Flooded with Trust: Cultural Narratives, Risk Governance, and the Gap Between Policy and Perception

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Abstract

Despite the Netherlands' vulnerability to flooding and the escalating effects of climate change, most Dutch citizens perceive flood risk as low and express strong trust in state-led water management. This thesis investigates how Dutch citizens interpret flood risk in the context of climate change and the state's shift from collective protection to neoliberal, risk-based governance. Drawing on cultural sociology (Weber, 1922/1978; de Koster, 2021), the study employs in-depth interviews with residents in flood-prone areas to examine how trust, preparedness, and responsibility are understood and perceived. It identifies two dominant ideal types: the *Assured State* and the *Adaptive State*, both characterised by high trust and low personal preparedness, but through different meaning-making rhetorics. A third, contrasting type, the *Betrayed State,* exposes what happens when institutional protection fails. The findings reveal a misalignment between governance expectations and public meaning-making. The thesis contributes to risk perception research by showing how culturally rooted interpretations of safety shape citizens' responses to risk.

Keywords: Flood Risk Perception, Climate Adaptation, Risk-Based Governance, Trust in Institutions, Neoliberalism, Dutch Water Management.

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Introduction

The Netherlands is a delta region bordering the North Sea and is crossed by major rivers, including the Rhine, Meuse, and Scheldt. Because of its proximity to water, 59% of its landmass is at risk of flooding, and 26% lies entirely below sea level (Hoogendoorn, 2024). While these figures suggest an inhospitable landscape, the country is home to 18 million people (CBS, n.d.). The Dutch have managed to keep their feet dry through an intricate system of waterworks. This system was developed over centuries through continuous innovation and adaptation to water-related challenges (Borger, 1992; Disco, 2002; Warner & van Buuren, 2018).

Despite the country's vulnerability to flooding, research consistently finds that most Dutch citizens rarely worry about floods or take personal protective measures (Thiel & Mol, 2020; Terpstra & Gutteling, 2008; De Kluizenaar et al., 2025). This sense of safety exists even as the climate continues to change. Research continuously proves that sea levels are rising, river discharge patterns are shifting, and extreme weather events, such as heavy rainfall and prolonged droughts are becoming more frequent and intense (Jeuken et al., 2021; Cloke, 2022; Strijker et al., 2023). While Dutch citizens acknowledge the impact of climate change on water safety, flooding remains a marginal issue in public discourse (Thiel & Mol, 2020; De Kluizenaar et al., 2025).

The Dutch government, however, is adapting. In the 2010s, flood policy began transitioning toward a risk-based governance model. Moving beyond prevention alone, this model integrates spatial planning, nature-based solutions, and the recognition of *residual risk*, the idea that flooding may still occur even when defences are in place. Crucially, this model also emphasises the importance of greater individual responsibility and preparedness (Ministerie van Infrastructuur en Milieu, 2017; Molenveld & van Buuren, 2019; Lanz, 2020).

Most research on flood risk perception in the Netherlands continues to rely on quantitative surveys (e.g., Thiel & Mol, 2020; De Kluizenaar et al., 2025). These studies offer valuable insights into broad trends, such as public concern about flooding and confidence in the government's ability to manage water safety. However, such methods often reduce complex attitudes to simplified numerical values, thereby overlooking the nuanced meanings and underlying motivations behind respondents' answers. For example, a question from a recent SCP (Netherlands Bureau for Social Research, 2025) report included a Likert-scale question asking, *"How concerned are you about a possible flooding of your home?"* (de Kluizenaar, 2025). A low level of expressed concern might result from various factors: the individual may lack personal experience with flooding and finds one difficult to imagine, the individual may prioritise other concerns, or they may place high trust in the government's protective measures. Similarly, responses to the statement, *"I trust that the government has sufficient oversight of flood risks and protects me against them"* (de Kluizenaar, 2025), can stem from diverse interpretations. Disagreement may reflect general distrust in government, or a belief that climate change has rendered comprehensive oversight of flood risks increasingly unrealistic. These interpretative differences highlight the limitations of Likert scales in capturing the depth and variability of public meaning-making (Jamieson, 2004).

This study addresses the identified gap by examining flood risk perception through a cultural-sociological lens. This study contributes by offering a qualitative, interpretive perspective that foregrounds how individuals make sense of risk within their social and cultural contexts. As Guba and Lincoln (1994) argue, qualitative research operates within a constructivist paradigm, where knowledge is co-constructed and rooted in lived experience rather than universal laws. This approach is particularly valuable in the context of environmental risk, where

perceptions are shaped not only by factual information but by emotional responses, collective memory, and institutional narratives (Morris et al., 2019). Rather than treating perceptions or emotions as fixed or purely individual traits, this study approaches them as socially embedded meaning-making processes (de Koster, 2021). In doing so, it sets out to examine how people interpret and negotiate risk in relation to cultural expectations, political structures, and everyday life. Rather than asking only whether people are concerned, it investigates how people make sense of living with water in a changing climate. Therefore, the central research question is: *How do Dutch citizens make sense of flood risks in the context of climate change and evolving governance?*

To explore this question, this study uses in-depth, qualitative interviews with Dutch citizens living in flood-prone areas. It focuses on how people view climate change and water-related challenges, how individuals interpret their physical environment, their trust in institutions, and their sense of personal responsibility. By foregrounding the cultural and emotional dimensions of risk perception, this research seeks to complement existing quantitative studies and offer a more nuanced understanding of public attitudes toward water-related threats. Understanding how people make sense of flood risks is not only academically relevant but also essential for public safety. As Dutch flood policy increasingly relies on a risk-based governance model that emphasises individual preparedness (Ministerie van Infrastructuur en Milieu, 2017; Molenveld & van Buuren, 2019; Lanz, 2020), it becomes crucial to understand how citizens interpret this shift. Research shows that such policies can only function effectively if they are aligned with people's lived experiences and cultural frameworks; without this connection, efforts to transfer responsibility to individuals risk falling flat, leading to confusion, mistrust, and inaction when a timely response is most critical (Tummers, 2012). A deeper, more nuanced

understanding of public attitudes is therefore vital to ensure that climate adaptation strategies are not merely technically sound, but socially durable. This study contributes to the development of flood governance that is both effective and equitable by placing citizens' perspectives at the centre of risk management.

