

# **Parental activism in Dugi Rat:**

## ***A case study on the influence of a slag landfill on maternal and paternal life***

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### **Abstract**

This research considers the influence of gender on parental environmental activism by taking activism that came in response to perceived toxicity of and landscape degradation by an open ferrochrome slag landfill in Dugi Rat in Croatia. This thesis investigates the gender differences within parents' perception of the environmental issue and activism by studying the existing literature and analysing the primary data obtained by one-to-one and focus group interviews with six parental couples from Dugi Rat. This research shows that motherhood and fatherhood can bear different perceptions of environmental issue harmfulness which can be due to the gendered responsibilities within the private sphere. When it comes to public sphere, the mothers of Dugi Rat were the ones whose care for children ultimately resulted in leading public activist events and whose maternal bond was used to inspire other mothers to come to protest and invite their husbands to join the movement.

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# 1. Introduction

## 1.1. Background

Localised environmental issues that were consequently directly experienced by the community members and that were perceived to have an influence on their health resulted in development of grassroots environmental activism around the world (Krauss, 2003; Culley & Angelique, 2003, Wong et al., 2020). A particular instance of such issues is waste that is (perceived to be) toxic (Krauss, 2003). While the iron alloys plant in the Croatian municipality of Dugi Rat (see Figure 1) was operating, the high content carbon ferrochrome slag<sup>1</sup> was deposited in bulk in the sea in front of it and underground in form of large solid blocks, so-called bonbons (Bakula et al., 2014). After the factory site was purchased and the factory building demolished, the bonbons were taken out and ground. In 2011 portion of that slag was refined for ferrochrome to be extracted from it. The extracted ferrochrome was removed from the site, but the residual material from the refined slag remained there together with the unrefined ground slag in form of heaps (see Figure 2) after the temporary grinding and extraction plant was closed by government inspection for not holding an appropriate building permit (Bakula et al., 2014). To date, the former factory site turned into an open slag landfill has not been remediated, although its owner was required to do so (Saborska TV – odbori, 2021).

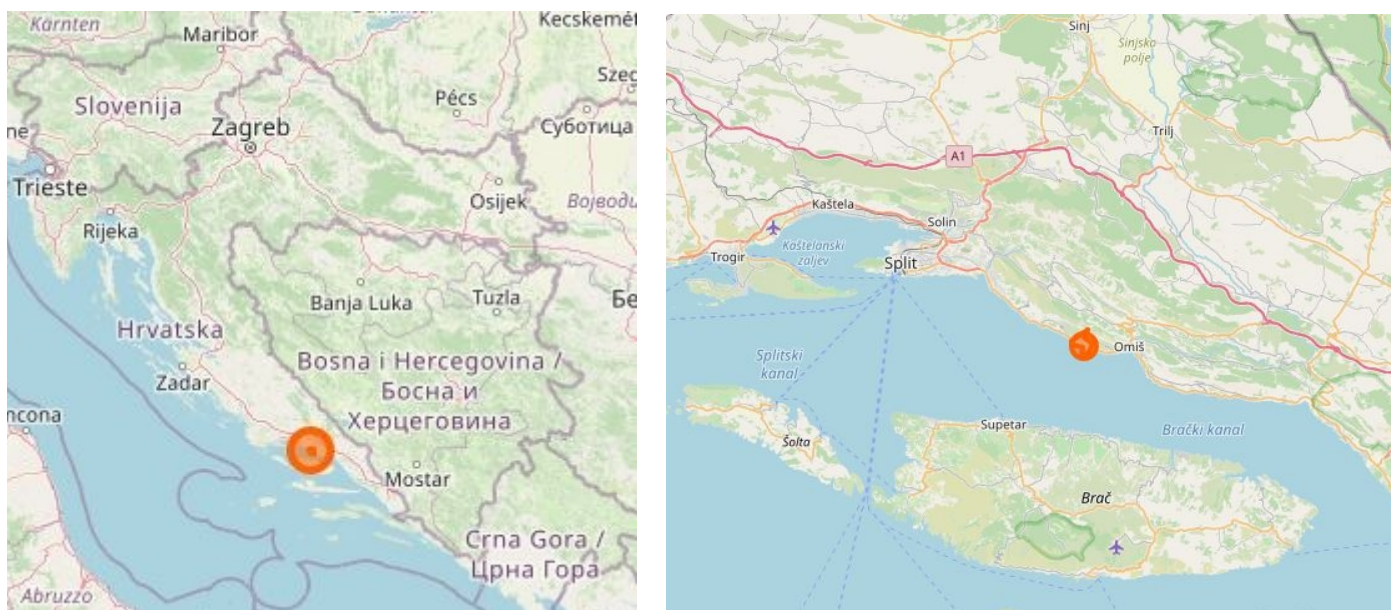


Figure 1. Dugi Rat (in the middle of the orange circle) on the maps of smaller (left) larger scale (right). Source: Open Street Map © OpenStreetMap contributors (2022).

The site remediation programmes, written by Bakula et al. in 2014 and 2015 upon request by the site and slag owner in order to obtain a governmental approval for remediation which would not include removal of the deposited material, did not provide information on existence of hexavalent chromium<sup>2</sup> on the site (Bakula et al., 2014) or reported on hexavalent chromium “below detection

- 1 Carbon ferrochrome is an alloy of iron and chromium that contains four to ten percent of carbon (Bakula et al., 2015). Slag is a byproduct of chemical processes that ores undergo in order for an alloy to be created (Bakula et al., 2014) or a metal to be refined (Lexico, n.d.).
- 2 Hexavalent chromium or chromium (VI) is an allergenic and cancerogenic matter that can be transmitted by air and water (Barceloux, 1999).

level” (Bakula et al., 2015, p. 43). That was contrary to the public health concerns that certain community members felt due to their belief that the refined slag present contains toxic hexavalent chromium (M., 2021; Malbaša, 2021) after Knezović (2016) concluded that, on average, the newborns whose mothers lived on the coast to the east of the city of Split, the category under which Dugi Rat falls, have the highest concentration of chromium in their meconia<sup>3</sup> in Split-Dalmatia County. Knezović (2016) did not specifically test the meconia samples content on hexavalent chromium. The aforementioned public health concern, along with that for the environment and landscape quality, resulted in grassroots environmental activism and media exposure of the issue (Malbaša, 2021).

