Addressing the needs and demands of child welfare: A connection between AI Ethics and Ethics of Vulnerability

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Efficiently address risks, such as allocating welfare delivery resources to those in need, requires accurate risk assessments and predictions in the field of social work. (cf. Schrödter, Bastian, and Taylor 2018) Through various factors, such as AI's ability to meet these challenges accurately (risk assessments and predictions) but also through an increasing shortage of staff in social work, there is optimism, that AI can improve and facilitate processes in this field.

The aim of this paper is to bring a critical position into the debate about the use of AI in child welfare. However, the focus should not be on a false faith in technology. (cf. Klöcker 2021) The human judgement is not unchallenged, so we are not arguing here that decisions should exclusively be made by humans. (cf. Schwabe 2022) For example, a study supported by the Federal Anti-Discrimination Agency has stressed, with regard to learning algorithms in particular, that in many cases human decisions can be the sources of discrimination risks. (cf. Orwat 2019)

As in any ethical judgment, the status quo analysis must first be presented. We will do this based on an algorithm in New Zealand and the situation in Germany (chapter 2). In this paper, we will then identify the thresholds that must be considered when using AI in any way in this field. In our opinion, the aspects of social work and ethics should not be separated, and the stakeholder's perspective is necessary. That is why an Ethics of Vulnerability forms the basis in chapter 3. An Ethics of Vulnerability has a social ethical aspect (the community exacerbating vulnerability or changing structures to reduce vulnerability) in addition to the individual ethical aspect (the individual as vulnerable). In assessing the best interests of the child, all parties involved are vulnerable, and thus, we present several precautionary reasons in chapter 4 that should be con-

sidered. Finally, we argue that our innovative approach, which combines the Ethics of Vulnerability with the Ethics of AI, is the best way to meet the needs and demands in child welfare.

1. Status Quo Analysis

To conduct an ethical assessment, it is necessary to begin with an analysis of the status quo. For this, we will first focus on the so-called Vulnerable Children PRM in New Zealand.

The philosopher Tim Dare reports:

> »The Vulnerable Children PRM […] was developed and validated using an anonymized dataset linking administrative records from New Zealand's welfare benefit and Child, Youth and Family Services system for children who were born between January 2003 and June 2006 and had a benefit spell before the age of two: a sample of 57,986 children comprising about 33 per cent of all children born in New Zealand during that period. The PRM algorithm was developed by identifying potential variables in cases of substantiated maltreatment in 70 per cent of the sample. 132 variables – including demographic and historical features of a child, their family, household and community – were found to make a statistically significant contribution to the model and were therefore retained in a ›core algorithm‹ which was tested on the remaining 30 per cent validation sample. The algorithm generated a risk decile score at the start of each new benefit spell for each child in the sample with 10 indicating a child as being within the top 10 per cent of risk, down to 1 as being in the bottom 10 per cent.« (Dare 2015, 65)

Concerning children with risk scores of 9 and 10 suggested an intervention. That means intensive intervention concerning 5 per cent of the total population. The PRM eventually was not used because of serious concerns, which are explained below.

According to Philip Gillingham, an Associate Professor, ARC Future Fellow and Associate Investigator at ARC Centre of Excellence in Automated Decision-Making and Society at University of Queensland, the Vulnerable Children PRM in New Zealand has serious flaws. Gillingham notes that the algorithm used by the system associated child abuse with the period of social assistance received, single parenthood, and previous contact with child protective services. (cf. Gillingham 2021)

Two of these are more than problematic in Gillingham's eyes:

> »First, these predictors occur in the average population and thus do not distinguish the group of children who are at increased risk with respect to child maltreatment. Most single parents on welfare do not maltreat their children.« (Gillingham 2021, 32)

Secondly, these predictors are indicators of poverty. Most of the poor parents do not maltreat their children.

