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## **ASSOCIATIONS BETWEEN PROBLEM RECOGNITION AND HELP-SEEKING BEHAVIOR IN MOTHERS OF PRESCHOOLERS**

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ASSOCIATIONS BETWEEN PROBLEM RECOGNITION AND HELP-SEEKING  
BEHAVIOR IN MOTHERS OF PRESCHOOLERS

A thesis submitted in partial fulfillment  
of the requirements for the degree of

MASTER OF ARTS

to the faculty of the

DEPARTMENT OF PSYCHOLOGY

of

ST. JOHN'S COLLEGE OF LIBERAL ARTS AND SCIENCES

at

ST. JOHN'S UNIVERSITY

New York

by

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Date Submitted 2/4/2022

Date Approved 2/9/2022

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## ABSTRACT

### ASSOCIATIONS BETWEEN PROBLEM RECOGNITION AND HELP-SEEKING BEHAVIOR IN MOTHERS OF PRESCHOOLERS

Samuel T. Jackson

Preschool children are often underserved in mental healthcare. One explanation for this is that caregivers do not recognize preschoolers' mental health difficulties as problems. While previous research has identified an association between a caregiver's skill at accurately applying diagnostic labels and help-seeking, factors such as behavior severity, functional impairment, and caregiver stress are important to the help-seeking process as well. The current study examined associations between all these variables. Participants were 82 adult mothers of preschoolers. The participants read a series of vignettes describing preschool-aged children with depression, anxiety, and ADHD, and then answered a series of questions to assess their problem recognition and likelihood of help-seeking for each of the problems presented. Significant correlations were found between help-seeking and labeling and behavior severity. Additionally, behavior severity, functional impairment, and caregiver stress were found to explain variance in help-seeking above and beyond what is explained by labeling alone. These results underscore the importance of the former set of variables to the help-seeking process. Future help-seeking interventions may wish to target these variables to improve outcomes for preschoolers with mental health difficulties.

## DEDICATION

To my partner, Ryan Freeman. Thank you for moving 500 miles with me so I could pursue this degree, and for your constant support since. I couldn't have done this without you.

To my mom, Donna Kiwala; stepdad, Bill Kiwala; and sister, Libby Jackson. Thank you for the encouragement you've given me my whole life and throughout this process. I'll always appreciate your love and support.

## ACKNOWLEDGEMENTS

I would like to thank my advisors, Dr. Tamara Del Vecchio and Dr. Allison Jaeger, for their guidance and support on this study from its conception through the completion of the final draft. I'm so grateful for all the learning the two of you have provided me.

I would also like to acknowledge the Department of Psychology, who provided the funding for this study. Thank you for helping my research come to fruition.

Finally, thank you to the 82 mothers who participated in this study. I appreciate the time and effort you put into this study and your contribution to psychological science.

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## Introduction

Preschool-aged children (3-5 years old) are generally underserved in mental healthcare. The 2016 National Survey of Children's Health found that only about two-thirds of children in this age range with depression had received mental health treatment during the prior year (Ghandour et al., 2019). Furthermore, this rate was only about one-third for same-age children with an anxiety, behavioral, or conduct disorder (Ghandour et al., 2019). Compared to children in other age groups, preschool children face the lowest rates of service utilization (Ghandour et al., 2019).

There are several factors which might explain this gap. It is possible these children received treatment from a medical professional, such as their pediatrician, or through their preschool (Ghandour et al., 2019). Alternatively, sociopolitical factors which restrict families' access to care, such as lack of health insurance, have been well-established in the literature as barriers to help-seeking and service utilization (Ghandour et al., 2019; Power et al., 2005; Reardon et al., 2017). However, these types of factors alone do not account for all barriers to help-seeking, and it is important to consider other variables involved in the help-seeking process (Aguirre Velasco et al., 2020; Power et al., 2005; Reardon et al., 2017). Additionally, when it comes to interventions intended to improve help-seeking and service utilization, these factors make poor targets, as they are difficult to change (Power et al., 2005).

There are, however, other factors related to help-seeking and service utilization which are more mutable. Broadly speaking, these factors include knowledge, attitudes, and beliefs about mental disorders and their treatment, sometimes referred to as "mental health literacy" (Aguirre Velasco et al., 2020; Jorm et al., 1997; Reardon et al., 2017;

Tully et al., 2019). Problem recognition is often considered the first step of the help-seeking process, and it has additionally been identified as a major component of overall mental health literacy (Jorm, 2012; Power et al, 2005; Tully et al., 2019). Problem recognition can be defined as an awareness that an individual's behavior is atypical and cause for concern (Power et al., 2005; Reardon et al., 2017). One explanation for the preschool mental health treatment gap, then, may be that caregivers struggle to recognize their preschool children's behavior and functioning as problematic.

### **Problem Recognition and Help-seeking**

Previous studies have generally found that adults' and caregivers' problem recognition ability is indeed lacking. In one study, researchers presented adults with vignettes describing an 8- or 14-year-old character with either depression or attention-deficit/hyperactivity disorder (ADHD; Pescosolido et al., 2008). About 70% of the sample correctly recognized that the child in the depression vignette was experiencing a mental disorder, and about 46% said the same for the ADHD vignette (Pescosolido et al., 2008), reflecting a lack of problem recognition ability. Other studies using the vignette method have replicated this finding (Jorm, 2012; Jorm et al., 2005; Wright & Jorm, 2009). While these research designs are hypothetical, studies of actual parental problem recognition find that rates of recognition for any childhood psychopathology range from 32% to 43% (Johnston & Burke, 2020). Results from both hypothetical and actual problem recognition studies underscore a general lack of problem recognition ability in caregivers.