In an expert opinion report dated 11<sup>th</sup> November, 2021 (personal communication), Marijana Serdar, an assistant professor at the Department of Materials at the University of Zagreb Faculty of Civil Engineering (University of Zagreb Faculty of Civil Engineering, n.d.), deemed the methodology of collecting the samples for chemical analysis as well as that of the analysis itself by Bakula et al. (2015) insufficient or unsuitable for the given case. In 2021, the Municipality of Dugi Rat ordered a chemical survey of the material deposited on the landfill with a specific focus on hexavalent chromium. However, its results, which confirmed the presence of chromium in all valence states together with nickel and polycyclic aromatic hydrocarbons in the deposited material above the legal limits, have not been made publicly accessible in a written form. They were only shared orally by the municipal mayor in a television interview (Malbaša, 2022).



Figure 2. Slag and residual material heaps on the landfill in Dugi Rat. *Source:* Pločkinić (2022).

## 1.2. Research problem

Gender differences exist in development of environmental activism (O’Shaughnessy & Huddart Kennedy, 2010; Homsy & Lambright, 2021). Women are more concerned about environmental issues than men and more likely to intend to participate in environmental activism (Tindall et al., 2003). Their concern is usually tied to a local issue, while men’s environmental concerns are more focused on larger scale institutional issues on the national level (Krauss, 2003). Addition of the mother role identity to the female gender identity is a catalyst for environmental change agency due to the commitment to the children and family the mother role identity encompasses (Longson-Conradson & Allred, 2010). Mothers are often the ones that raise concerns over the environmental

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<sup>3</sup> Meconium (plural meconia) is the first stool of a newborn (Knezović, 2016).

issues even if they contradict the official and expert accounts of the environmental conditions on the local level in case they feel that those conditions negatively influence the health of their family members, children and neighbours (Brown & Ferguson, 1995).

The existing qualitatively derived literature on parental environmental activism on the local level is due to that fact heavily focused towards mothers and their experience of local activism, with no literature covering fathers involved in local environmental activism. Therefore, this paper aimed to investigate the gender differences in the development of parental environmental activism on the local level by taking activism that developed in response to Dugi Rat open carbon ferrochrome slag landfill as a case study. This was done by deploying qualitative methods, exploring how parenthood influences parental environmental activism on the local level. This main research question was answered using two research sub-questions:

1. How do gender differences influence environmental activism?
2. How does the perception of the environmental issue of open carbon ferrochrome slag landfill in Dugi Rat and the experience of activism in response to it differ between mother- and father-activists?

The first sub-question was answered using the existing literature, while the second sub-question was answered by primary data collected in interviews with twelve parent couples from Dugi Rat.

### **1.3. Paper structure**

This bachelor thesis consists of five chapters. The background of the research problem, the problem itself and the research question with its two sub-questions were given in the first chapter, Introduction. The second chapter, Theoretical framework, synthesises existing topical literature that underpins the conceptual model and expectations of the results to be derived from primary data. Third chapter, Methodology, introduces the methodological approach to primary data collection, the actual process of data collection and analysis and ethical considerations. Results derived from the primary data can be found in the fourth chapter after which follows Discussion that synthesises results and theoretical framework and considers the research limitations. Finally, Conclusion summarises the main research points and policy and future research recommendations.

## **2. Theoretical framework**

Scarborough et al. (2019) conceptualised gender between public and private social spheres. Public social sphere is in politics and at work, while the private one is the family. Knight and Brinton (2017) discussed the occurrence of egalitarianism in the public sphere and gendered division of responsibilities in the private sphere in post-communist European countries which includes modern-day Croatia. The private sphere has continued to be the one in which division of responsibilities by gender is accepted due to the stance that women possess natural supremacy in nurturing as well as the belief that home and family are necessary for women's fulfillment (Knight & Brinton, 2017). Consequently, women have the responsibility to be a caregiver (Scarborough et al., 2019) which emphasises the communion-oriented feminine identity (Stets & Biga, 1993). On the other hand, men's role is that of economic provider which entails a consumerist view on the environment (Tindall et al., 2003) thereby emphasising masculine agency-oriented identity defined by independence and competition (Stets & Biga, 1993). From that stems the view of women as environmentally benign and men as environmentally destructive (Tindall et al., 2003).

Further support for women's environmental benignity is the maternalist supposition that women have an innate relationship with nature because of their biological reproductive role (Longson-Conradsen, 2011; Brown & Ferguson, 1995). This role also makes women aware of the "reproductive consequences of toxic exposure" (Brown & Ferguson, 1995, p.162). Therefore, maternal feeling of solidarity with nature and care about their offspring made certain women engage in environmental activism. They might not have been viewed as activists due to the view that what they do is "emotionally motivated and not located within a sociopolitical context" (Longson-Conradsen, 2011, p. 10). However, removing this innate maternal relationship from women's activism branding might tarnish its solidarity appeal to other women as well as the authenticity of motivation for activism (Longson-Conradsen, 2011; Brown & Ferguson, 1995).

Sager defined activism as advocacy or opposition towards "a cause or policy through direct action" (2016, p. 1264). Under his definition, the following actions are considered activism:

"picketing, pamphleteering, sit-ins, house occupations, boycotts, large and loud street demonstrations, solemn processions, vigils, guerrilla theatre, graffiti, public meetings, rallies, petitions, statements to public media, banner-waving from symbolic landmarks, cyberattacks, hurling stones at the police and blocking entrances to the headquarters of corporations with environmentally harmful production" (2016, p. 1264).

