Paternal Mental Health: Why Is It Relevant?

Abstract: *Father's mental health is an emerging area of interest that is beginning to be recognized in research, and to a lesser extent in clinical practice and society. Fathers are part of a parenting dyad with 2 partners who are responsible for their children's emotional development. Similar to mothers, the risk for mental health problems increases once a male becomes a father, but there is limited research examining this issue. The purpose of this review is to present the available literature on father's mental health and its effect on child emotional health through various mechanisms. In general, father's mental health was found to be related to increased child internalizing and externalizing behaviors, but each disorder had different risk factors, and a unique effect on parenting behaviors and the child's emotional health. The most developed paternal mental health literature is focused on depression. However, key conceptual and methodological problems exist that may limit our understanding of paternal depression. Additionally, the focus on paternal depression may not accurately represent the largest risk for paternal psychopathology and the resultant child mental health outcomes because men have an increased likelihood of displaying externalizing*

behaviors. Implications for research, clinical practice, and policy are discussed.

Keywords: fathers; mental health; child behavior; parenting

Paternal mental health is a neglected, but important, topic in the child developmental literature. This literature review outlines the contribution of fathers' mental health to

deterrents or barriers to father involvement. The transition to fatherhood is a life-changing experience for males of reproductive age that continues throughout their lives. Fatherhood has major implications for the man, his children, and the family unit. Fathers can have a direct, positive influence on their children's health and have a unique contribution to the parenting system. Father involvement has been linked to positive child mental and medical health outcomes from pregnancy to childhood that persists through adulthood.²⁻⁴ When

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their children's emotional development. Fathers have become progressively more involved and integrated into the parenting roles due to women/mothers' increasingly active role in the workforce; the change in culture about masculinity, men, and fatherhood; and growing equality in gender roles.¹ The increase in father involvement exists despite some social norms (eg, father as a secondary parent) and national policies (eg, lack of paternal leave, lower likelihood to receive custody) that may serve as

the mother's ability to parent is impaired, fathers tend to function as a buffer between negative maternal behaviors and potential negative impacts on child outcomes.^{5,6} On the other hand, paternal mental health problems can dampen a father's ability to engage effectively with his child. Just as in a mother's case, a father's mental health problems can be preexistent or onset concurrently with parenthood. The father's vulnerability to mental health problems can be influenced by multiple, diverse predictors

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including, but not limited to, genetic, psychological, socioenvironmental, and potentially even biological factors. In sum, mental health problems during fatherhood may be influential in the father's ability to fulfill his (co-)parenting role and function in general.

The purpose of this review is to discuss the literature on *paternal* mental health and its relation to child mental health and parenting behaviors. A structured search was conducted in Google Scholar for articles of studies that examined fathers with mental health disorders/symptoms and the relation with either fathers' parenting behaviors or child mental health outcomes. The search included the combination of the terms "father" and "paternal" with the following mental health disorders: depression, anxiety, bipolar disorder, posttraumatic stress disorder, obsessive compulsive disorder, and substance use and externalizing behaviors. The search did not provide any literature on fathers in same-sex relationships or single fathers; therefore, this review is limited to fathers in opposite-sex relationships. Due to the limited availability of studies examining paternal mental health, the review of each disorder has variable breadth of coverage of the prevalence of the disorder; the impact on the father, child, and family unit; and its relation to father's parenting behaviors. The literature review is organized by each major mental health disorder/syndrome in separate sections to highlight the unique effects of each disorder on fathers' parenting and child mental health. The literature discussed will inform suggestions for future research, clinical practice, and national policy involving fathers.

Depression

Major depression includes symptoms of sadness/low mood and/or anhedonia that are accompanied by cognitive, emotional, and vegetative symptoms that impair functioning. Although father mental health has rarely been examined in comparison to mothers, the most extensive work has been on postpartum