> »This is not to deny that poverty may be associated with child maltreatment. What is problematic is the indispensability of these predictors in the case of the data used in the training of the algorithm (as mentioned above, but especially the data of welfare receipt) and its implementation (the screening of families entering the welfare system).« (Gillingham 2021, 32)

Thirdly, the use of the indicator »previous contact with child protective services« causes different questions: Does this mean that the child protective service has not been effective? Are reports made to child protective services but not investigated further after initial screening included? In the case of the child that had not suffered abuse or was at risk of abuse: can the algorithm differentiate between these reports?

In case of the New Zealand Report, Gillingham resumes, all contacts with child protective services are considered to be against the parents and increase the likelihood that they will be re-investigated. (cf. Gillingham 2021)

To improve the accuracy of risk assessments and predictions, it is important to reduce the false-positive rate, which refers to the incorrect classification of families as high risk. One potential solution is to choose higher thresholds for intervention. Dare suggests among others:

> »Providing opportunity for experienced child protection professionals to exercise judgement about appropriate responses to a family's identification as at risk. Ensuring that such professionals understand the potential of the Vulnerable Children PRM to miscategorise families. Ensuring that intervention triggered by identification as at risk is as non-intrusive as possible, consistent with the overall aims of reducing child maltreatment risk.« (Dare 2015, 73)

These are first ideas for precautionary thresholds.

In **Germany**, an understanding of social work in the field of child welfare can be increased by examining relevant laws. According to § 8a SGB VIII, an assessment is legally required in cases where a child's well-being is at risk:

Protection mandate in the event of a risk to the well-being of a child:[1]

> »If the youth welfare office becomes aware of serious indications that the welfare of a child or adolescent is at risk, it shall assess the risk of danger in cooperation with several specialists. Insofar as the effective protection of this child or adolescent is not in question, the youth welfare office shall involve the legal guardians as well as the child or adolescent in the risk assessment. And, this is necessary according to professional judgment, to get a direct impression of the child and his or her personal environment. As well as to involve persons who have transmitted data to the youth welfare office in accordance with Section 4 (3) of the Act on Cooperation and Information in Child Protection in the risk assessment in an appropriate manner.«

That means: in the German child protection, a ›security/safety (as subjective feeling) orientation‹ dominates: in particular, events of present or past harm to the child's well-being are to be assessed concerning socio-educational need for action.[2] (cf. Bastian, Freres, and Schrödter 2017)

Professionalism is also a crucial aspect of the system, requiring the use of tacit knowledge gained through experience as a social worker. The ability to observe (odors for example) and exercise undirected attention is essential, and strong observational skills are necessary. The process is more geared towards creating an impression of a situation, leading to open dialogues with critical reconstructive potential, rather than a rigid subsumption logic.

As such, the introduction of an algorithm into this field must be approached with caution, especially in the field of child and family welfare.

In ethical terms, you must admit in a first step that child welfare is less objective than expected (cf. Wiesemann 2016). It is crucial to acknowledge the complex nature of child welfare and the competing rights at play, including the parental right to upbringing, the child's right to privacy, and the child's right to protection (cf. Gutwald et al. 2021). In Germany, parents or guardians have the fundamental freedom and right to educate their children according to their

1 Translation by Kerstin Schlögl-Flierl.

2 However, if you have a further look on the algorithm in the US, especially the Allegheny one or the one in New Zealand: One dominant predictor is harm. So the risk score also are based on the ›harm orientation‹, but are more prognostic.

own ideas within the framework of a private sphere, without the state intervening. This is therefore a defensive right against the state. The state may only intervene in this sphere of freedom if a child's physical, mental or psychological well-being is at risk and the parents are not (or no longer) willing or able to counteract this risk. From an ethical point of view, this raises the further question of what rights children themselves have under Article 16 of the UN Convention on the Rights of the Child to a private life in their family, and to what extent this right may conflict with their right to protection. Professionals in child protection must carefully consider these rights and the specific circumstances of each case.

The concrete situation is to be examined once again in detail. What are the circumstances in this decision-making?