Tindall et al. (2003) listed the following actions under the realm of environmental activism: financial donation; purchase of merchandise; correspondence with government officials, businesses, and/or media; signing a petition; attendance in a community meeting and/or a protest; participation in trail building, information campaign, press release and/or conference; advertising in the media and giving a lecture and serving on environment-focused advisory board.

O'Shaughnessy and Huddart Kennedy (2010) argued that all the listed examples of activist behaviours are limited to the public sphere and fall under the realm of what they termed conventional activism, although that there also exist, albeit unrecognised in the literature until recently, the female-dominated activism in the private sphere dubbed relational activism. This relatively late recognition contributed to the perception of environmental activism as male-dominated (Mohai, 1992; Tindall et al., 2003). In the field of environmental activism, relational activism implies changing structural conditions in order to contribute to an enactment of conventional activism or/and promote the environmentally-friendly behaviours, primarily within one's social network and household (O'Shaughnessy & Huddart Kennedy, 2010). Due their more prominent involvement in unpaid household labour than men, women and especially mothers have an instrumental role in relational activism (Tindall et al., 2003).

The unpaid household labour performed by women constrains the time they can spend outside their homes (O'Shaughnessy & Huddart Kennedy, 2010; Geurs & van Wee, 2013). Therefore, they are unable to be actively involved in many of the enactments of conventional activism such as protests and environmental organisation meetings with politicians regardless the fact that they might be more motivated than men (O'Shaughnessy & Huddart Kennedy, 2010). Therefore men, who do not hold such a prominent domestic function, more frequently become the environmental organisation chairs (Krauss, 2003). Consequently, they aim to mitigate the environmental issues at a more abstract institutional level and the national scale which cannot be directly experienced (Krauss, 2003). However, the women's strong knowledge-based foundation gained by relational activism that arose in response to a localised environmental issue can lead to knowledge expertise and



ultimately participation in conventional activism in which women might take traditionally male leadership duties (Culley & Angelique, 2003).

## 2.1. Conceptual model

A conceptual model was created in order to investigate how the perception of the environmental issue of open carbon ferrochrome slag landfill in Dugi Rat and the experience of activism in response to it differ between mother- and father-activists (see Figure 2).

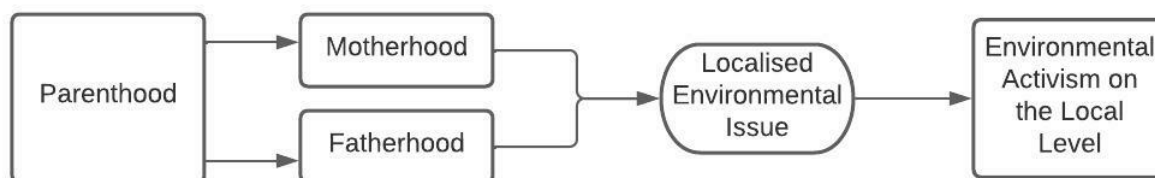


Figure 2. Conceptual model showcasing the influence of gendered parenthood difference on the environmental activism on the local level. Sources: Culley & Angelique (2003); Stets & Biga (1993); Tindall et al. (2003), adapted by author.

Parenthood experienced by men and women, fatherhood and motherhood respectively, leads to different perceptions on the effects that a localised environmental issue might have on the human, and especially children's health. The need for and the ultimate manifestation of activism advocating issue mitigation is perceived differently by mothers and fathers.

## 2.2. Expectation

It was expected that the perception of the open slag landfill in Dugi Rat and the experience of activism in response to it will differ among mother- and father-activists. The fathers were expected to show skepticism towards the potential landfill toxicity, while the mothers not (Culley & Angelique, 2003). Because of that, the mothers were expected to be the ones who expressed concern about the toxicity of the landfill first (Culley & Angelique, 2003) and consequently the primary participants of and promoters of relational and conventional local environmental activism in their family (O'Shaughnessy & Huddart Kennedy, 2010).

## 3. Methodology

### 3.1. Study setting and sample

The research sample consisted of six couples from Dugi Rat Municipality who live together, had children of minority age at the time of data collection and who favoured the removal of the slag landfill (see figures 3-4). They were recruited by an informant, a Dugi Rat resident, who the author personally knew before he began with the research and who, on the other hand, personally knew the potential participants. The average age of the mothers was 41.33 years and that of the fathers 43.88. The fathers interviewed have lived in Dugi Rat on average 1.17 years more than their wives who have on average lived there for 34 years. Two couples had three, while the other four had one child.

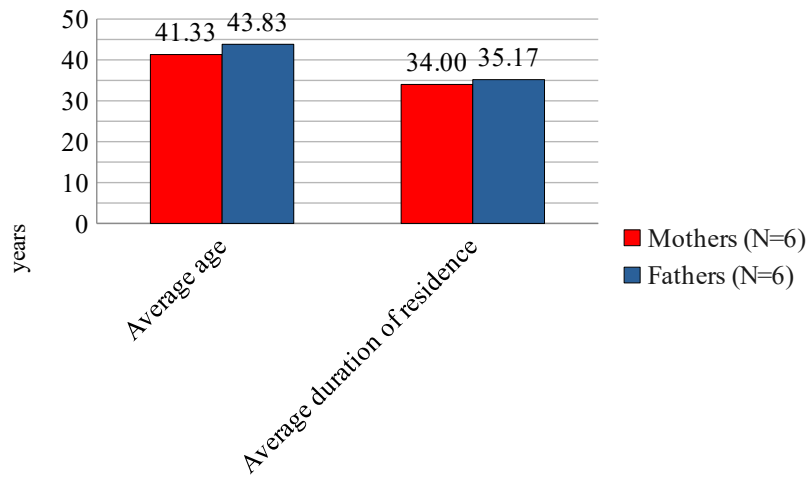


Figure 3. Participants' average age and duration of residence in Dugi Rat.