and subsequent depression. Paternal postpartum depression occurs in 10% of men between the first trimester and the first year postpartum,⁷ with the highest rate occurring 3 to 6 months postpartum. The rate is substantially higher than the general public (~5%) who are of parenting age. The paternal postpartum depression rate is approximately half the rate of maternal postpartum depression (21.9% of mothers over the first postpartum year⁸), which reflects the 1:2 ratio of depression in the general population of men and women.^{9,10} Based on the number of births per year, this rate translates to approximately 400 000 fathers with elevated postpartum depressive symptom levels per year. Garfield et al conducted a 23-year longitudinal study of the depressive symptoms in a sample of 10 623 males across 4 life stages: adolescence, late adolescence, early fatherhood, and late fatherhood.¹¹ Fathers living in the home were found to have increasingly heightened depressive symptoms during the first 5 years postpartum compared to the years preceding fatherhood. Therefore, the initial transition to becoming a father is difficult, which may be the result of multiple psychosocial factors. On the other hand, fathers not living in the home of their child experienced a steady decrease in depressive symptoms during the first 5 years postpartum and none of the life stages were statistically different from one another.¹¹ The contrasting findings for residential and nonresidential fathers suggest that the context of direct contact with a child in the family environment contributes to the risk of depression for vulnerable fathers.

Several key factors may contribute to the rates of depression in fathers. First, paternal and maternal depression are comorbid, with the risk of paternal postpartum depression being substantially higher when the mother is depressed.^{5,7,12-20} Assortative mating, picking a mate based on similar phenotypes, may have a role in the increased likelihood of both parents being depressed.^{21,22} Second, a history of depression, including depression during

the postpartum period, places a father at long-term risk for further depressive symptomatology throughout their child's life.^{12,15-17,23} In general, the risk of recurrence for depression is high once an individual has a first episode (50%) and even higher if an individual has 2 episodes (80%), which will likely occur within the first 5 years of the initial episode.²⁴ Pregnancy and raising a child is a stressful life event due to the personal (eg, role changes), interparental (eg, changes in the father-mother relationship), social (eg, impact on extrafamilial relationships), and financial (eg, child care costs) impact on a parent and the stressful life events that co-occur with being a parent. Stressful life events are risk factors for the onset and recurrence of depression²⁴ and thus potentially contribute to the rates of recurrence of depression in postpartum fathers. In fact, the highest rate of depression in men is during the childrearing ages, parallel to women who have the highest prevalence during these years.^{25,26}

It is important to note that the differences in the rate of depression in fathers and mothers may not be fully accurate. Gender-bias depression research suggests that rates of depression in men and fathers are underestimated. Men are more likely to underreport the traditional symptoms of depression (eg, sadness) due to the cultural conceptions of masculinity imposed on and internalized by men.²⁷⁻³⁰ Thus, the current diagnostic criteria for major depressive disorder may have a feminine bias, which suggests that both men and women experience depression, but men may express their experiences differently.^{31,32} Men tend to not report or express their depression in a linear, traditional manner, but may engage in avoidant, escape, or numbing behaviors (eg, aggression, suicide, addiction) to express and cope with their emotional distresses.³³

There are several theoretical explanations for the masculine expression of depression. The sex differences framework states that depression is the same for men and

women, but there are differential behaviors based on sex differences.³⁴ The masked depression framework states that the manner in which men experience, express, and respond to depression is based on Western cultural gender socialization.³⁴ The masculine depression framework incorporates the influence of socialization of masculinity in the theory but considers “masculine depression” as a phenotype of traditional depression rather than a “masked” traditional depression.³⁴ The gendered responding framework extends the impact of masculinity beyond depression to negative affect in general and incorporates key elements of response styles theory.³⁴ In short, men are less likely to ruminate in response to distress, which decreases the likelihood of experiencing traditional depressive symptoms. In fact, studies have shown that sex differences in depression were eliminated by controlling for male and female rumination.³⁴⁻³⁶ Furthermore, clinicians and clinical measurements are less effective in diagnosing depression in men than women due to a gender bias.^{32,37,38} More recently, several measures of masculine depression were developed that attempt to account for the deficit of male experiences in the assessment of depression: Masculine Depression Scale,³⁹ Male Symptoms Scale,⁴⁰ Gender Inclusive Depression Scale,⁴⁰ Male Depression Risk Scale,⁴¹ and Gotland Male Depression Scale.⁴²