> »Only rarely does an assessment of an acute danger to the life and limb of a child occur in child protection, and there is not always a consensus among those involved as to whether and in what form a child is being neglected or abused. Rather, child protection professionals have to deal with complex life situations of children and adolescents and their families and with multifactorial causal and contextual conditions for child abuse and neglect, where clarity is often lacking and the scope for interpretation is large.« (cf. Gedik and Wolff 2021, 418) [3]

The intricacies of child welfare to grasp fully, it is crucial to acknowledge the competing rights at play, including the parental right to upbringing, the child's right to privacy, and the child's right to protection. However, it is not always clear if and in what form a child is being neglected or abused, and consensus may not always be reached among those involved. Therefore, we propose addressing this situation with an Ethics of Vulnerability, which recognizes the complex and multifaceted nature of child welfare and the need to address the needs and demands of all parties involved. This approach emphasizes the importance of acknowledging and responding to the vulnerabilities of children and families in the child welfare system, as well as the vulnerabilities of the professionals involved in child protection work. By taking a holistic approach and acknowledging the various dimensions of vulnerability, we can better address the complexities of child welfare and work towards the best interests of

3 Translation by Kerstin Schlögl-Flierl.

the child, his or her parents, and the family as a whole. (cf. Gedik and Wolff 2021, 419)

2. Ethics of Vulnerability

A more theological, but not exclusive (cf. Keul 2021, Quast-Neulinger 2018), approach in this field could be to speak of an Ethics of Vulnerability. Vulnerability become negativ connoted by political talk in the context of the Corona pandemic. (cf. Schmidhuber 2020) The most vulnerable groups ranked high on the vaccine prioritization list. Nevertheless, by what and in what ways does one belong to the vulnerable in the context of child welfare in social work?

In the scientific discussion of vulnerability (cf. Mackenzie 2014) in various disciplines, vulnerability certainly been formatted as a risk, but at the same time, it can also be seen as a resource or an asset, as will be unfolded below. Fundamental are the following distinctions: every person is vulnerable (ontological vulnerability), some by the situation moreover (situational vulnerability, e.g. imagine a family with a small flat in the pandemic). To be distinguished from this is vulnerability generated by structure. This would be, for example, the nursing home residents, who ›suffered‹ not a little from the various regulations in the pandemic.

Because all people are to be understood as fundamentally vulnerable, the risk is less in the center of thinking, or should be for ethics, but more also the positive direction of an understanding of the human being as a vulnerable being. (cf. Haker 2021) The openness to others and to oneself this entails is not to be underestimated. An Ethics of Vulnerability has besides the individual-ethical cut (the individual as the vulnerable) also a social-ethical (the community, which aggravates vulnerability or changes structures to reduce vulnerabilities) aspect.

In the child welfare assessment, all stakeholders are vulnerable. First the child or children, then the family in its relationship, the social worker in his or her very difficult task, the state as protector/advocacy of family and children and concerning the use of AI. The designers and programmers who develop the AI that will be used. This certainly is not comprehensive. That is why different precautionary reasons should be concerned, which we will present in the next chapter.

3. Precautionary reasons

An Ethics of Vulnerability implies that not only the children or families are vulnerable but also the social worker. Schrödter, Bastian and Taylor prognoses:

> »In the future, it will no longer be a question of the effectiveness of statistical forecasting methods, nor of whether social work should allow statistical methods to enter practice at all. In the long term, this process will probably be unstoppable. Therefore, it must increasingly be about the ethical questions of what consequences these powerful procedures will have for social work practice and how the negative consequences can be legally and technically tamed […].« (Schrödter, Bastian, and Taylor 2020, 256)[4]

In this part, no distinction is made between the different algorithms, and data protection is also excluded from the considerations, which, however, must be dealt with in general and also for this field. The following concerns relate mainly to the various vulnerabilities.

3.1 Child/Family: Stigmatization of already vulnerable populations

Stigmatization of already vulnerable groups is a pervasive issue in the use of AI. (cf. Schneider and Seelmeyer 2018, 24) However, in the field of child welfare, it means increasing pressure on perhaps already struggling families and households.

Sometimes even the term itself can be misleading: ›High risk‹. A better choice here would be to speak of a high priority for services for the struggling families. It should not happen that the consequence of using AI is a reduced readiness to engage with service providers and leading professionals to deal differently with stigmatized individuals. (cf. Dare 2015, 69) Such effects would be particularly problematic for child protection, as this would affect an already highly stigmatized group, who would then be even more subject to suspicion and control.