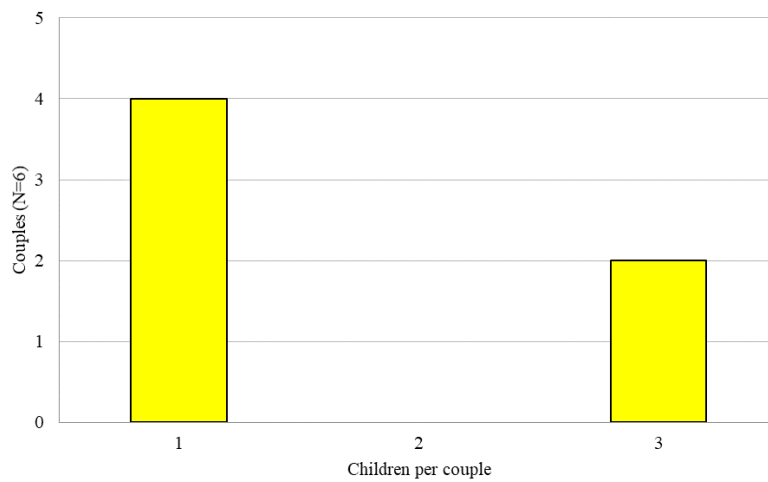


Figure 4. Number of children per participant-couple.

### 3.2. Data collection and analysis

The primary data used in this research was collected using qualitative methods in two rounds: in the first round all the participants were interviewed, while in the second round only two that were perceived to have had more to say. Due to the focus of the second research sub-question on importance of collective perception of an environmental issue and activism, focus group interviews (FGIs) were chosen as the primary data gathering method (Sáinz et al., 2011; Punch, 2014). Importance of gender within the researched group lead the decision to interview mothers and fathers separately in the first round (McMichael & Gifford, 2009; McMichael & Gifford, 2010; Davidson et al., 2016; Kaczkowski & Swartout, 2020).

The first round was intended to consist of one FGI with all six mothers and one FGI with all six fathers and to be held in person in Dugi Rat Municipal Hall. However, only three mothers and three fathers participated in the first two FGIs respectively. That led to the two following FGIs and two one-to-one interviews to be held online in order to adapt the participants' schedule. In the second round, one of the couples was interviewed together. A chronological summary of data collection process can be found in Table 1.



Table 1. Summary of primary data collection process.

Chronological Order	Data Collection Round	Data Collection Method	Participants	Location (In person/Online)
1	1	FGI	3 mothers	In person
2	1	FGI	3 fathers	In person
3	1	FGI	2 mothers	Online
4	1	FGI	2 fathers	Online
5	1	One-to-one interview	1 mother	Online
6	1	One-to-one interview	1 father	Online
7	2	FGI	One couple	Online

In order to steer the interviews towards the theme, semi-structured interview style was chosen. The interview guide consisted of six main questions joined with probing questions on the following themes: perception of environmental issue of the slag landfill, development of attitude towards it, importance of parenthood in becoming a (conventional) activist, children's role in the protest, gender roles in the context of both conventional and relational activism and involvement in political decision-making (see Appendix A). All the interviews were held in Dalmatian dialect of Croatian language (Shirley, 2010) and audio-recorded. They lasted between eight and sixty three minutes and took place in April and May 2022 with the author serving as the interviewer. The author also took the notes during the interviews.

The interviews transcribed and subsequently coded using ATLAS.ti 9 software. The coding process involved deductive and inductive coding. Deductive codes were taken from the literature, while inductive codes were formulated by the author. The codes were grouped in themes and sub-themes (see Appendix B).

### 3.3. Ethics

Prior to the interview participation, the interviewees were asked to fill an introductory online survey in which, along with sociodemographic data (see Appendix C), they provided consent to participate in the research and were informed on the treatment of the data they provided (see Appendix D). For privacy reasons, the quotes included in this paper were not linked to a specific interviewee, but only to his or her gender due to gender having a fundamental role in this research.

## 4. Results

Three main themes related to gendered parenthood emerged during the collection of primary data:

- Concern for human health and environment,
- Parenthood in public sphere and politics and
- Relational activism.

Each theme consists out of the following sub-themes:

## 4.1. Concern for human health and environment

### a) Landfill dust at home

A video by Pločkinić (2021) aired on TV (Malbaša, 2021) showed dust from the landfill carried by the wind to the homes in Dugi Rat. Mothers mentioned cleaning their home as an activity during which they have been noticing the landfill dust in their homes (Q<sup>4</sup>1). One father, who was not sure about origin of the dust at his home doubted the women's conclusion that there is dust from the landfill at his home thereby deeming cleaning mostly a women's activity (Q2).

*Q1: "(...) [my child] had allergies. She was allergic to dust, mites and so. She coughs all the time. Now I ask myself: "Is it because of that (the landfill dust)?" Because I try to clean it, but you cannot fight it..." (mother)*

*Q2: "I cannot confidently say [that the wind brings the dust and slag from the landfill]. Women clean more often. They say that sometimes a layer of that something is visible, but I am not hundred percent sure that that is it." (father)*

### b) Concern about toxicity of the deposited material

One mother was shocked and worried about the potential consequences that chromium might have on the child she was carrying when she found out about the findings of Knezović (2016) (Q3). One father saw deformations on newborns from Duće settlement, to the south of the landfill, but he did not directly connect them to the potential exposure of their mothers to the landfill dust (Q4), just as none of the interviewees decisively related a health problem they or someone they knew experienced to the landfill. One mother doubted if her child's allergies were related to the landfill dust, so she tried to clear her home from it in order to protect her child's health (Q1). Another mother expressed worry about the potential effect of the landfill on the health of her child who went cycling near the landfill (Q5).