Theoretical Framework

Understanding Dutch flood risk perception first requires examining its foundations, specifically, how it intersects with the cultural, institutional, and historical dynamics that have long shaped public attitudes toward water. Existing research points to a long history and national pride in Dutch water management, alongside a strong cultural narrative of mastery over water. At the same time, evolving governance frameworks now call on citizens to adapt, prepare, and take personal responsibility in the face of growing climate uncertainty.

Historical Background

Historical context is essential to framing this research. Tracing this trajectory reveals how past experiences continue to inform present-day approaches to flood risk and climate adaptation. The Dutch fight against water began during the Roman period (1st–4th century CE), when early settlers constructed primitive dikes to protect farmland (Borger, 1992). As water management became more complex, local communities organised themselves to maintain these defences and regulate water levels, eventually institutionalising their efforts into regional water boards (waterschappen) from the 13th century onward. These water boards, based on principles of shared interest and local knowledge, are widely regarded as one of the earliest forms of democratic governance in the Netherlands. To this day, they maintain the authority to levy taxes and make technical decisions independent of national politics (Warner & van Buuren, 2018).

In the late 18th century, central coordination emerged with the creation of Rijkswaterstaat, the national authority overseeing large-scale water infrastructure (Disco, 2002). This organisation is currently responsible for roughly 3,500 kilometres of primary flood defences, including dikes, dunes, and storm surge barriers. The water boards, in parallel, continue to manage regional systems, including canals, ditches, and wastewater treatment (Kind, 2014).

Dutch governmental flood protection policy has been reactive, evolving in response to disasters. Major flood events have often served as catalysts for innovation and institutional reform. The 1916 Zuiderzee flood led to the construction of the Afsluitdijk, transforming the saltwater Zuiderzee into the freshwater IJsselmeer (Van Koningsveld et al., 2008). Following the catastrophic North Sea flood of 1953, which claimed 1,836 lives, the Netherlands launched an ambitious national effort to construct the Delta Works. The Delta Works are a vast and technically advanced system of barriers and sluices designed to protect the southwestern coast (Kabat et al., 2009).

The 1993 and 1995 river floods revealed the limitations of purely technical solutions. The evacuation of over 250,000 residents along the Meuse and Rhine exposed the need for a more adaptive, ecological approach (Klijn et al., 2008). A new governance paradigm emerged, exemplified by the Room for the River programme (2007). This programme aims to reduce flood risks by expanding floodplains rather than solely reinforcing dikes while simultaneously enhancing ecological quality (Krywkow et al., 2011; Rijkswaterstaat, n.d.).

The most recent flood disaster happened in the summer of 2021 when extreme rainfall led to flash floods in Belgium, Germany, and the southern part of the Dutch province of Limburg, damaging thousands of homes and resulting in 240 casualties in neighbouring countries (Van den Hurk et al., 2022). As climate change intensifies, experts caution that such events are likely to become more frequent, placing growing strain on existing flood protection systems and exposing their limitations in the face of compound and extreme weather scenarios (Van Alphen et al., 2022). Following the 2021 flood, the government implemented key recommendations to enhance its multilayer safety strategy, with a focus on resilient rebuilding (Pot, de Ridder, & Dewulf,

2024). In the Netherlands, the past floods not only shaped better defence mechanisms and policy shifts but also mark how the Netherlands is physically and culturally shaped today.

Mastery over Water as a Cultural Narrative May Shape Risk Perception

A dominant thread in Dutch national identity is the idea of mastering water. Rather than portraying vulnerability to flood risks, Dutch cultural narratives tend to emphasise control, resilience, and ingenuity in the face of water-related threats. Literary scholar Lotte Jensen (2021, 2024) argues that water management is not only a technical achievement but a deeply embedded cultural motif, continuously reinforced through literature, visual arts, and public discourse. In the aftermath of major flood events, cultural production has consistently portrayed the Dutch as “coming back stronger” through unity and perseverance, a framing encapsulated in the motto luctor et emergo ("I struggle and emerge"). These narratives frame floods not only as catastrophes but as opportunities for national renewal and self-affirmation (Jensen, 2021, 2024).

This cultural orientation is not limited to historical memory. Jelsma (2021) finds that also in contemporary speculative fiction, water continues to serve as a central theme in Dutch identity, often accompanied by narratives of technological optimism and adaptation. Mostert (2020) argues that this collective ethos, centred around perseverance, innovation, and shared responsibility, has been further reinforced through public celebrations of infrastructure projects such as the Delta Works and the Afsluitdijk. These projects function not only as physical protections but as cultural symbols of Dutch exceptionalism (Mostert, 2020). These narratives are also institutionally embedded; Dutch schools teach children about water engineering achievements, and museums and exhibitions celebrate them as national triumphs (Disco, 2002). These forms of cultural reinforcement suggest that water management is more than a functional

necessity; it is a source of collective pride and identity. While the literature does not directly examine risk perception, this dominant narrative of mastery over water may contribute to a public mindset in which flood risks are perceived as under control, thereby reducing a sense of urgency or personal vulnerability. In this way, culture shapes not only how floods are remembered but also how they are imagined in the present and anticipated in the future.

High Trust in Government May Undermine Personal Flood Preparedness

Quantitative research on Dutch flood risk perception shows a persistently high level of trust in governmental institutions. As earlier discussed, narratives of Dutch mastery over water have long reinforced a sense of control and security. This cultural foundation extends into the realm of institutional confidence, where citizens expect the state to manage water risks effectively and continuously.

Different studies show that people in the Netherlands perceive the probability of flooding as low. Older research indicates that 85% of people have never considered flooding (Terpstra & Gutteling, 2008) and perceive the risk of flooding as very limited (Botzen, Aerts, and van den Bergh, 2009). Recent research supports this trend. Thiel and Mol (2020) show that more than 75% of respondents reported little to no concern about flood events such as storm surges, dike breaches, or sea-level flooding. Although a majority recognised that sea-level rise is a serious issue, only 16% considered flood risk when purchasing a home, and a mere 3% had ever contemplated relocating for safety reasons. On a scale of 1 (no worries) to 10 (very bad worries), the average score was 2.9. At the same time, 64% expressed moderate trust and 17% high trust in the government to take enough measures to keep them safe (Thiel & Mol, 2020).