Moreover, insofar as the goal of big data analytics is to identify at-risk populations, this promotes an individualistic conception of »risk« at the expense of more justice-oriented conceptions: (cf. Bastian et al. 2018) Racial disparity is an often mentioned danger in the use of AI. (cf. Dare and Gambrelli 2017,

4 Translation by Kerstin Schlöfl-Flierl.

5) Poor people, often intersectional discriminated against by the category of race, are also stigmatized. Thus, the individualistic concept of »risk« leads to a dangerous neo-liberal view those vulnerable populations are solely responsible for their situation and distracts from systemic and institutional problems that would be addressed by justice oriented approaches.

Furthermore, the use of AI can result in the collection of information about family members beyond the child in question. This can also be grasped under the name »dataveillance«, so called social surveillance through digitalization. Thus, forecasting can more effectively organize the exclusion of those deemed dangerous, criminal, in need of help, or otherwise deviant, even though these populations constructed as such by surveillance technologies in the first place. (cf. Bastian et al. 2018)

3.2 Social Worker: The challenged role

Imagine the case, the social worker decides against the recommendation of the algorithm and then happens the case of child endangerment. »This example illustrates the new tension between human decision-making authority and ›algorithmic authority‹ in the media public sphere.« (cf. Gapski 2020) One should add not only, but also in the media public.

This concerns the understanding of professionalism. It is therefore unclear what value intuition has in the judgment and action processes of social work and what value feelings should have for professionalized action practice. (cf. Bastian 2018, 128f.) A brief look at the history of social work already shows that standardization by means of legal requirements has also found its way into this area. This is associated with an immediate safeguarding of decisions (cf. the risk assessment forms, Dare 2015). On the one hand, it may be argued that the problem of standardization could be an increasing decline in reflexive professionalism. In addition, a decoupling of decision and responsibility must be counteracted already without Artificial Intelligence. On the other hand, the potential can be seen that for social workers, ethically based digital tools for the assessment of child endangerment could lead to a significant relief, as it is formulated in the description of KAIMo. (cf. Homepage; cf. Bastian 2012) However, this requires both ›data literacy‹ to handle complex data sources and sophisticated procedures for processing them, as well as consistent privacy protection for the use of diverse data sources as new requirements for the professionalism of specialists. (cf. Schneider and Seelmeyer 2018, 24) Furthermore, possible de-skilling must be actively counteracted.

These issues at hand are multifaceted, and it is crucial to identify which of the several problems can be addressed by the implementation of AI? In the field of child welfare, Gedik and Wolff have outlined the following complexities:

> »Such an investigation and understanding takes time, professional knowledge and skills. What is needed above all, however, are professional specialists with an attitude of solidarity who are able to make contact with families, parents and children in need, to meet them courageously and to talk to them in a trusting and non-judgmental manner about sensitive questions of life and upbringing, about the relationships they have developed with each other, possibly about painful life stories or also about debts and other material and social burdens. The professionals must have methodical competence to examine the conflict and problem situation with the families, to understand it well and to bundle it in a multi-perspective way. And they must be linguistically capable of openly and comprehensibly presenting the necessary assistance to the parties involved from a professional perspective as well, to justify, explain and negotiate well with special attention to the child involved, his personality and health, his rights, needs, wishes and interests, but without neglecting his parents and the entire family.« (Gedik and Wolff 2021, 420)[5]

3.3 The profession: The challenged role of social work, in general

In this section, we shift our focus from the specific field to a broader perspective on social work. There is an ongoing debate in the field of social work regarding mandates. In a classical approach, two mandates have been identified: one of the client and one of the state. Unsurprisingly, there is potential for conflict here – and presumably, the state will view the use of AI differently than clients. However, there is also a third mandate that has emerged in recent times – the mandate of social work as a profession, in the words of Silvia Staub-Bernasconi: a mandate for human rights. (cf. Staub-Bernasconi 2019) There has been a historical shift in the way social work considers itself as a profession. It once was seen as an act of mercy, then as a service, and now as a human rights profession.