Paternal depression is associated with maladaptive parenting behaviors toward children and negative child outcomes. A meta-analysis by Wilson and Durbin found that paternal depression was associated with increased negative parenting (eg, psychological control, hostility, intrusiveness) and decreased positive parenting behaviors (eg, affection, positive involvement, supportiveness). The effect sizes of the relation between father's depression and parenting were comparable to findings in mothers.⁴³ Direct exposure to paternal depression and indirect exposure through negative parenting behaviors can lead to child mental health problems. The developmental literature typically

separates child mental health into 2 dichotomous outcomes: internalizing behaviors and externalizing behaviors.⁴⁴ Child internalizing behaviors are negative behaviors or emotions directed toward oneself that include symptoms of sadness, anxiety, and physical manifestations of his/her emotions (eg, stomach aches). Child externalizing behaviors are negative behaviors directed toward others or the environment that include aggression, oppositional behaviors, destruction of property, illicit behaviors (eg, stealing), or other misbehavior. Substantial evidence supports the association between paternal depression and elevated levels of child internalizing and externalizing behaviors.^{15-17,45-54}

Fathers' depression can affect their children's mental health starting from infancy. Dave, Nazareth, Sherr and Senior (2005)⁵⁵ found an association between paternal postpartum depression and negative infant temperament, which is the foundation for future child internalizing and externalizing behaviors.^{55,56} Paternal depression at the postpartum period has been shown to predict future child internalizing and externalizing behaviors 3 years^{15,16,54} and 7 years after childbirth,¹⁷ after controlling for maternal depression. Hanington et al¹⁵ found marital conflict to be a mediator in this longitudinal relationship, whereas Fisher et al²³ found paternal depression 3 years after birth, rather than marital conflict, to be a mediator. Furthermore, Ramchandani et al¹⁶ controlled for later paternal depression and the relation between paternal postpartum depression and child behavior remained significant. The findings from this group of studies emphasize the importance of the father's depression early in the child's development.

There is also evidence that depression in fathers during their offspring's childhood is associated with their offspring's mental health during the transition to adulthood. Recently, Reeb et al⁴⁶ conducted a study of fathers' depression during their children's early adolescence and the offspring's future

internalizing behaviors. Fathers' depression was associated with the offspring's depressive and anxiety symptoms at 21 years of age, which shows that the impact of paternal mood experienced by offspring during childhood may have a lasting effect into the offspring's childbearing age (national average age of fathers at first child's birth: 25).⁵⁷ Although genetic risk factors may explain the longitudinal relation between father's depression and offspring internalizing and externalizing behaviors, Pemberton et al's⁵⁰ study of fathers of adopted children provides preliminary evidence to support the longitudinal environmental risk of exposure to a depressed father rather than genetics. In summary, fathers' depression is manifest in traditional or masculine forms and impact fathers' parenting abilities, interparental relationship, and, ultimately, children's internalizing and externalizing behaviors, starting in the postpartum period.

Bipolar Disorder

Bipolar disorder is a mood disorder that includes symptoms of mania, hypomania, and, in most cases, depression. The (hypo)manic symptoms include euphoric/energetic or irritable experiences and behaviors that tend to be irrational and difficult to control. As a result, bipolar disorder in fathers can have an impact the stability of interparental and parent-child relationships and ultimately child emotional health. A dearth of research exists on the occurrence and impact of paternal bipolar disorder within the family context. Tavares Pinheiro et al⁵⁸ examined 739 fathers for the incidence of manic, hypomanic, and mixed episodes using the Mini International Neuropsychiatric Interview at the third trimester, 1 to 2 months postpartum, and 12 months postpartum. At each respective time point, incidence of manic episodes was 2.1%, 3.4%, and 3.5%, hypomanic episodes was 4.7%, 3.3%, and 0.9%, and mixed episodes was 3%, 1%, and 0.9%,⁵⁸ which is higher than the rate of bipolar disorder in the general

population.^{59,60} Further examination of the rate of paternal bipolar disorder would be informative because the offspring have an increased risk of developing bipolar disorder (odds ratio = 8.07; 95% confidence interval = 3.77-17.26),⁶¹ and other mood, anxiety, and externalizing disorders.⁶²⁻⁶⁴ The risk for bipolar disorder in offspring is primarily accounted for by the high heritability through parental genetic traits, rather than shared family environmental factors,⁶⁴ but more research on the prevalence of paternal bipolar disorder would help ascertain the genetic risk for this disorder in subsequent generations. In addition, it is essential to assess the rates of bipolar spectrum disorder given the increased lifetime prevalence when subthreshold levels are included.⁶⁰ Subthreshold paternal bipolar disorder symptoms may still have a risk for genetic transmission and an overall impact on the father's engagement with the family.