The 2025 SCP report showcases a gap between abstract concern and personal preparedness. The report states that the general concern about climate change and environmental

degradation is widespread in the Netherlands, but primarily focused on collective impacts rather than personal consequences. The research shows 70% of the Dutch citizens express worry about flooding in the future as a general issue, yet only 32% are concerned about their own home being affected. The report suggests that the discrepancy might mean that many Dutch citizens do not perceive climate change as a direct threat to their personal quality of life. It argues that a high level of trust in government-led flood protection measures can partly explain this. The report also highlights a high level of recognition of the importance of preparedness for flooding, but actual individual action remains limited. While 71% of respondents agree that people should keep an emergency supply at home, only 16% say they have actually done so (de Kluizenaar, 2025).

This low preparedness may be partially explained by the "moral hazard" effect: when citizens believe that government infrastructure sufficiently mitigates risk, they may feel less need to take individual precautions (Bubeck et al., 2012; Havard, 2023). Psychological research further illuminates how individual risk perception may be suppressed. Optimism bias, the cognitive tendency to overestimate the likelihood of experiencing positive events and underestimate the likelihood of encountering negative events, can lead to complacency (Sharot, 2011). Normalcy bias likewise contributes, as people assume that because floods have not occurred in the past, they are unlikely to happen in the future. (Beall & Bramble, 2021). These biases can be especially strong in communities that have not recently faced disaster. Research shows that personal experience plays a critical role in shaping risk awareness: individuals who have previously faced evacuation or property damage are more likely to prepare for future events (Hoogendoorn, 2024). Social networks also matter; communities that have experienced floods in

the past often develop stronger adaptive norms and behaviours, also for future generations (Botzen et al., 2009).

Therefore, especially in cases where no experience with flooding is present, high institutional trust may unintentionally suppress individual preparedness for flooding by reinforcing psychological biases and distancing citizens from the perceived need to act.

Risk Governance is Changing

The Netherlands has long been recognised as a global leader in flood risk management, historically relying on a deterministic model that set uniform safety standards following the catastrophic 1953 North Sea flood. These standards varied by region, offering protection levels as high as 1 in 10,000 years in densely populated areas, such as the Randstad, and lower thresholds, such as 1 in 1,250, in rural river regions (ten Brinke & Bannink, 2004; Kind, 2014). However, this approach focused narrowly on water level exceedance rather than the actual probability of dike failure or the societal consequences of flooding. In response to growing infrastructure pressures and climate uncertainty, Dutch flood policy shifted toward a risk-based model, formalised in the 2017 Water Act. This is a multi-layered safety (MLS) strategy, which integrates three layers: Prevention: Strengthening physical flood defences like dikes. Spatial Planning: Designing land use to mitigate flood impacts. Emergency Response: Enhancing preparedness and evacuation plan. This new framework introduced two key safety metrics: the maximum allowable probability of dike failure and the Local Individual Risk (LIR), which assesses life safety based on individual exposure (Ministerie van Infrastructuur en Milieu, 2017; Molenveld & van Buuren, 2019; Lanz, 2020). Under this model, flood protection norms are calibrated to the potential impact of failure, with critical urban zones and infrastructure hubs requiring failure probabilities as low as 1 in 100,000 per year, while rural segments may tolerate

probabilities up to 1 in 300 (STOWA, 2017). All primary dikes are currently being reassessed under these new rules, with the National High Water Protection Programme (HWBP) aiming for compliance by 2050 (Rijkswaterstaat, 2023). Alongside this technical shift is a redistribution of responsibility: while the state continues to maintain core infrastructure, it now emphasises residual risk and promotes a model of shared responsibility, encouraging individuals and communities to take adaptive measures. The government's role has thus shifted from guaranteeing universal safety to ensuring a minimum acceptable level of life safety (Lanz, 2020; van Alphen, 2016). Citizens are increasingly expected to flood-proof their homes, install water-resistant materials, prepare emergency kits, and understand evacuation protocols. These expectations are built into state safety models such as the LIR, which often presumes partial evacuation success in its calculations (Molenveld & van Buuren, 2019; Sanchez & van Beek, 2022). In parallel, the Dutch government has introduced long-term strategies that promote climate-resilient planning and a shift toward coexisting with water, such as the National Climate Adaptation Strategy and the Delta Programme (Ministerie van Algemene Zaken, 2024; Rijkswaterstaat, 2023). These efforts are further supported by innovations including early warning systems, smart dike monitoring, and personalised flood dashboards, signalling a broader move toward adaptive and participatory flood governance (KNMI, n.d., Deltares, 2023; Mees et al., 2023; Krywkow et al., 2022). This transition from a deterministic to a risk-based model reflects broader neoliberal trends, in which collective responsibilities are reframed as individual duties under the guise of empowerment and efficiency (Harvey, 2005; Brown, 2015; Joseph, 2013).

Within this neoliberal logic, risk becomes individualised: preparedness and protection are framed not as collective entitlements, but as personal responsibilities (Brown, 2015). Citizens are

expected to become what scholars have called “resilient subjects,” managing their own vulnerability through market-based mechanisms such as private insurance, property-level adaptation, and behavioural change (Joseph, 2013). As a result, the state's role shifts from guaranteeing universal safety to facilitating conditions under which individuals can, and are expected to, protect themselves (Harvey, 2005; Brown, 2015). The shift from deterministic safety guarantees to probabilistic, responsibility-sharing frameworks thus reflects not only a technical or policy reform, but a more profound political and cultural reimagining of who bears the burden of risk, and under what conditions. This stands in stark contrast to the deeply rooted Dutch cultural narrative of water management as a communal endeavour. Historically, the relationship between the Dutch and water has been defined by solidarity: an enduring ethos of *“us against the water”*, where shared vulnerability fostered cooperation and collective decision-making. The fight against the “water wolf” not only secured physical safety but also reinforced social cohesion (Jensen, 2024). Today, however, the reframing of risk to a more individual concern risks undermining that very ethos.

Uncertainty in the Age of Climate Change

The growing reliance on individual responsibility becomes even more concerning when viewed alongside the structural inequalities within the Dutch flood protection system. One could argue that although shifting to a risk-based approach, it still relies on high safety standards (e.g. 1 in 100,000 failure probabilities for critical zones) (STOWA, 2017). It is important to point out that this only counts for the primary flood defence, which safeguards the coastlines, major rivers, and densely populated urban regions, and these infrastructures benefit from legal mandates, sustained investment, and national oversight (Rijkswaterstaat, 2023). Yet beyond this framework lies a patchwork of secondary flood systems, managed by municipalities and regional water

boards, which lack equivalent funding, regulation, or consistency (van Dam & Havekes, 2022; Blankensteijn & Pot, 2024).

