to link families with appropriate community services and supports. These components of the FMF Program target transactional risk and protective factors between families and service systems relating to FASD knowledge and advocacy, and the accessibility and implementation of services.

Consistent with the theme of central coordination in the needs assessment, the FMF Specialist working with each family serves to integrate the two components of the program. The FMF Specialist working with the family is also typically the child's skills group leader. In the case in which the FMF Specialist is not the child's group leader, the FMF Specialists should be involved in weekly group supervision and be well informed about the skills being taught and the progress of the child from the family on their caseload. The FMF Specialist then reviews with caregivers the skills children are learning in group and discusses ways to best generalize these skills within the home environment. FMF Specialists also consider careful observations from child skills groups when assisting parents with developing behavior plans for the child. Through the FMF Program component, the FMF Specialist also interfaces with systems of care involved with the family, such as school and other community providers.

Additional Research Supporting Aspects of the Theory of Change

As discussed above, one of the aims of the FMF Program is to help parents develop a more positive and realistic appraisal of the child, use more effective antecedent-based behavioral strategies, and feel more efficacious as a parent. Recently, a mixed-methods study using cross-sectional data found support for this proposed theory of change (Petrenko et al., 2016). Analysis revealed two distinct patterns distinguished by caregivers who attributed children's misbehavior to neurodevelopmental disabilities compared to those who attributed misbehavior to willful disobedience. Caregivers who provided neurodevelopmental attributions for misbehavior were more likely to use antecedent strategies for preventing misbehavior based on their knowledge of their children's disabilities. These parents were also less likely to use punishment strategies (e.g., time out, removal of privileges, spanking) for misbehavior and focused more on calming or redirecting their children when they were upset or dysregulated. They also reported using rewards (e.g., sticker charts, praise, tangibles, extra time with parent) to reinforce positive behavior and described greater success and confidence in parenting. Families who had greater knowledge about FASD were more likely to give neurodevelopmental attributions.

In contrast, caregivers who attributed their children's misbehavior to willful disobedience described little to no use of antecedent strategies and were likely to rely primarily on consequence strategies. These caregivers reported more severe punishments and used them more frequently than caregivers with neurodevelopmental attributions for behavior. Caregivers making attributions about their children's misbehavior as willful also tended to use rewards to reinforce positive behavior, but described feeling less successful in managing behavior. They also reported feeling ineffective and frustrated with their children's behavior.



Further supporting this model, results from a pilot trial of the Families on Track Program found medium to large effects for FASD knowledge, parent attributions for misbehavior, use of accommodations, and parenting efficacy immediately post-intervention, relative to families in the comparison group (Petrenko et al., 2016). A 6-month follow-up assessment revealed gains in FASD knowledge were maintained and parenting efficacy continued to increase (attributions and accommodations were not assessed at the 6-month follow-up; Petrenko et al., 2019).