Further highlighting the importance of problem recognition, several studies suggest that problem recognition is associated with future help-seeking. For example,

adult clients and caregivers often attribute delays in help-seeking to difficulty identifying their own (or their child's) behaviors as symptoms of a mental disorder (Johnston & Burke, 2020; Jorm, 2012; Thompson et al., 2008). Similarly, other research has found that significant proportions of caregivers struggle to identify when negative behaviors are normal as opposed to atypical (Tully et al., 2019). Caregivers also often have difficulty identifying which behaviors will resolve on their own and which require treatment (Tully et al., 2019). In all cases, the inability to recognize behaviors as problematic contributes to delays in help-seeking. This trend is worrying given the results of several studies which show that longer delays between the onset of a mental disorder and the start of its treatment are associated with lower rates of improvement than are shorter delays (Altamura et al., 2008; de Diego-Adeliño et al., 2010; Jorm, 2012).

Unfortunately, child mental health literacy and problem recognition is under-researched (Tully et al., 2019), and no studies appear to have examined preschoolers and their caregivers specifically. Examining the link between problem recognition and help-seeking with caregivers of preschoolers may be critical for improving the treatment gap for this vulnerable population.

### **Conceptualizing Problem Recognition**

Problem recognition is conceptualized in a handful of different ways throughout the literature. Studies of mental health literacy sometimes measure problem recognition by the label or term used by participants to describe an individual's behavior or symptoms. Consistent with the literature summarized above, research has shown that when individuals use accurate diagnostic labels (e.g., "depression"), they are more likely

to recommend help-seeking than those who use inaccurate or nonclinical labels (e.g., “stress;” Jorm et al., 2006; Wright et al., 2012).

Some researchers have emphasized the potential of this association for improving help-seeking (Wright et al., 2012; Tully, et al., 2019). Accordingly, many mental health literacy interventions target this skill by providing education on the symptomatology of particular disorders (Deitz et al., 2009; Hurley et al., 2018; Tay et al., 2018). Research on these interventions often finds that they successfully increase recognition of the disorder under study (Deitz et al., 2009; Hurley et al., 2018); however, they do not always lead to improvements in help-seeking behavior (Tay et al., 2018; Xu et al., 2018). These findings suggest that accurate labeling may not be sufficient to facilitate help-seeking.

There is indeed some evidence that accurate labeling is not necessary for a person to recognize problems or seek help. For example, Pescosolido and colleagues’ (2008) problem recognition study found that while only about 42% of participants accurately labeled ADHD, 76% of them believed that the character would likely need treatment. Similarly, only about 59% of participants accurately labeled depression, but nearly 90% said that treatment was likely necessary (Pescosolido et al., 2008). These findings demonstrate that while participants could not necessarily identify the disorder, many of them still recognized a problem and recommended help-seeking.

Indeed, previous research has identified three other recognition factors associated with help-seeking: the severity of the child’s behavior or symptoms; functional impairment caused by the behavior; and caregiver stress due to the behavior (Power et al., 2005).

Behavior severity is defined several ways in the literature. It sometimes refers to the child's symptom count (Power et al., 2005; Teagle, 2002). Other times, it refers to parental perceptions of seriousness; atypicality of frequency, intensity, or duration; stability; or a combination of these factors (Johnston & Burke, 2020; Pescosolido et al., 2008). In either case, studies demonstrate that behavior severity is often associated with problem recognition and help-seeking. For example, in one study of caregivers of depressed teens, results showed that behavior severity defined by symptom count was one of the strongest predictors of parental problem recognition and service use (Teagle, 2002). In another study which examined perceptions of seriousness, researchers found that adults who rate child's behaviors as more serious are more likely to believe that treatment is necessary (Pescosolido et al., 2008). Regardless of the conceptualization, all these studies underscore the importance of behavior severity for problem recognition and help-seeking processes.

A child's level of functional impairment has also been associated with problem recognition and help-seeking (Power et al., 2005). Functional impairment refers broadly to deficits or decreases in performance at school, in social and family relationships, and in self-fulfillment (Bird et al., 2005). One review of 47 studies found that the presence of school-related problems in adolescents increased parental help-seeking (Zwaanswijk et al., 2003). Similarly, a study of anxiety in preadolescents found that parent-identified school and social impairments were associated with parental help-seeking, as was impairment in home and family activities (Reardon et al., 2020). These findings again highlight the importance of functional impairment to the help-seeking process.

Finally, research has demonstrated that caregivers are more likely to seek help if they experience stress related to their child's behavior (Power et al., 2005; Zwaanswijk et al., 2003). Additionally, there is evidence that a caregiver's stress is positively associated with their perception that their child's behavior is problematic (Godoy et al., 2014). In one study, family stress was found to be the biggest predictor of parental problem perception (Teagle, 2002). All these findings are consistent and serve to demonstrate the importance of caregiver stress to the help-seeking process.

Behavior severity, functional impairment, and caregiver stress may explain why caregivers seek help for their children's problems above and beyond what can be explained by labeling alone. However, few, if any, studies have examined these factors in conjunction with labeling.

### **The Current Study**

The current study aimed to examine labeling, behavior severity, functional impairment, caregiver stress, and help-seeking to learn more about the associations between these variables. Additionally, the study aimed to examine these associations specifically among caregivers of preschoolers to address the gap in representation of this vulnerable population.