Bipolar disorder in fathers and mothers affects parenting behaviors, ability to attach with a child, and self-efficacy as a parent,⁶⁶⁻⁶⁸ but the effects have not been differentiated based on parental gender. Given that men are more prone to externalizing behaviors during mood disturbances and display unique parenting styles, we must understand the gender-specific parenting behaviors of fathers with bipolar disorder. Finally, maladaptive caretaking behaviors of parents with bipolar disorder are associated with child internalizing and externalizing behavior problems,⁶⁷ but the research on the psychosocial impact on children is limited. In sum, the limited available research suggests that fathers have an increased incidence of (hypo) manic episodes after having a child, which in turn affects child behavior through impaired parenting behaviors, but there are insufficient data to ascertain the unique effects on father parenting behaviors and child mental health.

Anxiety Disorder

Few studies have examined paternal anxiety compared to the paternal

depression literature, although depression and anxiety are highly comorbid.^{69,70} Anxiety includes symptoms of worry, fear, rumination about the future, physical symptoms (eg, nausea), and impaired cognitive functioning (eg, difficulty concentrating). Evidence supports the notion that fathers are at risk for elevated levels of anxiety symptoms during pregnancy,⁷¹⁻⁷³ the postpartum period,⁷⁴ and throughout the child development,⁷⁵ with levels of anxiety being comparable to mothers.⁷² Matthey et al highlighted the limitation of the perinatal mental health research that focused solely on depression.⁷⁴ Matthey et al evaluated the rate of anxiety in 2 samples ($N = 196$; $N = 160$) and found that 9.7% and 4.4% of fathers had pure anxiety, respectively, with 11.7% and 6.3% having mixed anxiety and depression.⁷⁴ The authors found that the inclusion of anxiety disorders in diagnostic interviews substantially increased the rate of paternal postpartum mental illness detected (31% to 130% increase) and provided a more accurate depiction of the adjustment difficulties that occur postpartum.⁷⁴ Thus, the inclusion of anxiety provides a more comprehensive assessment of fathers' mental health and the contribution of the father in the family environment.

The few studies examining the socioenvironmental risk factors for paternal anxiety have involved special populations. For example, fathers of children with a chronic illness (eg, cystic fibrosis) have higher rates of elevated anxiety.⁷⁶⁻⁷⁸ Likewise, fathers of infants with very low birth weights in the neonatal intensive care unit were at risk for increased anxiety due to low social support and poor marital quality more than the direct stress of the infant's medical health.⁷⁹ Fathers with coparents who have mental health illnesses (community, outpatient, psychiatric hospital) tend to experience elevated anxiety symptoms, including worry about their partners' mental health and their families' well-being.^{73,80,81} Further research on risk factors for paternal anxiety will help explain the risk for anxiety and differentiate risk factors for

state (transient, situational) versus trait (characteristic, long-term) anxiety symptoms.

Paternal anxiety is positively associated with child internalizing and externalizing behaviors^{45,80,82} and other psychiatric disorders (eg, pediatric bipolar disorder).⁶¹ Breaux et al evaluated the longitudinal impact of paternal psychopathology at toddlerhood (3 years old) on child internalizing and externalizing behaviors that were assessed yearly from baseline until the child was 6 years old. Paternal anxiety mixed with depressive symptoms was predictive of mother-rated child internalizing and externalizing behaviors up to 6 years old.⁸² The use of a cross-informant report of child's behavior provided a more conservative estimate of the relation between paternal mental health symptoms and child behavior, which emphasizes the magnitude of the relation. Cimino et al⁸⁰ also examined the longitudinal relation between paternal anxiety at toddlerhood and child internalizing behaviors at 3 and 6 years old. Paternal anxiety predicted child internalizing behaviors at both time points after controlling for a collection of maternal mental health symptom dimensions, including somatization, obsessive-compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism. Moreover, paternal anxiety symptoms were predictive of adolescent externalizing behaviors, after accounting for paternal depressive symptoms.⁴⁵ Paternal anxiety is not only a risk factor for child mental health but also may be a barrier to child recovery during treatment. Liber et al assessed the treatment response of children with anxiety disorders in a stepped care treatment protocol that used the empirically supported, cognitive behavioral model and examined the treatment response in relation to father's anxiety symptoms.⁸³ High levels of paternal anxiety were associated with partial or nonrecovery of child anxiety disorders.⁸³ Similarly, Rapee conducted a clinical trial to treat child anxiety disorders that resulted in worse child

treatment response at posttreatment and 12-month follow-up when the father had elevated anxiety levels at pretreatment.⁸⁴