Climate change is intensifying flood risk in the Netherlands, especially in the secondary systems. Historically, Dutch climate change risk has been associated with sea level rise. While sea level rise remains a long-term concern, with projections ranging from 26 to 73 cm by 2100, and up to 2.5 meters in worst-case scenarios (Don, 2025; van den Hurk & Geertsema, 2020), more immediate threats stem from changing river discharge and extreme weather (van de Vijsel, 2024). Intense rainfall over the rivers can overwhelm dikes, especially when soils are saturated (Don, 2025). Meanwhile, droughts weaken dikes, reduce infiltration, and increase surface runoff, further exacerbating flood risk (Jeuken et al., 2021; Cloke, 2022; Strijker et al., 2023). Yet these mounting risks are not matched by a corresponding expansion of protective policy. Secondary systems remain fragmented and financially unsupported, their vulnerabilities treated as private liabilities rather than components of a national safety strategy (Don, 2025; van Dam & Havekes, 2022; Blankensteijn & Pot, 2024). The governance shortcomings in the Dutch flood protection system were starkly revealed during the 2021 Limburg floods, when an extreme rainfall event, described as a regional "water bomb", caused severe flooding (De Bruijn & Slager, 2022). A collaborative report by European climate research institutes and universities attributed the disaster directly to climate change (Philip et al., 2021). Because Limburg lies outside the areas protected by the national primary flood defence system, the government held no formal obligation to compensate affected residents. Although financial relief was ultimately granted through the Calamities Compensation Act (WTS), officials stressed that this was a one-off gesture, not a shift in policy precedent (Engelhard et al., 2024).

The growing threat to areas outside the primary flood protection system reflects a shift in how climate change is reshaping risk distribution, highlighting that the current model increasingly offers unequal levels of protection.

Need for Empirical Inquiry

The cultural, historical, and institutional dynamics outlined above point to a growing tension in Dutch flood governance. While the primary defence system has shifted toward a risk-based model and secondary systems face mounting climate risks, research shows that Dutch citizens generally do not fear flooding and have taken few personal preventative measures. Citizens are increasingly expected to prepare and adapt, yet longstanding narratives of state competence and national resilience may dampen urgency and hinder individual action. Understanding this disconnect requires more than quantitative metrics, it demands a qualitative, interpretive lens focused on how people make sense of flood risk in everyday life. This thesis seeks to contribute precisely in that space, between policy expectations and public perception.

Methodology

Research Design and Epistemological Position

This study takes an interpretive, qualitative approach to explore how Dutch citizens make sense of flood risk in a changing climate. Rather than assuming attitudes are stable or easily measurable, this research starts from the premise that risk is experienced and understood through culturally embedded narratives, emotional histories, and everyday practices. A constructivist research paradigm underpins this approach, which views knowledge as socially constructed and meaning as co-produced through interaction and context (Guba & Lincoln, 1994). This study is situated within the tradition of interpretive sociology (Weber, 1922/1978), aiming to uncover how people interpret their relationship to water, institutional trust, and responsibility, not simply

what they believe, but how those beliefs are formed and situated. With cultural-sociological analysis, this research focuses on meaning-making as a key to understanding the gap between governance expectations and public engagement (Weber, 1922/1978; de Koster, 2021). The central research question guiding this inquiry is: *How do Dutch citizens make sense of flood risks in the context of climate change and evolving governance?*

Data Collection

Given the study's focus on meaning-making, trust, and cultural interpretations of flood risk, in-depth semi-structured interviews were chosen as the primary method of data collection. This approach is well-suited to uncover the emotional, cognitive, and interpretive dimensions of risk perception, which are often shaped by personal experience and cultural context (Boeije, 2010; Guba & Lincoln, 1994). Semi-structured interviews allow participants not only to express what they think, but also to reflect on how and why they think it, providing insight into the social construction of safety, vulnerability, and responsibility.

Between February and May 2025, a total of 11 interviews were conducted with Dutch residents from diverse flood-prone and water-managed regions. Participants were recruited using purposive and snowball sampling, selected based on their geographic proximity to relevant flood infrastructure such as dikes, rivers, and canals. Interviews ranged from 30 to 90 minutes, were conducted in Dutch, both online through Microsoft Teams and in person, one-on-one, audio recorded, and transcribed verbatim.

The interviews were guided by a flexible topic list, covering themes such as perceptions of flood risk, emotional connections to water and landscape, trust in governmental institutions, experiences with flooding, and beliefs about climate change and preparedness. This semi-structured format allowed for consistency across interviews while making space for

storytelling, contradiction, and emergent themes, key elements in interpretive research (Gioia et al., 2013).

All participants were anonymised to protect their privacy, in accordance with ethical research standards. One exception was made for Daan Prevoo, the mayor of Valkenburg aan de Geul, who explicitly consented to being named. Given his direct experience during the 2021 Limburg floods and his formal role in public crisis response, including his perspective, added valuable institutional and contextual insight to the data.

This qualitative strategy enabled a grounded, culturally informed exploration of the themes outlined in the theoretical framework, including trust, preparedness, climate awareness, and institutional responsibility.

Analytical Approach

The interview transcripts were analysed using a process of inductive thematic coding, guided by the methodological principles of Boeije (2010) and then structured by the methodological framework of Weber (1922/1978) of ideal types. This approach allowed for a detailed exploration of meaning-making processes while maintaining analytical rigour and transparency.

The first phase of analysis involved open coding (Boeije, 2010), during which transcripts were reviewed line-by-line to identify in vivo codes, using participants' own words and expressions that captured key meanings. This initial stage focused on staying close to the data, allowing codes to emerge organically. The second phase, axial coding, placed the codes in groups related to broader categories, organising the codes and trying to understand the relationship between the codes. The final coding stage was selective coding, where a core

category or central theme was identified in order to construct a narrative that captures the essence of the data (Boeije, 2010).

Following Weberian ideal type methodology, central codes were synthesised into ideal types. Rooted in Max Weber's interpretive sociology, ideal types are not empirical generalisations or normative models, but heuristic constructs, analytical devices that highlight meaningful variations in thought and action across social contexts (Weber, 1922/1978). They help clarify how individuals make sense of the world by grouping together recurring orientations into coherent, conceptual forms. In this research, ideal types were developed to reflect distinct patterns in meaning-making around water, climate, trust, and responsibility. These types do not describe individuals in a fixed or literal sense, but instead provide interpretive lenses through which broader cultural tendencies can be understood (Weber, 1922/1978).