To that end, this study posed two hypotheses. The first hypothesis was that labeling, behavior severity, functional impairment, and caregiver stress would all be positively associated with help-seeking behavior. The second hypothesis was that behavior severity, functional impairment, and caregiver stress would explain variance in help-seeking behavior above and beyond that of labeling alone.

## **Methods**

### **Participants**

A total of 82 female caregivers participated in the study (see Table 1 for demographic information). To be eligible to participate, caregivers had to identify as female, be at least 18 years old, and have at least one child between the ages of 3 and 5 years old. They were screened via telephone before receiving a link to participate in the study. Participants were recruited via email listservs, posts on Facebook and other social media platforms, and flyers posted in the community. Participants received a \$5.00 gift card for their time in the study.

### **Procedure**

After consenting, participants read three vignettes describing a preschool-aged child with depression, anxiety, or ADHD. The vignettes were presented in a random order to each participant. Following each vignette, participants completed several measures to assess their problem recognition and help-seeking behavior. Finally, participants completed a demographic questionnaire.

### ***Vignettes***

Three vignettes described a preschool-aged character with depression, anxiety, or ADHD (see Appendix I). These disorders were chosen for this study because they are the most prevalent among preschool-age children (Centers for Disease Control and Prevention, 2020; Ghandour et al., 2019). Each vignette described behavior based on the *DSM-5* criteria for diagnosis for that disorder in early childhood. For example, depression in early childhood can often present as irritability, so the character in the vignette is described as “irritable” and “moody.” Furthermore, each vignette included at least the

minimum criteria necessary for diagnosis per *DSM-5* criteria for that disorder. As another example, the depression vignette describes six symptoms of depression (five are required for diagnosis), which are present both at home and at the character's preschool. The vignettes were validated by a sample of psychology graduate students, who read each vignette and responded to a series of questions about how accurately the vignette represented the intended disorder in early childhood.

The age and sex of the character in the vignette was matched to the age and sex of the participant's child to anchor the vignettes to the participant. If the participant had more than one child within the age range, they were instructed to provide the age and sex of the child whose birthday was next.

### ***Label***

Labeling was measured by two variables: labeling of the character's behavior as a mental disorder and providing the correct diagnostic label. For the former, participants were asked to rate the likelihood that the character in the vignette was experiencing a mental disorder on a five-point Likert scale from "very unlikely" to "very likely." (See Appendix II to view this item and the rest of the questionnaire in its entirety.) Responses to this item were averaged across the three vignettes to create an overall score of the participants' perception that the characters in the vignettes were experiencing a mental disorder. Higher scores indicate higher agreement that the character was experiencing a mental disorder.

For the second variable, participants were asked to rate the likelihood that the character in the vignette was experiencing depression, anxiety, and ADHD on the same five-point Likert scale. Participants were asked to provide ratings for all three disorders

for each vignette. The response for each matching vignette-item pair (e.g., likelihood that the character was experiencing depression for the depression vignette) was averaged across all the vignettes to create an overall score representing the accuracy with which participants labeled each vignette with the correct diagnosis. Higher scores indicate higher accuracy of labeling with the correct diagnosis.

### ***Behavior Severity***

Behavior severity was measured by a single item asking participants to rate the severity of the character's behavior in the vignette on a five-point Likert scale, from "not at all severe" to "very severe." These items were averaged across the three vignettes to create a single score. Higher scores indicate a perception of higher behavior severity.

### ***Functional Impairment***

Functional impairment was measured by eight items adapted from the Brief Impairment Scale (BIS; Bird et al., 2005). The BIS is a 23-item measure of functioning which examines domains including interpersonal relations, academic functioning, and self-fulfillment (Bird et al., 2005). The eight items used in this study were adapted from the interpersonal subscale, as the other subscales are not applicable to the preschool population. The items measure the child's impairment in relationships with family, teachers, and peers (Bird et al., 2005). Items were adapted by revising their language to reflect the hypothetical nature of the survey (e.g., from "Do you think the character has..." to "Do you think the character would have..."). Participants responded to the items on five-point Likert scale from "no problem" to "a serious problem," and their responses were averaged across all three vignettes to create an overall score of their

perception of the character's functional impairment. Higher scores indicate a perception of greater functional impairment.

### ***Caregiver Stress***

Caregiver stress was measured by eight items adapted from the Parenting Stress Index - Short Form (PSI-SF; Abidin, 2012). The PSI-SF is a 36-item self-report scale which measures caregiver stress across three subscales of parental distress, parent-child dysfunctional interactions, and difficult child behaviors (Abidin, 2012). All items in this study were adapted from the parenting distress subscale, as the other subscales did not apply to the hypothetical nature of this study. The items measure domains including competence, role restriction, and isolation (Abidin, 2012). The items were adapted by instructing participants to respond to the questions as if the character in the vignette was their child. The language of the questions was also changed to reflect the hypothetical nature of the survey (e.g., from "I feel..." to "I would feel..."). Participants responded to the items on a five-point Likert scale from "strongly disagree" to "strongly agree," and their responses were averaged over all three vignettes to create an overall score of their perception of stress related to the character's behavior. Higher scores indicate higher stress.

### ***Help-seeking***

Help-seeking was measured by a single item asking participants to rate how likely they would be to seek help for the behavior described in the vignette on a five-point Likert scale, from "very unlikely" to "very likely". The response to this item was averaged across the three vignettes to create a single score. Higher scores indicate a greater likelihood to seek help.