Father's parenting behaviors help explain the association between parental anxiety and child behavior outcomes. Paternal anxiety is associated with fathers' direct (eg, communication, affection) and indirect (eg, modeling) parenting behaviors toward their children.⁸⁵ Paternal anxiety symptoms are associated with overinvolvement and impaired parenting behaviors as early as infancy.⁸⁶ Fathers tend to be overprotective and overcontrolling of their infants' behaviors and environment to the point that the parenting becomes pathological. Fathers' overinvolved parenting style is associated with infants displaying increased levels of anxious behaviors.⁸⁶ Anxiety places fathers at risk to continue to display this overinvolved parenting style when their children are older during developmental stages that normally encourage more independence. Fathers' anxious parenting, overinvolvement, and overprotection has been found to predict increased child anxiety, even after accounting for mother's anxiety and anxious parenting behaviors.⁸⁷ The aforementioned Liber et al study found that anxious father's overprotective, anxious rearing, and parental rejection predicted poor treatment outcomes of anxious children in a treatment protocol.⁸³ To summarize, a longitudinal relation between paternal anxious symptoms and an increased risk for children to develop psychopathology is evident throughout a child's lifespan. Fathers with anxiety tend to engage in anxious, overinvolved parenting behaviors, which are established to model and elicit anxious behaviors in children.^{88,89}

Posttraumatic Stress Disorder

A small body of research has examined posttraumatic stress disorder (PTSD) diagnosis and symptoms in fathers. PTSD is a mental health condition that is caused by experiencing or witnessing a traumatic event that results in intrusive

memories, avoidant behaviors, negative mood and cognitions, and an augmentation of arousal. The cluster of symptoms can impact a broad spectrum of paternal functioning, including parenting behaviors, which affects child mental health. The majority of PTSD studies have focused on 3 types of traumatic events pertinent to fathers: witnessing a difficult birth, traumatic event experienced by the whole family (eg, child serious medical illness), and exposure to war.

Perinatal PTSD research has focused on instances when childbirth is stressful and traumatic for mothers, with approximately one third of mothers classifying it as traumatic^{90,91} and one fourth of mothers with "normal" births experiencing at least one clinically significant dimension of PTSD.⁹²⁻⁹⁵ Although fathers do not directly experience parturition, fathers can develop PTSD symptoms from witnessing a difficult birth and the fear of death or injury of a partner or infant.⁹⁶⁻⁹⁹ In a sample of 64 couples, Ayers et al found that 5% of fathers experienced severe PTSD symptoms of intrusions and avoidance 9 weeks after the birth of their children, which was the same rate as mothers.⁹⁶ The levels of intrusions ($r = .37$) and avoidance ($r = .50$) were correlated between fathers and mothers.⁹⁶ Complications with the birth and negative emotions experienced during the birth were the best predictors of PTSD symptoms in fathers.⁹⁶ Fathers who develop PTSD symptoms during the postpartum period are at risk for an impaired father-infant bond and poorer quality of the interparental relationship.^{98,99} Moreover, paternal postpartum PTSD is associated with infant outcomes, including infant difficulty and lower infant passivity.¹⁰⁰

Fathers can have their own unique experience and reaction to traumatic events that affect the entire family, including a family with a child with a medical illness and a family that experiences a disaster. First, a father can be traumatized by a child being diagnosed with a serious, life-threatening, or life-limiting illness.¹⁰¹⁻¹⁰³

Ribi et al found that fathers had elevated rates of PTSD at the point when their children were diagnosed with serious medical illnesses (ie, cancer, type 1 diabetes mellitus, epilepsy) and at the point when their children suffered unintentional injuries (26%, 12%, respectively), and 6 months later (21%, 6%, respectively).⁹⁹ The severity of fathers' symptoms was more elevated when children had medical illnesses than unintentional injuries.¹⁰¹ In particular, fathers of children with cancer tended to have prolonged, elevated symptoms, which may be a result of fathers witnessing their children endure repeated painful treatments and the aftereffects of the treatments. Prolonged paternal PTSD symptoms over a 6-month period were associated with the child's poor functional status (physical impairment, impaired daily activity), poor paternal coping skills, and the child having a chronic illness.¹⁰¹ Similarly, Landolt et al found that fathers are at risk of meeting full criteria of PTSD after their children's diagnoses of a serious medical illness (cancer, type 1 diabetes mellitus) or a serious accident (16%).¹⁰² Although accidental injury was most traumatic to the child, the functional impairment of the child and a diagnosis of cancer were the strongest predictors of fathers' PTSD symptoms.¹⁰² Second, fathers, like the other members of the family, are at risk for PTSD when experiencing a natural or man-made disaster.¹⁰⁴⁻¹⁰⁶ Children exposed to a natural disaster experience more severe PTSD when their fathers also have PTSD and severe depression compared to the mothers' response to the trauma.¹⁰⁴ Fathers with PTSD are inclined to engage in more externalizing parenting behaviors (irritable, detached, corporal punishment) in comparison to mothers, which may explain the stronger impact fathers' PTSD may have on their children's mental health.^{104,105}