*Q3: "That [the findings of Knezović (2016)] was a huge shock to me. I was pregnant at the time. Even if my baby were born, it would be horrible to hear." (mother)*

*Q4: "(...) in Duće you have children that are born with one more toe and with dissections<sup>5</sup> in their heads. But I do not know if that is because of that [deposited material] or because something else." (father)*

*Q5: "I would lie if I said that I am not worrying when [my child] is riding a bike with friends near the landfill. I think to myself: "Does it bear any health consequences that can show up later?" (mother)*

In case the interviewees could recall the moment of expressing concern in their family about the toxicity of the environment due to the presence of the factory or the landfill, the one who expressed concern first would be the mother. All the mothers did not cast doubts in scientific evidence that confirms the toxicity of the deposited material. On the other hand, one father cited not possessing knowledge needed to judge if the deposited material is harmful (Q6), while another doubted the credibility of the research results which confirmed the harmfulness of deposited material unavailable to the general public in written form (Q7).

*Q6: "As far as I know what was there before the landfill was not harmful, but now with processing some say [it is]. I do not have anything to see there because I do not know." (father)*

*Q7: "If the lady who conducted [that] research, for which I said that it seems loose and which I heard, but never seen black on white, came to me and said: "Listen, (...) it is harmful in a sense (...)*

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4 Quote.

5 "Dissection - a pathological splitting or separation of tissue" (Merriam-Webster Dictionary, n.d.).

*that there is five percent chance that it would influence you”, I would remain here. The problem is that we have lived here for the whole life and we love Dugi Rat and we are somehow attached here. If it [the deposition] took place on another location where I would be living for a year, most probably I would go away from there.” (father)*

### **c) Intergenerational (lack of) environmental awareness**

Interviewees reported that, when the factory was still operating, the environment was not valorised as much as today. The factory emitted black smoke whose particles stuck to the walls of homes. Being used to living in a potentially toxic environment through multiple generations, firstly with the factory and later with the slag landfill, encrusted passivity to acting towards removal of the potential dangers. One mother, whose father was a factory employee, compared her childhood environmental awareness education to that of her child as well as her role in making her child become aware of the importance of clean environment (Q8). One father also highlighted the importance of environmental education of his children. One mother wore a T-shirt with anti-landfill slogan “Let’s get rid of the slag!” to her workplace at which there were children present. Those children knew about the meaning of the slogan from their parents (Q9).

One father spoke about his place attachment having a higher weight than toxicity (Q7). Two of the fathers intentionally convinced themselves that the slag is not toxic (Q10) again because of their place attachment and because they would not be able to forgive themselves if it once turned out that the deposited material caused harm to themselves or their children (Q11). However, all of the interviewees wanted the landfill problem to be resolved and cited the continuation of life in Dugi Rat as the reason.

*Q8: “Now I would definitely make my child aware about that [landfill], but let’s say that none of my parents made me aware. Passivity. Both my grandpa and father worked in the factory. (...) When there would be a horrible smoke, (...) I remember the panic closure of the windows, that huge smoke, that dust. It was an uncomfortable atmosphere, but let’s say that nobody made me aware about some better environment, about environmental protection. (...) when (...) the father gets his paycheck because of the factory, you do not reassess such an environment (...). (...) none of our adults, and let alone at school, would speak about that in that way (...). It would be spoken that many people die here and in Kaštela<sup>6</sup> there is a lot of cancers. Sometimes, when I would go to general practitioner clinics, it would be said: “All of that is because of the factory”, and then I would feel bad when hearing it because my parent works there. How can he work there if there is something wrong?” (mother)*

*Q9: “There were “Let’s get rid of the slag” T-shirts and the children [at my workplace] noticed: “We have them too.”, “My mom and dad bought them as well!” (...) It was neither unknown nor unclear to anyone.” (mother)*

*Q10: “I never really wanted to convince myself that it [the deposited material and the smoke from the factory] is really dangerous, but I do not know.” (father)*

*Q11: “I need to confess that I would not be angry on myself, but at the same time I would not be able to forgive myself if I caused my child’s disease, and let’s say that I could prevent it by moving away from here.” (father)*

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<sup>6</sup> Kaštela is a city in Split-Dalmatia County in which a factory of plastics and chemical products operated from 1949 to 2012 (Hrvatska tehnička enciklopedija, 2021).

## 4.2 Parenthood in the public sphere

### a) Conventional activism and active politics

Prior to the establishment of the citizens' initiative which aimed to steer the policy towards remediation of the landfill, one of its founding members asked for information about its toxicity and the possible steps taken towards its remediation from the governmental institutions, but her progress did not bear desired results because she was acting alone and was perceived by those institutions as a worried mother. Therefore, she united with another four women, out of which one was an interviewee, to establish the initiative. By acting as a formal organisation, not being taken seriously because of being a mother could be avoided (Q12). So far, the initiative has:

- organised protest (Malbaša, 2021), anti-slag T-shirt sale, petition signing online and in person (Građanska inicijativa ZA Dugi Rat, 2021), a public meeting about the landfill with experts in the field of architecture, urban planning, economics and law (Bauk, 2021);
- participated in the media conferences (Malbaša, 2021) and a thematic session of the national Parliamentary Environment and Nature Conservation Committee (Saborska TV - odbori, 2021);
- been informing the public about the research on toxicity of the landfill and the legal situation that concerns the landfill on Facebook and in correspondence with media and
- been collecting scientific, administrative and legal documents related to the topic of landfill.

The interviewees have participated in the listed activities in varying numbers. They needed someone to make them aware that the slag landfill problem that they regularly saw, but got used to, needs to be resolved and that they can do something about it (Q13). This raising of awareness was a goal of the initiative. The initiative was the first to achieve a breakthrough in the media on the point of toxicity. Additionally, the interviews were viewed as a form of awareness development because they reminded them that the problem of the landfill has not yet been resolved. In two FGIs a mother and a father were made aware by other interviewees about the existence of the research ordered by the Municipality.