## Results

### Missing Data

The missingness of the data was examined before conducting any analyses. In total, 12% of the data was missing, ranging from 0% to 19.5% for each variable. To test the assumption that data was missing completely at random (MCAR), Little's test was conducted,  $\chi^2 = 10.70$ ,  $p = .30$ . These results fail to reject the assumption that the data is MCAR. Because Little's test only provides weak evidence for MCAR, visualizations of the data were also examined. Figure 1 shows the pattern of missingness between variables. The figure reveals a monotone pattern, one in which missing data in one column corresponds with missing data in the next. The order of the variables in the figure matches the order in which variables were collected during the study, suggesting the pattern of missingness corresponds with drop-out during the study. It was therefore assumed that the data was missing at random (MAR).

To account for this, the regression analyses were conducted using full-information maximum likelihood (FIML). Unfortunately, FIML cannot be used in conjunction with Spearman correlations, so the correlations were conducted using pairwise deletion.

### Correlates of Help-seeking

Frequency and descriptive statistics are presented in Tables 2 and 3. Of note, the distribution for help-seeking in this sample was extremely skewed. Because of this, Spearman's correlation was used to test the first hypothesis. A significant correlation was found between label as a mental disorder and help-seeking,  $r_s = .67$ ,  $p < .001$ .

Additionally, there was a significant correlation between correct diagnostic label and help-seeking,  $r_s = .49$ ,  $p < .001$ , as well as for behavior severity and help-seeking,  $r_s =$

.61,  $p < .001$ . Correlations between help-seeking and the other variables were not found to be statistically significant. Therefore, the first hypothesis that all variables would be positively correlated with help-seeking was found to only be partly supported. Table 4 shows the correlation matrix for all the variables.

### **Variance in Help-seeking**

To test the second hypothesis, a three-stage hierarchical linear regression was conducted with help-seeking as the dependent variable. For the first step, the demographic variables of the child's age, child's sex, race, and income were entered. For race, "white" was coded as "0" and all other responses as "1." Household income greater than \$50,000 per year was coded as "0" and income less than \$50,000 per year was coded "1." For the child's sex, "male" was coded as "0" and "female" was coded as "1." The regression statistics are reported in Table 5.

For the second step, the predictor variables of label as a mental disorder and correct diagnostic label were added to the analysis. Labeling the behavior as a mental disorder explained unique variance in help-seeking,  $z = 4.57, p < .001$ , but correctly identifying the diagnosis did not,  $z = 0.79, p = .43$ . The  $R^2$  value for this model was .54, an increase of .46 from the previous model. This change was found to be significant,  $\chi^2$  difference = 47.67,  $p < .001$ . Table 6 contains summary and comparison statistics for the models.

Finally, behavior severity, functional impairment, and caregiver stress were added to the analysis in step three. Labeling the behavior as a mental disorder continued to explain unique variance in help-seeking with the addition of these variables,  $z = 2.96, p = .003$ . Additionally, behavior severity was found to explain unique variance in help-

seeking,  $z = 4.47, p < .001$ , as was caregiver stress,  $z = -3.10, p = .002$ . However, functional impairment did not explain unique variance in help-seeking,  $z = -0.32, p = .74$ . The  $R^2$  value for this model was .66, an increase of .12 from the previous model. This change was statistically significant,  $\chi^2$  difference = 20.63,  $p < .001$ . These results support the hypothesis that behavior severity, functional impairment, and caregiver stress explain variance in help-seeking above and beyond what is explained by labeling alone.

## Discussion

The current study examined associations between labeling, behavior severity, functional impairment, caregiver stress, and help-seeking. The first hypothesis that these variables would all be positively associated with help-seeking was partly supported.

The results of this analysis serve to replicate previous findings among an understudied population, caregivers of preschoolers. The findings suggest that the ability for caregivers to recognize behavior as a mental disorder, accurately apply a diagnostic label, and recognize behavior as severe meaningfully contribute to mental health help-seeking. Although this finding had been established with caregivers of school-age children and of adolescents (Jorm et al., 2006; Pescosolido et al., 2008; Teagle, 2002; Wright et al., 2012), this represents a new finding concerning caregivers of preschoolers. Taken together, these results suggest that similar to caregivers of older children, labeling and perceptions of severity play a major role in the problem recognition and help-seeking processes among caregivers of preschoolers.

However, a significant association was not found between help-seeking and functional impairment or caregiver stress. These variables have been associated with help-seeking in previous research (Power et al., 2005; Reardon et al., 2020; Zwaanswijk et al., 2003), and so one would expect them to replicate in this study as well. One explanation for this finding may be due to the nature of the study. For example, the vignettes used in this study contained relatively little information regarding the characters' social functioning. However, the measure of functional impairment used in this study asked exclusively about the characters' social functioning. This mismatch may explain the unexpected results regarding functional impairment in this study. Another

explanation for these results, and the finding regarding caregiver stress, may have to do with the hypothetical nature of the study. Since participants responded to an imagined situation, they may have responded to items differently than they would if they had responded based on personal experience.

The second hypothesis that behavior severity, functional impairment, and caregiver stress would explain variance in help-seeking behavior above and beyond that of labeling alone was supported by the results of this study. Although some researchers have emphasized the importance of accurate labeling for help-seeking (Wright et al., 2012; Tully, et al., 2019), the results of this study show that labeling is not the only important factor in the help-seeking process. Rather, caregiver perceptions of behavior severity, functional impairment, and stress all contribute meaningfully to caregiver problem recognition. Perhaps caregiver perceptions facilitate accurate labeling, which in turn leads to improved problem recognition and health-seeking outcomes. Further research is, of course, needed; however, these results suggest a direction for the future of research in this area. Additionally, these results may be used to improve problem recognition and help-seeking among caregivers of preschoolers, a population which is particularly underserved in mental healthcare.