By understanding social work as a human rights profession, it becomes possible to incorporate the view of human rights: How are children's rights and family law respected. One must distinguish between at least three levels. Social

5 Translation by Kerstin Schlögl-Flierl.

work at the micro level: in collaboration with the client; social work at the meso level: in the affiliation with social institutions; and social work at the macro level: in the responsibility for the society. (cf. Leith 2021, 330ff.)

On which level AI can be supporting? The idea also presupposes that the ethical decision can be transferred into algorithmic structures at all. This may be possible for strictly deontic or utilitarian ethics. In the eyes of Björn Görder, however, the ethics of social work in particular usually ties in with other ethical traditions (at least also) for good reasons. These include approaches based on virtue, situational and care ethics, which take into account attitudes, virtues, motives, relationship quality, feelings and also distress, or moral intuitions. Values such as classically spoken charity, empathy, loyalty, commitment cannot be translated into algorithms and presuppose knowledge of the world that is relevant to interpersonal encounters. (cf. Görder 2021)

Besides these problems of what ethics theory is binding, questions of justice also arise. These are the typical resource allocation issues (cf. Dare 2015, 64) but can be reinforced by the use of AI. It begins by the payment of social workers:

> »It might be difficult, for instance, to maintain the important existing relationships between families and the nurses and community health workers who deliver current universal services while changing their focus and intensity: it may matter that the existing services are relatively light-touch. Further, universal programmes are expensive, and they would be even more so if made more intensive.« (Dare 2015, 69)

With the introduction of AI, it is important not to dismantle other social work services but to make them more targeted and effective.

4. Relationship between Ethics of Vulnerability and AI Ethics

A vulnerability ethics approach stresses the perspective of the needs and requirements of all involved stakeholders: the need of the child, the need of the family and the need of the social worker (and the Advocacy of the State); the social worker who wants to have more security/more ›hedging‹ for his or her decision; the need of the family: prevention, support and privacy and the need of the child: in general to have a good future. It is important to note that the algorithm is just one element in the field of decision-making in social work.

AI Ethics revolves around sociotechnical change and the impact on society and the lives of individuals. Because AI Ethics addresses both individual ethical and social ethical perspectives, it fits very well with the demonstrated discussion of the use of AI in child welfare. By combining AI Ethics and Ethics of Vulnerability, we will be able to show vulnerability of stakeholders and the impact of AI on the individual and systemic situation, which will allow us to address the needs and requirements of stakeholders in the best possible way.

To this end, in this chapter we will first examine the AI ethical implications of using AI in child vulnerability, as demonstrated in Cheng's et al. new empirical study (cf. Cheng et al. 2022), and then integrate it with our Vulnerability Ethics Approach. The aforementioned study analyzes the decision-making of child welfare call screening worker over a span of four years, in Allegheny County, Pennsylvania. The workers use the AI-based Allegheny Family Screening Tool (AFST) to decide about which reports of child abuse or neglect (henceforth referrals) to investigate. For example, the conduct interviews in which they ask the workers how they incorporate algorithmic predictions into their decision-making process. When people work with algorithms in a child welfare context as is known to have racial disparities, will they serve to mitigate or exacerbate disparities? The answer to this question can inform the responsible design and use of AI tools in the child welfare context, as well as other high-stakes social decision-making contexts. The study showed that, compared to the algorithm alone, workers reduced the disparity in screen-in rate between black and white children from 20 % to 9 %. Cheng et al. showed that workers achieved this by making holistic risk assessments and adjusting for the algorithm's limitations.

The authors call for the promotion of more collaborative decision-making. They argue that the fact that child welfare caseworkers often made decisions collaboratively led to, among other things, a reduction in individual bias. However, when working together formally, caseworkers would feel they had little influence – even when making screening recommendations. Thus, Cheng et al. advocate encouraging more regular conversations between caseworkers and supervisors about caseworker recommendations so that they are not overlooked. In this regard, they argue that the AFST interface could also provide opportunities to foster informal collaboration. For example, future versions of AFST or similar tools could include a feature that suggests clerks who have handled similar referrals in the past. This could allow workers to collaborate with the right person for each referral, which could be particularly helpful for very uncertain referrals.