Limitations & Positionality

While this study provides in-depth insight into how individuals make sense of flood risk, it is important to acknowledge several methodological constraints. First, as a qualitative study with 11 participants, the findings are not intended to be statistically representative. The goal was to explore depth and variation in meaning-making, not population-wide generalisations. Second, the use of purposive and snowball sampling may have contributed to a relatively homogeneous group in terms of educational background, worldview, and regional embeddedness. While this helped create trust and openness in interviews, it also limits the range of perspectives included. Third, the interviews were conducted both online and in person, which may have influenced the depth of engagement or the expression of emotion. While digital tools enable access and flexibility, they may also limit the intimacy or spontaneity that face-to-face interviews sometimes foster.

Finally, it is important to reflect on my own positionality as a researcher. I am a Dutch white woman in my early twenties who has lived primarily in urban environments. My background could have influenced the interviews through subtle cues, such as prompts, expressions of understanding, or moments of shared cultural reference, that guided how participants framed their responses. Similarly, participants may have tailored their answers to align with what they perceived as my expectations. I acknowledge that my identity, assumptions, and interpretive lens are not neutral. They have inevitably influenced the research, not only in how narratives were analysed, but in how they were elicited, emphasised, and understood.

Analysis and Results

Although the Netherlands is among the most flood-prone countries in the world, the interviews showed that the majority of participants perceived flood risk as minimal, abstract, or temporally distant. However, following the framework of meaning-making (Weber 1922/1978; de Koster, 2021), these surface-level expressions of calm and confidence mask a more diverse set of interpretive logics. Interviewees articulated this stance through distinct interpretive logics. The analysis can be divided into two ideal types, the *Assured State* and the *Adaptive State*. Each ideal type is structured around recurring subthemes that emerged during analysis: trust in government and governmental institutions, views on climate change, cultural narratives, and the emotional orientation to risk.

Dimension	**The Assured State**	**The Adaptive State**
Trust in Government and Institutions	High trust; seen as responsible for safety	Cautious trust; recognises institutional limits

Views on Climate Change	Acknowledge climate change, but believe the impact will be manageable	Deep concern, powerless, and a need for urgency.
Cultural Frame	Pride in Dutch engineering and water mastery	Pride in Dutch engineering and water mastery, but with future concerns
Relationship to Risk	Managed and abstract	Felt, embodied, and taken seriously

Ideal Type 1: The Assured State

The first ideal type emerging from the interviews is the Assured State: individuals whose sense of safety from flooding is anchored in a deep, often unquestioned trust in institutions. Rather than engaging with flood risks personally, these participants rely on external systems to ensure their security.

Trust is Deep and Unquestioned

Participants who embody this type expressed a high degree of confidence in the government or governmental institutions to keep them safe. However, this trust was not universal and could be divided into three modes: *Blind Trust, Consensus Trust,* and *Institutional-Specific Trust.* These modes reflect different ways through which participants made sense of institutional reliability, despite arriving at similar conclusions about trusting the government to keep them safe.

Blind Trust was expressed by those who had never actively considered flood risk, operating under the assumption that authorities would simply "take care of it." When asked if she

was ever scared of flooding, Malou answered the following: “I’ve never really thought about it, but I just think those defences are well built. … I don’t think it will suddenly flood.” (Malou, Interview 9, see Appendix A).

Other expressed *Consensus Trust,* this involved a more reflective stance, participants expressed political discontent, but believed water safety transcended political divisions. For instance, Geert remarked:

> I actually have the idea, of course, we have a fairly right-wing cabinet, but that these kinds of plans aren’t really denied … with water defence, it’s just sort of logical that you need to do maintenance for it, to carry out those kinds of infrastructural projects. It feels a bit less dependent on political leanings or which party is in power. This feels kind of autonomous.
> (Geert, Interview 1, see Appendix A)

Institutional-Specific Trust emerged among respondents who also distrusted national politics but placed their faith in the governmental technical institutions such as Rijkswaterstaat or the local water boards. Claudia explained:

> Yes, because, of course, we have the water boards. I don't know how unique the Netherlands is in that regard, but the fact that we have a special governing body specifically for water management, and that we as Dutch citizens also vote for it, and we elect those water board officials, obviously says something. So, professionally, people are working on it day in and day out. So it’s really, we live with water, but that also means we have the infrastructure in place to deal with it. (Claudia, Interview 3, see Appendix A)

While the ideal type of the *Assured State* shares a high level of trust in institutional flood management, this confidence is shaped through different interpretive lenses, ranging from unquestioned faith to more reflective or institution-specific trust, all reinforcing a broader sense of safety grounded in the Netherlands’ water expertise.

Confidence Without Concern: Climate Distance and Engineering Pride

The *Assured State* acknowledges climate change but largely downplays its threat to the Netherlands. Risks were viewed as manageable due to national expertise and robust infrastructure. Sophie summed this up: “Well, to be honest, I think in the Netherlands it won’t be so bad” (Interview 4, see Appendix A). This confidence was reinforced by cultural pride in Dutch water engineering. Geert described water safety as so ingrained it hardly registers as a risk: "It’s so self-evident when you grow up here that the water is just like that." While he worried about climate change abroad, it felt distant at home: "Not really the Netherlands, actually. It's the really vulnerable countries I think about." Even regarding relocation, his trust held firm: "As long as I live in the Netherlands, I am not worried” (Interview 1, see Appendix A).

This belief in Dutch mastery over water was deeply emotional. Geert who is from Flevoland said: “After I have been away when I see that polder again, that feeling. I find it very special how this was done, you can even see it on a world map... It gives confidence that we can do quite a lot” (Interview 1, see Appendix A). Sophie echoed this pride: “I wouldn’t say proud, but it’s quite impressive that we’ve managed to keep this up for all these years” (Interview 4, see Appendix A). Malou agreed: “Well, yes, I do think it’s impressive that we’re able to build all these things and keep ourselves safe” (Interview 9, see Appendix A). None of them had made personal preparations in case of flooding. When asked if he had an emergency kit, Geert replied: “No, not really.” And when asked if he knew anyone who did, he chuckled: “Not that I’m aware of, no” (Interview 1, see Appendix A). So, despite acknowledging climate change, participants expressed strong confidence in Dutch water management and infrastructure, viewing flood risk as distant or negligible, rooted in cultural pride and engineering trust, while making little to no personal preparations.