Notably, the individual variables which explained significant variance were label as a mental disorder, behavior severity, and caregiver stress. This suggests that these variables are of particular import to problem recognition and help-seeking processes. For example, perhaps severity and stress contribute to a caregivers' interpretation that a child's behaviors are symptoms of a mental disorder. However, the exact associations between these variables are not yet clear.

Complicating our interpretations is that the coefficient for caregiver stress was negative, meaning that help-seeking decreased as caregiver stress increased. This finding is the opposite of what would be expected, given previous literature which shows positive associations between these variables (Power et al., 2005; Zwaanswijk et al., 2003). One explanation for this is that caregivers may reach a threshold of stress which paralyzes their help-seeking ability. Alternatively, this may be due to the hypothetical nature of the survey, which may have led participants to respond differently than they would in a real-life situation. Perhaps participants had difficulty accurately imagining the stress they would feel if the situations in the vignettes were to happen in real life. Further research may help to clarify this finding.

### **Clinical Implications**

Many help-seeking interventions educate participants on the symptomatology of a given disorder as a means of improving accurate disorder labeling, and therefore, problem recognition and help-seeking (Deitz et al., 2009; Hurley et al., 2018; Tay et al., 2018). However, the results of this study suggest that this may not be the best avenue for improving these skills.

Rather, researchers and clinicians may see greater gains by working to improve caregiver perceptions of behavior severity. This might be achieved by providing education to parents on developmental milestones and typical challenges during a particular developmental period. For example, for caregivers of preschoolers, clinicians might teach caregivers about aggression in toddlerhood and early childhood, including when it typically first appears, how often it occurs, and how long this period usually lasts. Clinicians might also provide examples of severe or otherwise atypical aggressive

behavior patterns. This would serve to provide caregivers with anchors for both expected and problematic behavior. All of this could help parents determine whether behaviors are severe, and furthermore, whether they necessitate professional help. Finally, clinicians could teach parents strategies for reducing these problem behaviors as well as referrals and resources for seeking professional help if needed.

Aside from potentially being more efficacious, an intervention of this style would also have the advantage of being more easily disseminated. Rather than needing multiple interventions to discuss the symptomatology of several disorders, clinicians could educate caregivers more broadly on behaviors which indicate mental health problems, tailoring the intervention only developmentally.

### **Limitations**

There are some limitations to the current study which warrant consideration. As has already been mentioned, the hypothetical nature of the study may have led participants to respond differently than they might in a real-world situation. Although the results of the current study may be still useful to clinicians and researchers, further investigations might attempt to examine these processes with caregivers of preschoolers who are at-risk families or who are already involved in the help-seeking process.

Another limitation of this study is that all variables were collected via self-report measures, which means the results may reflect certain biases. For example, participants may have been responded to items based on how they thought they “should” respond, and not based on their own judgment or opinions. Future research into this area might supplement self-report measures with observational or historical data, such as past help-

seeking behavior. Making this methodological change in future research may help to reduce bias.

Finally, the results of the regression analysis in this study should be accepted with caution as it is the first to demonstrate these results. Replication of this study and these findings is necessary before the results can be fully accepted.

## **Conclusions**

In summary, the current study adds to psychologists' understanding of the help-seeking process. Particularly, the findings demonstrate that caregiver perceptions of their children's behavior and functioning may contribute more to this process than their ability to recognize and label behavior according to DSM classifications. This provides an important first step for improving the efficacy of help-seeking interventions, and more importantly, for improving mental health outcomes for vulnerable children and families.

## Tables

**Table 1**  
***Participant Demographic Characteristics***

| Demographic | Value                     | Frequency (Percent) |
|-------------|---------------------------|---------------------|
| Race        | White                     | 31 (47.0)           |
|             | Black or African American | 28 (42.4)           |
|             | Asian                     | 4 (3.0)             |
|             | Indigenous                | 2 (6.1)             |
|             | Other                     | 1 (1.5)             |
| Income      | < \$10,000 - \$29,999     | 18 (27.3)           |
|             | \$30,000 - \$49,999       | 17 (25.8)           |
|             | \$50,000 - \$99,999       | 9 (13.5)            |
|             | ≥ \$100,000               | 22 (33.3)           |
| Child's Sex | Male                      | 38 (46.3)           |
|             | Female                    | 44 (53.7)           |
| Child's Age | Mean (Std. Dev)           | Range               |
|             | 3.76 (.68)                | 3 - 5               |