One mother found motherhood of another mother who is a citizen initiative member crucial for legitimacy of her activities within the citizens' initiative noting the maternal bonding when accepting her invitation to protest and petition signing (Q14). One mother noted that women were more engaged in resolving the very problem (Q15). One mother participated in a TV interview about the slag while she was pregnant. Her role in the interview was limited to the worries of a pregnant woman, although she had more to say due to a broad topical knowledge. She did not regret it because she obtained all that knowledge because of her children (Q16). One father would not participate in protest, in case he were not a parent (Q17).

*Q12: "So, when a man<sup>7</sup> hears that it is about the initiative, he thinks that there is a hundred or two hundred people. Then it already has a higher weight for the one who responds to your questions, who sends you write-ups. And when one lone individual who is a worried mother, they would blow her away immediately." (mother)*

*Q13: "In Dugi Rat people do not talk a lot about the harmfulness of that slag. Rather, we [the citizen initiative members] started to convince them that the slag is harmful. I simply think that they are a little bit inert to that problem." (mother)*

*Q14: That enthusiasm and the care that she gives to her children [appealed to me in the citizen initiative member's invitation to participate in the protest and online petition signing]. Let's say that we, mothers, recognise that. That is in addition to what I know that [the citizen initiative member]*

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<sup>7</sup> In Croatian language the noun man has a male gender. It has an ambiguous meaning of both a person of male gender and human being.

*is very up-and-coming and apt person in whose information I do not suspect. Let's say that that is what motivated me. Since I know that she herself has a sick child, so all of that goes hand-in-hand."* (mother)

*Q15: "It is interesting that the women have been more engaged about that [landfill problem]. I do not know whether that is because they are mothers, but I think that women usually have maybe a bigger need or bravery (...)." (mother)*

*Q16: "They [the TV reporters] wanted to leave a sentimental image, so they called me because I was pregnant. (...) Let them be! Since I studied and learned everything [about the landfill] because of children." (mother)*

*Q17: "We are all sensitive to the children... I would not say that I would answer the call for participation in the protest the same way if I were not a parent." (father)*

#### **b) Parents and children together at protest**

All the interviewees who participated in the protest brought their children with them or asked them to come in case they were old enough to go on their own. This sub-theme was interwoven with intergenerational (lack of) environmental awareness because the parents could prevent transfer of passivity from their generation to their children's by setting a behavioural example of protesting (Q18).

*Q18: "Primarily [the children were welcome to come to the protest] in order for more of us to be there, to show that we care (...) and that [the children] understand that if one wants to do something, one needs to show up, engage and maybe be more active than your parents." (father)*

### **4.3 Relational activism**

#### **a) Using parental social network to support conventional activism**

One mother deepened her professional knowledge so that she could offer a more nuanced professional advice on steps to be taken by initiative on the request of a mother who was its member. That initiative member also searched for ideas for protest banner slogans. She turned to one of the interviewed mothers who spread the search to one of her friends who also happened to be an interviewed mother and who came up with a slogan (Q19). The interviewed fathers did not mention the occurrences of paternal social network in use to directly support conventional activism.

*Q19: "[Name of a mother] asked me [to come up with a slogan] because [the initiative member] is looking for ideas (...)" (mother)*

#### **b) Pregnancy as a constraint**

One mother felt that her pregnancy was a constraint in supporting the work of the initiative because she was not physically able to go to the places where she would attain the documents that she could later read and interpret to be understood and used by the initiative members (Q20).

*Q20: "(...) I did not want to expose myself too much since I was pregnant, but I helped at the beginning (...) on where to start from, from who (...)" (mother)*

### **c) Maternity and sick leave as facilitators**

One mother used the additional free time she gained by going to maternity leave to read about the recent developments on progress of the struggle towards landfill removal just as one father used his sick leave. His wife's free time was constrained by work, so she could not dedicate herself as much as he could (Q21).

*Q21: "I had more free time, so it was me [who dedicated more time towards educating myself about the landfill problem]. (...) Because I was on sick leave and she [wife] works a lot (...). And if the situation were different, maybe she would [dedicate her time to the same cause like I do]." (father)*

### **d) Activism as everyday life**

For a time, the interviewed mother who was an initiative member spent all her free time on:

- organising conventional activist events,
- broadening her knowledge about the problem,
- communicating in writing or orally with: an environmental organisation, politicians and civil servants all the way from the municipal to the EU level and
- informing the public either privately, using social media and in the media.

As a local elections candidate, she was also involved in development of political programme of her independent candidate group that prioritised remediation of the landfill. During all that time, her husband, also initiative and independent candidate group member, took care of their children and household, since his political tasks were smaller than those of his wife (Q22). Neither of them were elected, but it was his pleasure that she was at the core of the struggle (Q23). Activist involvement of one mother also prompted her husband to engage in relational activism because he was looking after their child while she was giving a TV interview.

Wearing an anti-slag T-shirt also falls into the category of relational activism because it promoted clean environment and spread awareness about the issue. Another way of spreading awareness was on social media. The interviewees used it to

- share the online petition, invitation to the protest, media articles about the landfill problem and activities of the initiative and
- comment and/or read the comments on anything of the above.

By reading articles and participating in the discussion below them, the interviewees broadened their knowledge about the landfill issue, gave a chance for others to do the same, understood the public perception of the issue and became motivated to check the given information.

*Q22: "My whole free time was dedicated for that cause, even in the late night hours. (...) it would happen that we [the women from the initiative] stayed up late looking for solutions, texted, talked, had meetings, so I do not really know how my husband survived that." (mother)*

*Q23: "It was my pleasure that she slipped in that [struggle] and that the topic of slag started to be discussed." (father)*

## **5. Discussion**

The interviewees' view on toxicity of the landfill was shaped by gendered household responsibilities, concern for children and encrusted passivity towards acting upon environmental



issues that was due to being used to living in a potentially toxic environment across multiple generations. The intermaternal bond that care for children created ultimately resulted in conception of a citizens' initiative that led conventional activism enactments, most notably the protest in which both parents and children participated to primarily express the need for landfill removal and, secondarily, to give a behavioural example to their children. In order to form a public discourse, raise awareness about the environmental issue beyond the public events and support conventional activism, relational activism was employed.