Flooding Is Unlikely and Hard to Imagine

The ideal type *Assured State* has no experience with flooding, and they see future floods as unlikely or not worth preparing for. Malou dismissed fear as unnecessary: " Everything has just gone well all these years. We have good locks and dikes in place now." (Interview 9, see Appendix A). For Laurentien, floods felt remote: "It is still a distant reality to me. And preparing for it, I find, feels like a waste of money" (Interview 10, see Appendix A). Without direct experience, floods were imagined as improbable or irrelevant.

Responsibility for safety was firmly placed on institutions. Claudia explained: "There are people whose job it is to work on this every day ... That, for me at least, makes me think: this is taken care of. We've got this covered." (Interview 3, see Appendix A). Even when systems might fail, trust in government response remained. As Geert put it: "There's also this intrinsic belief that if things really go wrong, we will still be taken care of properly." (Interview 1, see Appendix A).

To summarise, the ideal type *Assured State* is not actively engaged with flooding, they put their trust in external factors, do not have any preparations set in place and usually have not or have not known anyone that has ever experienced flooding.

Ideal Type 2: The Adaptive State

The *Adaptive State* represents individuals who are pragmatically aware of flood risks and climate threats, but still express low fear of flooding. Unlike the *Assured State*, their trust in institutions is informed and conditional, shaped by a sober recognition of nature's unpredictability and a personal commitment to preparedness.

Trust Is Conditional and Informed

Like the Assured State, participants in the Adaptive State expressed a high degree of *Institutional Trust*. However, this trust was more conditional, shaped by political concerns and a growing awareness of nature's unpredictability.

A recurring theme was the tension between expert governance and political interference. Kees articulated this well when asked whether he feared flooding:

> No, not really. I have faith in the water boards. You have to keep that out of politics, though, because there is too much bartering and shuffling there. You shouldn't exchange safety for other interests.

When asked whether he still trusted the system, he replied: "Yes, but with reservations. Politics does start to interfere too much now." (Interview 6, see Appendix A)

Others voiced concerns about a loss of practical knowledge. Ferdinand noted:

> Even at the water boards, there are hardly any people left with practical knowledge. Sometimes I see them pumping water away when it hasn't even rained. Then it ends up raining two days later. Or they switch to the summer water level when they just as easily could have waited a few more days. They're following a rulebook, not working from knowledge. (Interview 5, see Appendix A)

Although participants still respected institutional competence, their trust was tempered by a sense that no system could fully contain nature's force. Helen put it plainly:

Helen: "... So in time, it's going to happen. No matter how good they are and how smart they are… I find the power of nature, I find that, shall I say, scarier. And that's it, the power of nature versus the skill of humans" (Interview 2, see Appendix A). Fien echoed this tension between trust and realism: "Yes, I do have trust that the government maintains those systems properly, it seems like they're on top of it. So yes, I have confidence in that. What worries me more is that climate change might eventually become too severe for us to control. We can do everything

possible, but if the rivers rise, you just can't stop it. If the water rises, the power of nature is simply stronger than what we can counter." (Interview 8, see Appendix A)

Rather than reject the system, participants in the *Adaptive State* accepted its strengths but emphasised its limits. Their trust was neither blind nor static, it was reflective, conditional, and framed by the belief that even the best-designed protections cannot guarantee complete safety.

Urgency and Pride in the Adaptive State

Compared to the Assured State, participants in the Adaptive State expressed deeper concern about climate change and its potential to disrupt Dutch flood protections. While they maintained trust in institutional competence, this was paired with a sense of urgency and, at times, emotional isolation. Fien articulated both anxiety and frustration:

> Fien: I find it strange. When people see those images on the news of Limburg and such, being flooded, I wonder, doesn't that set off any alarm bells? Why is no one taking action? I often really feel like I want to shake people awake and say, come on, you see that these things are happening. But then so many people say, 'Yeah, but that also happened years ago,' and 'this and that,' and 'climate change is fake.' And yeah, I often find that really frustrating. It just feels like… yeah, sometimes it feels like I'm awake in all this and everyone else is still asleep. I really want to shake them awake.
> Interviewer: You feel a bit alone in that struggle.
> Fien: Yeah, really powerless, something like that. Yeah.
> (Interview 8, see Appendix A)

At the same time, pride in Dutch water management remained strong, albeit with a more cautious outlook. Participants celebrated past achievements but questioned whether these would suffice in a changing climate. Asked whether they felt proud, Kees and Ferdinand responded:

Kees: "Yes, absolutely. We've been doing this for centuries, and we're good at it." Ferdinand:

> In the Netherlands, we're not very proud by nature, but when you return after being abroad, you do think: it's actually fantastic here. Everything isn't perfect, but we live in one of the most beautiful countries in the world. (Interviews 6 and 5, see Appendix A)

Both stressed the need for continued investment. Kees: “Here, land is being excavated so the river can expand, dikes are also being raised. But the Netherlands must continue to invest in order to remain safe. Ferdinand:

> The only solution is continued investment in water management. The techniques have changed too; they now collaborate more with nature, using dunes and sand ridges. That’s fine, as long as it doesn’t compromise safety. Birds are beautiful, but they can fly away. Water safety must come first.

Fien’s vision of the future was more stark:

> If I believe that one map, there was once a map, I put it away very quickly, if I have to believe that map, then the area where I grew up, Zeeuws-Vlaanderen, is just completely gone, right? So it's no longer habitable. There were other places in the Netherlands too, not just Zeeland, other areas that would end up underwater. So yes, just really large parts of the Netherlands that would simply no longer be livable.”
> (Interview 8, see Appendix A)

The *Adaptive State* reflects a cultural narrative that is still proud of Dutch water expertise, but thinks this no longer guarantees certainty. The past provides a foundation for hope, yet these participants remain alert to the limitations of inherited pride and the very real vulnerabilities of the future.