**Table 2**  
**Frequency Table**

| Variable                 | Average Score | Frequency (Percent) |
|--------------------------|---------------|---------------------|
| Label as Mental Disorder | 1.00 – 1.99   | 5 (7.1)             |
|                          | 2.00 – 2.99   | 5 (7.1)             |
|                          | 3.00 – 3.99   | 17 (24.3)           |
|                          | 4.00 – 4.99   | 30 (42.9)           |
|                          | 5.00          | 13 (18.6)           |
| Correct Diagnostic Label | 1.00 – 1.99   | 3 (4.3)             |
|                          | 2.00 – 2.99   | 5 (7.1)             |
|                          | 3.00 – 3.99   | 15 (21.4)           |
|                          | 4.00 – 4.99   | 35 (50.0)           |
|                          | 5.00          | 12 (17.1)           |
| Severity                 | 1.00 – 1.99   | 2 (2.6)             |
|                          | 2.00 – 2.99   | 14 (18.4)           |
|                          | 3.00 – 3.99   | 30 (39.5)           |
|                          | 4.00 – 4.99   | 21 (27.6)           |
|                          | 5.00          | 9 (11.8)            |
| Functional Impairment    | 1.00 – 1.99   | 3 (4.2)             |
|                          | 2.00 – 2.99   | 27 (38.0)           |
|                          | 3.00 – 3.99   | 26 (36.6)           |
|                          | 4.00 – 4.99   | 14 (19.7)           |
|                          | 5.00          | 1 (1.4)             |
| Caregiver Stress         | 1.00 – 1.99   | 25 (35.2)           |
|                          | 2.00 – 2.99   | 17 (23.9)           |
|                          | 3.00 – 3.99   | 15 (21.1)           |
|                          | 4.00 – 4.99   | 8 (11.3)            |
|                          | 5.00          | 6 (8.5)             |
| Help-seeking             | 1.00 – 1.99   | 3 (4.4)             |
|                          | 2.00 – 2.99   | 4 (5.9)             |
|                          | 3.00 – 3.99   | 8 (11.8)            |
|                          | 4.00 – 4.99   | 28 (41.2)           |
|                          | 5.00          | 25 (36.8)           |

**Table 3**  
*Descriptive Statistics*

| Variable                 | Min. | Max. | Mean | Std. Dev. | Skew  | Std. Err. | Kurtosis | Std. Er. |
|--------------------------|------|------|------|-----------|-------|-----------|----------|----------|
| Label as Mental Disorder | 1.33 | 5.00 | 3.85 | 1.03      | -.89  | .29       | -.04     | .57      |
| Correct Diagnostic Label | 1.33 | 5.00 | 3.98 | .94       | -1.03 | .29       | .47      | .57      |
| Severity                 | 1.33 | 5.00 | 3.57 | .95       | -.08  | .28       | -.89     | .55      |
| Functioning              | 1.46 | 5.00 | 3.24 | .78       | .31   | .29       | -.49     | .57      |
| Stress                   | 1.00 | 5.00 | 2.74 | 1.29      | .33   | .29       | -1.06    | .56      |
| Help-seeking             | 1.00 | 5.00 | 4.24 | .98       | -1.69 | .29       | 2.56     | .57      |

**Table 4**  
**Correlation Matrix**

|                                 | Age | Sex | Race | Income | Label as<br>Mental<br>Disorder | Correct<br>Diagnost<br>ic Label | Severity | Function<br>ing | Stress | Help-<br>seeking |
|---------------------------------|-----|-----|------|--------|--------------------------------|---------------------------------|----------|-----------------|--------|------------------|
| Age                             | .   | .15 | -.07 | -.08   | .18                            | .18                             | -.01     | .01             | -.02   | .21              |
| Sex                             |     | .   | .15  | -.10   | .09                            | .16                             | -.04     | -.07            | -.14   | .09              |
| Race                            |     |     | .    | .33**  | .07                            | -.19                            | .25*     | .27*            | .24    | .05              |
| Income                          |     |     |      | .      | .33**                          | .18                             | .51***   | .46***          | .43*** | .19              |
| Label as<br>Mental<br>Disorder  |     |     |      |        | .                              | .72***                          | .77***   | .51***          | .53*** | .67***           |
| Correct<br>Diagnost<br>ic Label |     |     |      |        |                                | .                               | .56***   | .36**           | .42*** | .49***           |
| Severity                        |     |     |      |        |                                |                                 | .        | .60***          | .70*** | .61***           |
| Function<br>ing                 |     |     |      |        |                                |                                 |          | .               | .69*** | .23              |
| Stress                          |     |     |      |        |                                |                                 |          |                 | .      | .16              |
| Help-<br>seeking                |     |     |      |        |                                |                                 |          |                 |        | .                |