Fathers who are veterans of war are at high risk for PTSD due to the experiences of (1) their life being threatened, suffering serious injury, or being at threat of being killed/injured; (2) witnessing others being killed/injured or at risk for being killed/injured; or (3) being a prisoner of war.

Fathers with PTSD from war tend to have children with elevated levels of depressive, anxiety, behavioral, and social problems¹⁰⁷⁻¹⁰⁹ at home and school compared to community samples.¹¹⁰ One study provided evidence that the child's sex and age may be a determinant of the type of elevated behavioral problems displayed in response to paternal PTSD: preadolescent girls had more somatic complaints and aggression, whereas adolescent girls had more depressive symptoms; preadolescent boys were more anxious, whereas adolescent boys had somatic complaints and hyperactivity.¹⁰⁸ Children's increased risk for emotional and behavioral problems may be due to increased likelihood of impaired parenting in veterans with PTSD. Children of male veterans with PTSD reported more negative family functioning, impaired father-child bonding, and fathers being overcontrolling/overprotective in comparison to children of male veterans without PTSD.¹⁰⁹ Furthermore, children of male veterans with PTSD are more likely to experience emotional and physical neglect compared to children of male veterans without PTSD and those without exposure to war, but less likely to experience physical abuse than children of male veterans without PTSD.¹¹¹

Prisoners of war (POW) are a subgroup of veterans who have a higher likelihood of experiencing maltreatment, torture, malnutrition, and mental suffering compared to non-POW veterans, in addition to typical combat exposure, and as a result, are more likely to have PTSD.¹¹² Zerach et al conducted a 17-year longitudinal study of POW fathers and their parenting behaviors toward their offspring starting in childhood and followed them through young adulthood. Fathers who were POWs had lower levels of positive parenting behaviors (proximity, sensitivity, cooperation, less overinvolvement) toward their children compared to non-POW veterans.¹¹³ Fathers' PTSD symptoms mediated the relation between the type of veteran (POW, non-POW) and lower positive parenting behaviors at Time 1 (18 years

after the war), Time 2 (30 years after the war), and Time 3 (35 years after the war).¹¹³ In sum, this research shows the environmental and familial risk factors for fathers to develop PTSD. The familial risk factors for paternal PTSD center on the health and safety of their children, whereas the biggest environmental risk factor is war. Paternal PTSD affects fathers' ability to functionally parent their children, irrespective of the cause of the posttraumatic symptoms.

Obsessive-Compulsive Disorder

Paternal obsessive-compulsive disorder (OCD) is perhaps the most underresearched of the paternal mental health disorders. OCD is characterized by repeated, intrusive thoughts/images (obsessions) and/or repetitive/ritualistic behaviors that reduce anxiety (compulsions). The obsessions and compulsions must cause significant distress and be difficult to control. There are no available data on the prevalence of OCD in fathers, but some evidence that paternal OCD is associated with maladaptive parenting. Yoshida et al found that fathers with OCD or depression with severe obsessive traits were significantly more overprotective toward their children than fathers with no obsessive traits or depressed with mild obsessive traits.¹¹⁴ This finding is supported by Wilcox et al's study that found paternal overprotection was associated with an 80% higher odds of OCD in fathers.¹¹⁵ Insufficient evidence is available to draw conclusions about the impact of paternal OCD on parenting behaviors and child mental health, but the available evidence and the comorbidity of OCD and depression¹¹⁶ suggest that parenting and child outcomes are likely to be affected.

Substance Use and Other Externalizing Behaviors

Paternal externalizing behaviors can be disruptive to the family environment and have a negative impact on child development and emotional health.