According to the study, child welfare workers were generally aware of their own individual biases. Another way to curb this bias, according to the authors, could be to increase diversity among child welfare staff, particularly among supervisors who make the final decisions.

In evaluating the study, we will draw closely on our findings about the Ethics of Vulnerability. We will first address the needs and demands of the social worker, then those of the family, and finally those of the children.

Workers' need for more security

Regarding the needs of social workers to be more secure in their decision-making, AI could be used as a reflective tool. Here, the AI ethical aspects of explainability and transparency must be addressed primarily. It is crucial for social workers to understand the limitations of AI, such as potential biases and what the AI cannot know compared to them. Only with this understanding AI can be used as a decision support tool alongside with other social workers and supervisors to assist the individual social worker.

Family's need for prevention, support, privacy

In order to ensure that marginalized groups are not further disadvantaged by the use of AI, so that appropriate families can receive support, ethical considerations of anti-bias or rather bias awareness, as well as the avoidance of dataveillance, must be taken into account. We suggest that the terminology used should acknowledge that there is no completely bias-free AI, and therefore »bias awareness« must be prioritized. If social workers are aware of the limitations of the AI tool, as mentioned in the previous point, bias awareness can be increased, and discrimination reduced. Additionally, as mentioned in section 3.1, we propose replacing »high risk« with »high priority« to avoid perpetuating biases. To protect the privacy of families and prevent dataveillance, a high level of data protection must be maintained.

To address not only individual families but also systematic and institutional issues, AI could be utilized to analyze data for intersectionality. As our previous analysis of the status quo in chapter 1. has demonstrated, various parameters appear to be interconnected, such as poverty and single parenthood. The question then arises: how can the social work system acknowledge and support this interconnectivity without perpetuating any biases or prejudices?

The needs of the children

To address this need of the child is the most challenging and involves the most considerations. Depending on the child's level of maturity, their decision about whether they want to stay with their family can not be taken into account. This decision relies heavily on the experience of the social workers: do they believe that the child is able to express their will accurately, or are they under pressure to stay in their current situation, and therefore not expressing their true desires? The recommendation of the AI must be understood in its entirety, including all its limitations, so that it can be incorporated into the decision-making process. Although AI can make good predictions, it cannot take individual cases into account and can thus exacerbate the child's situation.

Summary

The AI is helpful because of velocity, more efficiency, and more precision. This is undeniable the balancing between different needs and interests in this field. (cf. Gapski 2020) The social worker can get helpful hints by the algorithm but his and her professionalism should not be touched and his and her ›hedging‹ of decisions that are by no means easy.

This paper critically examined the use of AI in child welfare. We argued that the social work and ethics aspects should not be separated, but rather considered from the perspective of all stakeholders. The paper presented a status quo analysis based on an algorithm in New Zealand and the situation in Germany, and identified thresholds that needed to be considered when using AI in this field. The Ethics of Vulnerability was presented as a basis for weighing the best interests of the child, which included both social and individual ethical aspects. In the next chapter, resulting precautionary grounds were identified that should be taken into account. We highlighted that our innovative approach of combining the Ethics of Vulnerability with the Ethics of AI was the best way to address the needs and demands in child welfare. We highlighted the potential benefits and ethical considerations associated with the use of AI in child welfare and protection. The needs and demands of social workers, families and children were each addressed through an Ethics of Vulnerability, and the importance of simultaneously considering AI ethical issues such as transparency, bias awareness and data security was emphasised. In addition, it was suggested that AI could be used to examine systemic and institutional issues

by analysing data for intersectionality. While AI could increase efficiency, accuracy and speed, these benefits needed to be balanced with the professionalism and decision-making skills of social workers. Ultimately, the use of AI in child welfare had to be done with caution, careful consideration and adherence to ethical principles.

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