\* $p < .05$  \*\* $p < .01$  \*\*\* $p < .001$

**Table 5**  
**Regressions**

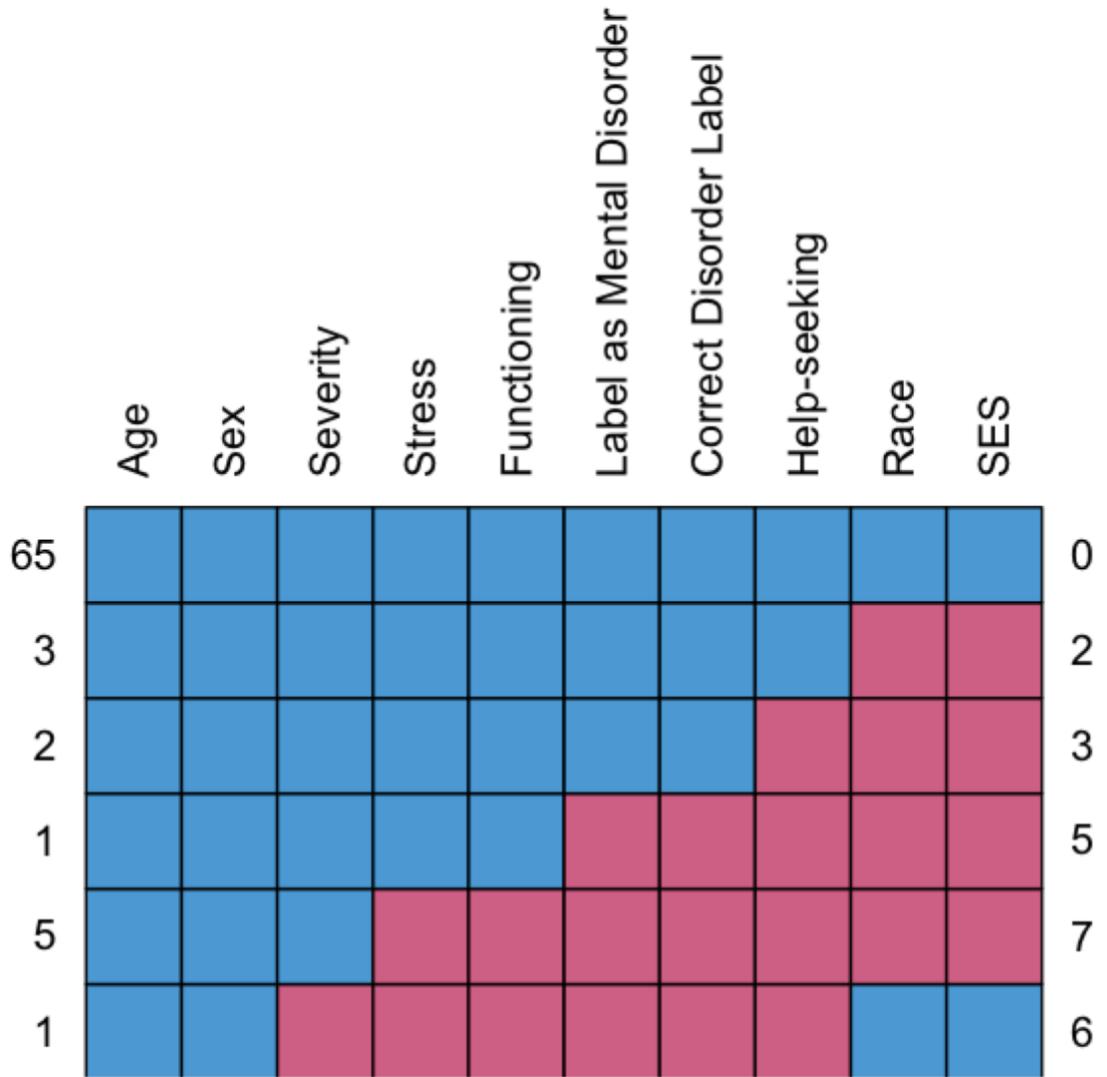
| Model  | Variable                    | Unstandardized<br>B | Std.<br>Err. | Standardized<br>$\beta$ | z         | p    |
|--------|-----------------------------|---------------------|--------------|-------------------------|-----------|------|
| 1      | Age                         | .18                 | .17          | .13                     | 1.05      | .29  |
|        | Sex                         | .06                 | .24          | .03                     | .27       | .79  |
|        | Race                        | -.14                | .26          | -.07                    | -.52      | .60  |
|        | Income                      | .54                 | .25          | .28                     | 2.14      | .03  |
| 2      | Age                         | -.06                | .13          | -.04                    | -.45      | .65  |
|        | Sex                         | -.07                | .17          | -.04                    | -.42      | .67  |
|        | Race                        | .19                 | .21          | .10                     | .92       | .36  |
|        | Income                      | -.14                | .21          | -.07                    | -.69      | .49  |
|        | Label as Mental<br>Disorder | .63                 | .14          | .67                     | 4.57      | .000 |
|        | Correct Disorder<br>Label   | .12                 | .15          | .12                     | .79       | .43  |
| 3      | Age                         | .04                 | .11          | .03                     | .33       | .74  |
|        | Sex                         | -.06                | .15          | -.03                    | -.42      | .67  |
|        | Race                        | .13                 | .19          | .07                     | .66       | .51  |
|        | Income                      | -.22                | .18          | -.11                    | -<br>1.20 | .23  |
|        | Label as Mental<br>Disorder | .39                 | .13          | .42                     | 2.96      | .003 |
|        | Correct Disorder<br>Label   | .11                 | .13          | .11                     | .81       | .42  |
|        | Severity                    | .64                 | .14          | .62                     | 4.47      | .000 |
|        | Functioning                 | -.05                | .14          | -.04                    | -.32      | .74  |
| Stress | -.28                        | .09                 | -.37         | -<br>3.10               | .002      |      |

**Table 6**  
***Model Summary***

| Model | Df | R <sup>2</sup> | R <sup>2</sup> Change | AIC    | BIC    | $\chi^2$ | $\chi^2$ Diff | p   |
|-------|----|----------------|-----------------------|--------|--------|----------|---------------|-----|
| 1     | 5  | .08            | .                     | 1485.8 | 1630.2 | 68.30    | .             | .   |
| 2     | 3  | .54            | .46                   | 1442.2 | 1591.4 | 20.63    | 47.67         | .00 |
| 3     | 0  | .66            | .12                   | 1427.5 | 1584.0 | .00      | 20.63         | .00 |

## Figures

**Figure 1**  
*Pattern of Missing Data*



Present  
 Missing

## Appendices

### Appendix I

#### *Vignettes*

##### **Depression**

John/Jane is a 3/4/5-year-old boy/girl. In the last few months, John/Jane has been increasingly moody, becoming irritable easily. He/she seems to have lost interest in his/her favorite toys and activities, and his/her preschool teachers say he/she is less interested in play. John/Jane always says that he/she feels very tired, even though he/she is sleeping more than normal. He/she hardly ever feels like eating. John's/Jane's parents and teachers also notice that he/she is more distractible and seems not to be listening.