Externalizing behaviors and disorders include substance and alcohol abuse/dependence, antisocial personality disorder, aggressive or destructive behaviors, and other acting out behaviors. The lack of focus and inclusion of externalizing is problematic because men have a higher likelihood of engaging in externalizing behaviors than women, which is a gender gap that begins in adolescence and extends throughout adulthood when males can become fathers.¹¹⁷⁻¹¹⁹ The parenting literature focuses on internalizing disorders primarily as an artifact of the focus on mothers, which results in focusing on disorders that women are more prone to experience. Research on externalizing behaviors exhibited by fathers has principally focused on alcohol and substance use despite the broad range of externalizing behaviors. This may partially be the product of the limited number of *DSM* diagnostic categories that encompass externalizing behaviors and the lack of focus on parental personality disorders (eg, antisocial) in the developmental literature. Due to the lack of research on paternal externalizing behaviors/disorders and the broadness of the category, there are not any data on the prevalence. Two main paternal externalizing behaviors will be discussed separately: substance/alcohol use and antisocial behaviors/personality disorder.

Fathers who are alcohol/substance abusers or dependent are likely to have a child with internalizing and externalizing behaviors, aggression, oppositional behaviors, conduct disorder, attention deficit hyperactive disorder symptoms, alcohol use problems, and/or deficits in interpersonal communication skills.¹²⁰⁻¹²⁶ The effect of fathers' substance use may be sensitive to the age of exposure of their child. Moss et al found that fathers' cessation from substance use prior to age 6 prevented their sons' from being at risk of developing behavioral problems, but continued paternal substance use beyond that age resulted in child internalizing and externalizing behavior problems.¹²⁴ In addition, maternal mental health may have an influence on the effect of

paternal substance use on the family. Two studies found that the interaction between paternal substance use and maternal internalizing and externalizing mental health increased the risk that their child will be reared in a negative family environment¹²⁷ and have resultant mental health problems.¹²⁸

Children of fathers with antisocial personality disorder are more likely to have oppositional defiant disorder, conduct disorder, antisocial behaviors,^{75,129} and spend time with deviant peers.¹³⁰ Harold et al found that father-child hostility mediates the relation between a father's and the child's antisocial behavior.⁷⁵ Paternal general antisocial behavior permeates the parent-child relationship, which begets misbehavior in the child. There is also limited evidence to suggest that being reared by fathers with externalizing behaviors (ie, substance abuse, domestic abuse) is associated with their adult male offspring displaying externalizing behaviors (ie, domestic abuse, suicide attempts).¹³¹ The longitudinal relation between fathers' and their adult sons' antisocial behavior demonstrates the perpetual familial cycle of externalizing one's emotional distress due to genetics, learned behavior, and lack of healthy coping and interpersonal behaviors. In summary, father externalizing disorders and behaviors are diverse but tend to have an effect on child mental health, with a particular impact on child externalizing behaviors. More research on fathers' syndromal and subsyndromal externalizing behaviors would account for the higher risk in fathers and address the impact on the fathers' parenting roles and their children's emotional development and long-term psychopathology.

Discussion

The review highlights the importance of father's mental health for their own well-being, their offspring's health, and the stability of the family environment, but also the limited data available to better understand the father's experience that starts in the prenatal period and

continues throughout the child's life. The depression literature has the largest number of studies in comparison to the other psychiatric disorders, with the strongest methodological vigor and theoretical basis. However, the literature suggests that fathers experience a wide range of psychiatric symptomatology during parenthood that can have a direct or indirect impact on their children's mental health. Unfortunately, there are limited data of the prevalence and the trajectory of father's psychiatric symptoms that would provide information on the sensitive periods for new onset or increased symptoms of paternal mental health and the types of psychopathology to which children are exposed at various developmental stages. For example, Garfield et al's¹¹ study provides a distinct sensitive period for elevated depressive symptoms in residential fathers during the first 5 years postpartum in comparison to nonresidential fathers. It is clear that the psychosocial experiences of becoming a father accompany a level of stress and certain fathers are vulnerable to manifest their distress through internalizing or externalizing behaviors. Paternal psychopathology can be transmitted to the child through genetics and exposure to the father's clinical presentation, and also through maladaptive parenting behaviors, parent-child interactions, interparental functioning, family dynamics, and the increased risk that their coparent will have a psychiatric disorder. Notably, each psychiatric disorder has been shown to influence the father's ability to parent effectively. This has major implications for future research and clinical interventions that aim to protect child health from father's psychiatric health.