Flood Risk Is Real and Personal

For the *Adaptive State* ideal type, flooding was not an abstract or distant possibility, it was tangible, imagined, and in some cases, personally experienced. Unlike the Assured State, this group described flood risk in visceral terms, seeing it as something that could plausibly affect their lives. Yet despite this awareness, none had taken concrete preparedness measures. Instead, they framed their response as a conscious decision to avoid living in fear. When asked if her past experience with flooding made her more afraid of it happening again, Mies responded: “No, I can forget about it quite easily. You just move on, and I think that’s healthy.” She added

later, “She is not someone who is fearful by nature” (Mies, Interview 7, see Appendix A). Firsthand and secondhand experiences heightened their recognition of risk, but this did not automatically lead to action. Instead, it often resulted in a deliberate emotional distancing, a way to acknowledge threat without becoming overwhelmed by it.

In sum, the *Adaptive State* captures a pragmatic and emotionally measured stance on flood risk. Participants in this group trust governmental institutions, especially technical bodies, but no longer unconditionally. They embody a mode of risk perception that allows for belief in the system, while simultaneously questioning its limits in an era of escalating climate uncertainty.

Ideal Type 3: The Betrayed State

The ideal types framework clarifies how similar behaviours can reflect different underlying interpretations shaped by history, culture, trust, and experience. While the Assured and Adaptive States capture dominant patterns in Dutch flood risk perception, a third, contrasting type emerged: the Betrayed State. Based on the testimony of Daan Prevoo, mayor of Valkenburg aan de Geul, the municipality hardest hit by the 2021 floods. His testimony reflects how direct disaster exposure reshapes risk perception. Unlike the assumed safety of the Assured State or the cautious awareness of the Adaptive State, the Betrayed State is rooted in lived crisis. Prevoo’s account reveals how institutional trust can collapse when residual risk becomes reality and recovery mechanisms fail. Though based on a single case, it exposes broader structural weaknesses in Dutch flood governance, particularly beyond the primary defence system, and highlights how quickly public trust can erode when protections fall short.

Fractured Trust

In contrast to the high or conditional trust expressed by other participants, Prevoo described an acute erosion of institutional trust following the 2021 floods. Initial government promises of full support were followed by bureaucratic delays and partial compensation, which he described as a "second disaster"

> Everyone was here: every minister, the king, the queen. They all said: 'We will not leave you behind.' But in the end, people were left behind. They were traumatised, uninsured, and unheard. I call it the second disaster, the one after the flood, and that is still ongoing. (Prevoo, Interview 11, see Appendix A)

Residual Risk as Reality

Where others speculated about future risk, Prevoo articulated what it means when residual risk becomes actual harm. He depicted the 2021 flood not as an infrastructural failure alone, but as a cascading social and psychological crisis:

> And that's why I said, you have to have lived through it. Then you think about it differently. Among my residents, many people have taken measures themselves. Some have moved away. Some want to live elsewhere. There are people who can no longer fall asleep without medication, and can't get up without medication. They are traumatised by this experience. There are people who have taken their own lives because they were already deeply in debt. And now they were completely destitute. They thought, well, you know, I'm over 50, I can't manage this anymore, I'm done.
> (Prevoo, Interview 11, see Appendix A)

Urgency Through Experience

Unlike the *Adaptive State*, which often drew from nature-connected worldviews or abstract concern for future generations, this ideal type was shaped by immediate devastation. The flood is not framed as a manageable inconvenience, but as a violent rupture:

> We had the first climate disaster already, here in 2021, in Valkenburg, in the Heuvelland. And no one had predicted that a flood, in other words, a climate disaster, would occur in the Heuvelland. It's high and dry here. It was like saying there would be a forest fire at the North Pole.

> No one was prepared for it. It's something entirely different from water nuisance, like a heavy rainstorm where you get a bit of water in your basement. This was a full-on tsunami. A climate disaster. It wasn't that the Geul river overflowed, no, a tsunami came rushing through the Geul valley. The Geul itself is normally nothing. Just a stream of 40 or 50 centimetres high and about 4 metres wide.
> (Prevoo, Interview 11, see Appendix A)

Mistrust of Governance Models

Prevoo's perspective highlights a fundamental tension in Dutch flood governance: the gap between national safety discourse and local vulnerability. Valkenburg, outside the primary defence system, exemplifies what happens when flood governance does not match people's expectations or lived needs.

Discussion

This thesis set out to answer the question: *How do Dutch citizens make sense of flood risks in the context of climate change and evolving governance?* Drawing on in-depth qualitative interviews, the findings show that citizens' understandings of flood risk are shaped less by direct personal threat and more by cultural narratives of national water mastery and high trust in public institutions. As a result, personal preparedness remains low, even as climate change accelerates and government policy increasingly expects citizens to take on more responsibility. To explore this dynamic, three ideal types were developed: the Assured State, the Adaptive State, and the Betrayed State. The first two represent the dominant interpretive frameworks through which most participants made sense of risk, while the third serves as a critical outlier and warning.

Preparedness Is Hindered by Both Unquestioned and Conditional Trust

The *Assured State* and *Adaptive State* share important common ground: both are characterised by high levels of trust in Dutch flood protection infrastructure and a belief that

large-scale systems will continue to function effectively. However, they differ in how that trust is constructed, emotionally processed, and ultimately acted upon.

The *Assured State* embodies a more passive form of confidence. Trust in institutions is largely unquestioned and rooted in a cultural narrative of historical success and national water mastery. Climate change is acknowledged, but its threat is minimised or abstracted. As a result, individuals in this group rarely consider personal preparedness, instead relying on the assumption that "the system works." This mindset aligns with the concept of moral hazard, where strong institutional trust reduces the perceived need for individual action (Bubeck et al., 2012). It is further reinforced by optimism bias, the tendency to underestimate personal risk (Sharot, 2011), and normalcy bias, which makes it difficult to imagine events that deviate from past experience (Beall & Bramble, 2021).

By contrast, the *Adaptive State* reflects a more reflective and critical form of trust. Here, confidence in institutions is conditional, based on recognition of systemic strengths, but also limitations, particularly in the face of climate uncertainty. Participants in this group were more emotionally engaged and often expressed frustration with the apparent lack of concern in others. Yet despite their awareness, individual preparedness remained limited. This suggests that moral hazard is also at play here, not through blind faith but through the persistent cultural expectation that safety remains a collective, institutional duty. Emotional fatigue, scepticism, and psychological barriers may further constrain personal adaptation, even among those who are most informed.

Water Mastery Leads to Complacency

Both the *Assured State* and *Adaptive State* ideal types expressed a deep, affective pride in Dutch water engineering, a sentiment that extends far beyond mere confidence in infrastructure.