##### **Anxiety**

John/Jane is a 3/4/5-year-old boy/girl. John/Jane often worries about bad things happening in the future. John/Jane is having trouble sleeping, even though he/she also seems to get tired very easily. John's/Jane's parents and preschool teacher have noticed that he/she has become more moody and gets upset easily. He/she is shy around new people, and tends to stay close to his/her parents in new situations. John/Jane doesn't like to try new things. His/her preschool teacher has also noticed that he/she has trouble listening.

##### **ADHD**

John/Jane is a 3/4/5-year-old boy/girl. John/Jane is having trouble at preschool, especially with listening and following directions. John's/Jane's teachers note he/she is very distractible, and they often have to remind him/her to get back to the task at hand. John/Jane is often up and down, out of his/her seat, looking out the window, or talking to other kids. His/her parents notice that he/she has trouble getting up in the morning and going to bed at night, and he/she often loses things like toys and games. John/Jane also has difficulty making friends and playing appropriately with other kids.

## **Appendix II**

### ***Questionnaires***

#### **Label**

1. A mental disorder is a condition which affects a child's thoughts, feelings, or behavior and which results in peer, academic, or family difficulties. Given that definition, how likely do you think it is that John/Jane is experiencing a mental disorder?
  - a. Very unlikely
  - b. Somewhat unlikely
  - c. Neither likely nor unlikely
  - d. Somewhat likely
  - e. Very likely
2. How likely do you think it is that John/Jane is experiencing depression?
  - a. Very unlikely
  - b. Somewhat unlikely
  - c. Neither likely nor unlikely
  - d. Somewhat likely
  - e. Very likely
3. How likely do you think it is that John/Jane is experiencing anxiety?
  - a. Very unlikely
  - b. Somewhat unlikely
  - c. Neither likely nor unlikely
  - d. Somewhat likely
  - e. Very likely
4. How likely do you think it is that John/Jane is experiencing ADHD?
  - a. Very unlikely
  - b. Somewhat unlikely
  - c. Neither likely nor unlikely
  - d. Somewhat likely
  - e. Very likely

#### **Behavior Severity**

1. How severe would you consider John's/Jane's problem to be?
  - a. Not at all severe
  - b. Not very severe
  - c. Somewhat severe
  - d. Severe
  - e. Very severe

#### **Functional Impairment**

1. How much of a problem do you think John/Jane would have getting along with their father?

- a. No problem
  - b. Not much of a problem
  - c. Some problem
  - d. A considerable problem
  - e. A serious problem
2. How much of a problem do you think John/Jane would have getting along with their mother?
- a. No problem
  - b. Not much of a problem
  - c. Some problem
  - d. A considerable problem
  - e. A serious problem
3. How much of a problem do you think John/Jane would have getting along with their siblings?
- a. No problem
  - b. Not much of a problem
  - c. Some problem
  - d. A considerable problem
  - e. A serious problem
4. How much of a problem do you think John/Jane would have getting involved in activities together with the rest of the family?
- a. No problem
  - b. Not much of a problem
  - c. Some problem
  - d. A considerable problem
  - e. A serious problem
5. How much of a problem do you think John/Jane would have with teachers at preschool?
- a. No problem
  - b. Not much of a problem
  - c. Some problem
  - d. A considerable problem
  - e. A serious problem
6. How much of a problem do you think John/Jane would have getting along with other adults outside of the family?
- a. No problem
  - b. Not much of a problem
  - c. Some problem
  - d. A considerable problem
  - e. A serious problem

7. How much of a problem do you think John/Jane would have making friends?
  - a. No problem
  - b. Not much of a problem
  - c. Some problem
  - d. A considerable problem
  - e. A serious problem
8. How much of a problem do you think John/Jane would have getting along with the friends they have?
  - a. No problem
  - b. Not much of a problem
  - c. Some problem
  - d. A considerable problem
  - e. A serious problem

### **Caregiver Stress**

For the following questions, imagine John/Jane is your child. Rate how strongly you agree with each statement.

1. I would feel that I cannot handle things.
  - a. Strongly disagree
  - b. Disagree
  - c. Neither agree nor disagree
  - d. Agree
  - e. Strongly agree
2. I would feel that I gave up my life for my child's needs.
  - a. Strongly disagree
  - b. Disagree
  - c. Neither agree nor disagree
  - d. Agree
  - e. Strongly agree
3. I would feel trapped by parenting responsibilities.
  - a. Strongly disagree
  - b. Disagree
  - c. Neither agree nor disagree
  - d. Agree
  - e. Strongly agree
4. I would be unable to do new and different things.
  - a. Strongly disagree
  - b. Disagree
  - c. Neither agree nor disagree
  - d. Agree
  - e. Strongly agree

5. I would never be able to do things that I like to do.
  - a. Strongly disagree
  - b. Disagree
  - c. Neither agree nor disagree
  - d. Agree
  - e. Strongly agree
6. I would feel alone and without friends.
  - a. Strongly disagree
  - b. Disagree
  - c. Neither agree nor disagree
  - d. Agree
  - e. Strongly agree
7. I would expect not to enjoy myself at parties.
  - a. Strongly disagree
  - b. Disagree
  - c. Neither agree nor disagree
  - d. Agree
  - e. Strongly agree
8. I would not be as interested in people as I used to be.
  - a. Strongly disagree
  - b. Disagree
  - c. Neither agree nor disagree
  - d. Agree
  - e. Strongly agree

**Help-seeking**

1. Imagine John/Jane was your child. How likely would you be to seek help for John's/Jane's behavior?
  1. Very unlikely
  2. Somewhat unlikely
  3. Neither likely nor unlikely
  4. Somewhat likely
  5. Very likely

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