Future Directions

The previous literature highlights the importance of paternal mental health on their children's mental health, and also reveals directions for future research. For one, fathers are an equal part of the parental unit, and therefore, the contribution of their mental health

should be regularly considered in theoretical frameworks of parental mental health and developmental research. In addition, parental mental health literature has focused on depression because mothers are at more risk of developing these symptoms compared to fathers (2:1), whereas fathers may be more inclined to display externalizing behaviors in response to distress than mothers. An acknowledgement of the differential manifestation of depression in men is lacking in paternal depression research, but recognized as a problem in clinical assessment of men.^{132,133} A partial assessment of a father's depressive experience leads to a limited understanding of the contribution of father's mood to the family environment and child development. Furthermore, paternal mental health research heavily focuses on depression, but additional studies on other mood (eg, bipolar disorder) and anxiety disorders (eg, generalized anxiety disorder) are warranted because of the demonstrated impact on parenting and child mental health.

Parental mental health research should expand beyond the movement to merely include fathers in research to redefining parental mental health to not be hierarchically based on parental gender. Father mental health research has mirrored the research conducted on mother mental health rather than examining the unique presentation and experiences of fathers that differentiate the symptom profile. Therefore, research on father's mental health should include an inductive exploration of psychological, socioenvironmental, and biological experiences of fathers rather than solely deductive empirical investigation from the biopsychosocial experiences of mothers. For instance, parental role differences based on biological sex and cultural gender expectations have gender-specific effects on the parenting experiences and the risk for mental health problems. Mothers directly experience pregnancy/childbirth and traditionally have more contact with the child during the early development (eg, breastfeeding, primary

caretaker role, maternity leave), while fathers are culturally considered as a secondary parent (ie, perspective/contribution devalued) and have relatively less contact, although this is improving. The unique experiences of fathers and mothers may have differential effects on parental psychological stress. Congruent with this gender-specific approach, barriers to accurate diagnosis of male depression and other disorders must be addressed. Additionally, parallel analysis of both parents affords the unique opportunity to parse the key paternal and maternal experiences that are associated with child mental health. If parental health research is reconceptualized to *integrally* involve fathers, parallel examination of both parents will help differentiate the etiology, course, and potential interactivity of paternal and maternal mental health and the longitudinal associations with child health. Finally, the growing numbers of less common father parenting structures (eg, single father, same-sex fathers) need to be included in the parenting research to understand the unique experiences, risks for psychopathology, and parenting that may affect their children.

Implications

Several, major implications can be drawn from the literature reviewed. First, many states require maternal depression screening, but fathers are not included in the screening process. Paternal mental health has an impact on child health and the family environment after accounting for maternal mental health, which suggests that perinatal mental health screening should include fathers. Fathers do not always attend well child visits with the pediatrician, so innovative ways to screen for paternal depression are required. For instance, Fisher et al adapted the Edinburgh Postnatal Depression Scale to be completed by mothers about their partner's depression symptoms. The adapted Edinburgh Postnatal Depression Scale was found to be a reliable and valid first-wave screen of paternal depression.¹³⁴ Furthermore, more global awareness of paternal mental health needs to be publicized to encourage assessment and

treatment. Second, policies and the health care system need to provide an environment that encourages father involvement and acknowledges the independent importance of fathers in the home. Opportunities to obtain paternity leave and joint/residential custody of their children have not always been equitable toward fathers, which may discourage, limit, or prevent father involvement; contribute to a cultural view that men do not need to be as involved in parenting as women; and increase the risk of paternal mental health problems.¹³⁵⁻¹³⁷ In addition, the nomenclature (ie, "maternal-child health care system") and common practice (eg, lack of acknowledgement of father during perinatal visits and delivery) in the health care system supports a culture that fathers should not be involved in their child's health, despite their apparent importance. Finally, perinatal and parental mental health clinics with specialization in paternal psychopathology are needed to provide optimal assessments and treatments attune to the unique psychiatric and parenting experiences of fathers. In conclusion, fathers, paternal mental health, and parenting are important in the lives and health of children, which calls for research, clinical practice, policy, and, ultimately, our culture, to seriously consider the contribution of the father within the family.

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