This pride reflects broader cultural narratives of water mastery, which are deeply embedded in Dutch collective memory and national identity. As scholars such as Jensen (2021, 2024), Mostert (2020), and Jelsma (2021) have argued, water management in the Netherlands is not only a technical endeavour but also a symbolic cornerstone of what it means to be Dutch.

This cultural framing plays a significant role in how citizens perceive flood risk. Especially in the *Assured State,* it is clear that rather than viewing water as an uncontrollable force or existential threat, participants refer to it as something that has been "dealt with", a challenge overcome through generations of innovation and collective effort. While offering reassurance, this narrative may contribute to a false sense of security, hindering the adaptive mindset needed in the face of climate uncertainty. Flood resilience, framed as a legacy achievement rather than an ongoing responsibility, risks encouraging complacency.

Disillusionment as Signal

The Betrayed State, drawn from Daan Prevoo's account of the 2021 Limburg floods, underscores the stakes of this complacency. His critique illustrates the lived consequences of governance misalignment and the profound emotional, social, and political rupture that can occur when risk-based rhetoric is not matched with meaningful support. His experience should be read as a warning revealing how quickly trust erodes when institutional promises fail and support systems falter. It also highlights spatial injustice, showing how places outside the primary defence system remain underprotected and undercompensated, yet are increasingly vulnerable due to climate risks.

Misalignment between Institutional Reform and Public Interpretation

This research highlights a critical misalignment between institutional reform and the ways citizens culturally and emotionally interpret flood risk. While current risk-based

governance frameworks presume a rational, informed public willing to share responsibility, the findings show that public engagement is not shaped by policy logic alone, but by lived experience, historical narratives, and emotional repertoires. The ideal types developed in this study demonstrate that individuals interpret risk differently and therefore require tailored approaches to engagement and preparedness.

Importantly, this misalignment must be understood within a broader critique of neoliberal governance. As scholars such as Harvey (2005), Joseph (2013), and Brown (2015) argue, neoliberalism reframes collective responsibilities as individual duties under the guise of empowerment and efficiency. Dutch flood governance increasingly reflects this logic: while the state maintains large-scale infrastructure, individuals are expected to adapt, prepare, and internalise risk as a personal responsibility. However, this study shows that such expectations are often unrealistic or culturally out of sync with how citizens actually relate to risk.

Ideal Types for the Bridging Gap

The ideal types developed in this research can offer policymakers a practical lens to understand how different groups perceive and respond to flood risk, revealing the emotional, cultural, and psychological factors that shape public engagement. In order to bridge the gap between policy and perception, it is important to keep in mind that they make sense of flood risk by different forms of meaning-making.

The *Assured State* illustrates how deep institutional trust, when combined with cultural pride in Dutch water mastery, can produce a false sense of security. This suppresses personal preparedness and reflects the effects of moral hazard, optimism bias, and normalcy bias, particularly among those with no recent experience of flooding. Addressing this group requires messaging that challenges complacency without undermining institutional legitimacy.

The *Adaptive State*, though more critically aware, reveals the limits of knowledge-based governance. Participants in this category recognised the reality of climate threats and institutional limitations but remained largely inactive, constrained by emotional fatigue, fatalism, or frustration with broader public disengagement. This shows how neoliberal risk governance not only assumes capacity but places the burden of adaptation on individuals who may lack the resources or emotional energy to respond. Policy interventions here may benefit from communication strategies that address emotional as well as cognitive barriers.

The *Betrayed State* functions as a warning. It illustrates what happens when residual risk materialises and state protection fails, especially in areas beyond the primary defence system. The result is not only disillusionment and trauma but also a crisis of political legitimacy and a clear example of spatial injustice. This type underscores the need for governance that is not only technically sound but also equitable and responsive to those disproportionately exposed to risk.

Taken together, the ideal types do more than describe. They reveal how policy is interpreted, resisted, or internalised in different social and emotional contexts. For adaptive governance to succeed, it must move beyond technical fixes and engage with the symbolic, psychological, and cultural dimensions of how citizens understand risk.

Future Research

This study opens several pathways for future research on flood risk perception, adaptive governance, and the cultural politics of climate adaptation. The interpretive scope of this research was shaped by several contextual limitations. Most participants were white, middle-class, and university-educated individuals, meaning perspectives from other socio-economic and cultural backgrounds remain underrepresented. A notable exception within the dataset is the inclusion of one non-anonymised participant, Mayor Daan Prevoo, whose

institutional background and direct experience with the 2021 Limburg floods offered a markedly different, more critical perspective. His alignment with a “betrayed state” narrative, highlighting frustrations with institutional failures and post-crisis support, stood in contrast to the generally trusting attitudes expressed by other participants. This divergence raises the question of whether Prevoo’s institutional critique is also echoed by civilians in flood-affected areas. Future research could investigate how widespread these sentiments are among different social groups and regions.

Additionally, the three ideal types developed in this study, the Assured State, the Adaptive State, and the Betrayed State, offer a conceptual framework that could be further explored or tested in broader and more diverse samples. Future studies could examine the prevalence of these orientations in the general population, assess how they relate to specific behaviours (e.g. adaptation measures or political engagement), and investigate how they shift in response to flood events or policy changes. By using these types as sensitising concepts, future research could support the development of more targeted and socially attuned flood governance strategies.

Conclusion

This thesis has explored how Dutch citizens make sense of flood risk in the context of climate change and shifting governance. Through in-depth qualitative interviews, it identified two dominant ideal types: The Assured State and The Adaptive State, which illustrate distinct interpretive frameworks of trust, preparedness, and responsibility. Despite increasing climate risks and policy shifts toward individual responsibility, many participants continue to rely on institutional protection, shaped by cultural narratives of mastery over water and deep trust in the state. While some expressed more critical awareness or firsthand experience, these seldom

translated into concrete preparedness. A third ideal type, the Betrayed State, is grounded in direct crisis experience and should be seen as a warning of how quickly trust erodes when institutional support falters. These findings point to a growing mismatch between policy expectations and public meaning-making. If resilience is to be truly effective, it must be co-produced, not only through infrastructure and regulation, but also through culturally attuned engagement that bridges the gap between perception and action. Ultimately, understanding flood risk in the Netherlands requires not just technical solutions, but a serious reckoning with the emotional, historical, and symbolic foundations of safety.

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