The interview analysis identified three themes of the perception of the landfill issue and the activism for its mitigation. The first theme, concern for human health and environment was linked to perception of presence of landfill dust at homes of the interviewees in which women seem to fulfill the role of the household and child caretaker (Knight & Binton, 2019). For that reason, they try to distance their children from the landfill dust for which they worry that it might have caused or might cause health problems for their children later (Longson-Conradson & Allred, 2010). While the fathers try to avoid thinking about its toxicity, all the mothers seem to believe more firmly that the deposited material is harmful and express concern about it (Culley & Angelique, 2003).

The second theme, parenthood in the public sphere and politics, confirmed Brown and Ferguson's (1995) conclusion of importance of branding activism as maternal as well as that of trusting maternal instinct of harm to their children because the conventional activism was initiated by a group of women. At the same time, avoidance of giving the sentiment of a worried mother by establishing a less maternal- and feminine-sounding citizens' initiative proved another Brown and Ferguson's (1995) conclusion on view of women's activist intentions as purely motherhood sentiment-driven. On the other hand, the fathers did not mention a paternal bond that they felt in regards to this issue. This confirms Stets and Biga's (1994) statement of masculine identity as independence- and agency-oriented and feminine as communion-oriented.

Mothers were the ones who motivated their husbands to participate in the conventional activist actions organised by the initiative or/and become active in politics. This confirms the conclusion of Tindall et al. (2003) that women are the ones that are more likely to express concern, but denies the one that women are less likely to engage in conventional activism. However, it was the expert knowledge gathered by relational activism (Culley and Angelique, 2003) that made women fill the formal leadership positions of the citizens' initiative.

The third theme, relational activism, showcased that within a couple relational activism, beyond being informed on the environmental problem and discussing it in everyday conversations or on the social media, became more of a lifestyle if one couple member becomes involved in conventional activism. Heavier involvement in conventional activism by mothers meant the same for their husbands in field of relational activism. Beyond the individual couples, only women showed the importance of their maternal social networks to engage other mothers in relational activism (O'Shaughnessy & Huddart Kennedy, 2010).

This study is not without limitations. Primarily, using one-to-one interview and two FGIs instead of one FGI for all parents of one gender as a primary data collection method might have undermined the scope of collective perception in question (Saiz et al., 2011; Punch, 2014). Secondly, there is a possibility that the interviewees might share their accounts in a way that they perceive is more beneficial for the research, although might not correspond to the actual situation (Pedulla & Thébaud, 2015). Thirdly, the sample representativity might have been amplified by convenience sampling method which might have led to research participation of only those who are keen to

participate (Burt et al., 2009) and who belong to the social network of one person, the informant. On a speculative note, this leads to inference that there was a bias by sample characteristics. Fourthly, the environmental issue has not been resolved yet, so the activism success cannot be fully captured.

## 6. Conclusions

This research shows that motherhood and fatherhood can bear different perceptions of harmfulness of a localised environmental issue for their children which can be due to the gendered responsibilities within the private sphere. The care for children of Dugi Rat mothers ultimately resulted in them leading conventional activism events and their maternal communion was used to inspire other mothers who would in turn motivate their husbands to become engaged in both relational and conventional activism. The process of forming an activist citizens' initiative was gendered and influenced by motherhood.

This research is relevant for the policy because, in addition to the localised environmental issue, it highlights the gender issues that arise in communication between mothers as individuals and governmental institutions. For future research, a quantitative study on influence of gender identity on environmental activism in Dugi Rat is recommended.

## 7. Acknowledgements

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## 9. Appendix

### 9.1 Appendix A: Interview guide

- Core question 1:
  - *Question description:* This question intends to investigate the interviewees' perception of the environmental issue.
  - *Main question:* What do you think of it when you see it? Why?
  - *Probing questions:* How frequently do you see the slag landfill every day? Do you look at the landfill from the window? Do you see it when walking or driving? Does the wind blow the material from the landfill into your home?
- Core question 2:
  - *Question description:* This question intends to investigate the gendered response on development of attitude towards the environmental issue.
  - *Main question:* Which member of your household did express his/her concerns about the slag landfill first?
  - *Probing question:* When? Why? What was your reaction to his/her concerns? Did it take time for you to take the concerns seriously? Would you consider yourself an environmental activist before the slag landfill issue came about?

- Core question 3:
  - *Question description:* This question intends to investigate the importance of parenthood as a motivation for becoming an environmental activist. Also, it aims to explore the importance of social networks that are centered around parenthood (e.g. parents of children going to the same school) as well as maternal or paternal mental bonds in mobilisation of activists.
  - *Main question:* How did becoming a parent play a part in your own mobilisation to do something about the issue of slag landfill?
  - *Probing question:* When did you start to become involved in the struggle for resolving the issue compared to the time you became a parent? Who mobilised you into the struggle for removal of the landfill? (Additional question if the mobiliser is not the spouse: How did you get to know the person who mobilised you?) How did they (the mobiliser) encourage you to join?
- Core question 4:
  - *Question description:* This question intends to investigate the interviewees' perception of conventional environmental activism as well as parenthood as their argumentation for it. Also, it seeks to find about the interviewees masculine (individual-oriented) or feminine (communion-oriented) gender identity.
  - *Main question:* Which sorts of actions did you take so far?
  - *Probing question:* How successful have been those actions? Which actions you think might be successful, but you have not taken them yet? Are group actions are the best way of fighting in your case? What role do your children have in acts of your struggle (presentations, protests, media interviews)? Why?
- Core question 5:
  - *Question description:* This question intends to investigate the interviewee's potential roles in relational and conventional activism that can also be gendered.
  - *Main question:* Did the struggle for clean air become a part of your daily life?
  - *Probing questions:* How do you dedicate your everyday time to the cause? Do you take tasks of your husband/wife in order for him/her to dedicate time to the cause? Who dedicates more time to the cause between you two? What have you learned about your legal position since 2011? What did you learn about toxicity of such a landfill? How? Did you share the knowledge? Who did you share it with?
- Core question 6:
  - *Question description:* This question intends to investigate the differences of potentially gendered political involvement of the interviewees after they became invested in local environmental activism. The political involvement can be primarily children-oriented (e.g. school board).
  - *Main question:* Did you start voting after you started your struggle? Have you yourself became a part of a political organisation or did you take a political position (e.g. school or kindergarten board)? Did you start actively advocating some other cause other than the slag landfill removal?
  - *Probing questions:* Do you do it because of your children's benefit? Did your voting decision become more informed? Do you think that your political actions had an impact on the decisions that can affect the slag landfill removal?
- Closing question:



- Would you like to add anything that you feel is important, but was not said during the discussion?

## 9.2 Appendix B: Coding scheme

Sub-theme code key:

- 1a Dust from the landfill inside homes and on their outdoor parts
- 1b Concern about toxicity of the deposited material
- 1c Intergenerational (lack of) environmental awareness
- 2a Conventional activism and active politics
- 2b Parents and children together at the protest
- 3a Using parental social network to support conventional activism
- 3b Pregnancy as a constraint
- 3c Maternity leave and sick leave as facilitators
- 3d Activism as everyday life

Theme code key:

- 1 Concern for human health and environment
- 2 Parenthood in public sphere
- 3 Relational activism

Coding scheme:

Code	Sub-theme code	Theme code	Additional sub-theme code (if applicable)	Additional theme code (if applicable)
Description of landfill dust	1a	1		
Dust coming to the home	1a	1		
Dust is of unknown origin	1a	1		
Inability to keep up cleaning with build-up of slag dust	1a	1		
Women clean home	1a	1		
Belief in scientific evidence	1b	1		
Bombons were not toxic	1b	1		
Children's allergy	1b	1		
Concern for children who pass by the landfill	1b	1		
Illness of a family member	1b	1		
Deaths	1b	1		

Diseases	1b	1		
Disgust towards visiting the landfill	1b	1		
Factory eyesore	1b	1		
Factory was not toxic	1b	1		
Factory was toxic	1b	1		
Future health consequences	1b	1		
Health as motivation	1b	1	3a	3
How landfill came into place	1b	1		
Information from ex-factory workers	1b	1		
Intentional conviction of non-toxicity	1b	1		
Intergenerational pattern of falling ill	1b	1		
Landfill as an everyday surprise	1b	1		
Landfill eyesore	1b	1		
Landfill is toxic	1b	1		
Malformations of the newborns	1b	1		
Marine pollution	1b	1		
Moment of expressing concern	1b	1		
No change in own health	1b	1		
No currently visible harm to children in relationship with landfill	1b	1		
Not believing official accounts	1b	1		
Perception of more female activist engagement	1b	1	2a	2
Physical danger of being at the landfill	1b	1		
Questioning non-toxicity of dust	1b	1		
Returning tourists	1b	1		
Scientific evidence	1b	1		
Slag as motivation for prioritising ecology in voting	1b	1		
Slag as uncomfortable topic	1b	1	1c	1
Tourism	1b	1		
Transfer of toxicity from factory to landfill	1b	1		
Uninformedness about scientific evidence	1b	1		
Unsure about expressing concern	1b	1		
Unsure about the cause of the disease	1b	1		
Unsure about toxicity	1b	1		
Usedness to the landfill	1b	1		
Woman expressed concern first	1b	1		
Woman suggest activism	1b	1	2a	2
Activism caused concern about marine pollution	1b	1		
Avoidance of diving	1b	1		
Benefits of the factory	1c	1		
Benefits of the landfill	1c	1		
Care for the future generations	1c	1		
Chernobylians	1c	1		
Children are more important	1c	1		
Children are more susceptible to pollution	1c	1		
Children are too young to understand	1c	1		
Children should not be left behind	1c	1		
Continuation of life in Dugi Rat	1c	1		

Culture of non-activism	1c	1	2a	2
Development sense of responsibility in children	1c	1	2b	2
Environmental education of children	1c	1		
Everyday conversations	1c	1		
Growth of awareness	1c	1		
Importance of reminding	1c	1		
Inertness	1c	1		
Interview as a form of consciousness development	1c	1		
Lack of forgiveness for own mistake	1c	1		
Lack of raising awareness when the factory was open	1c	1		
Media as source of awareness	1c	1	1b	1
Modern children are more critical	1c	1		
Passivity	1c	1		
Smoke from the factory	1c	1		
Husband is less interested in environmental protection	1c	1		
Husband is more interested in environmental protection	1c	1		
Mother is less passionate about environmental protection	1c	1		
Waste separation	1c	1		
Candidacy on local elections	2a	2		
Children in danger on the way to school because of cars	2a	2		
Children's future in voting	2a	2		
Citizen's initiative	2a	2	3a	3
Communication with media	2a	2		
Communication with public institutions	2a	2		
Discomfort because of non-activism	2a	2		
Fighting as a group	2a	2		
Future of my children is my future	2a	2		
Gladness about activism	2a	2		
Having one point	2a	2		
Informing the public	2a	2		
Lack of political will	2a	2		
No mention of landfill at parental council	2a	2		
Participation in the protest	2a	2		
Political activation	2a	2	3a	3
Public hearing	2a	2		
Satisfaction with the protest	2a	2		
School parent's council	2a	2		
School parents' council's role not taken seriously	2a	2		
Signing the petition	2a	2		
Thematic session at Sabor	2a	2		
Too few people in the protest	2a	2		
Treating residents as stupid	2a	2		
Undervaluation of knowledge by media	2a	2		
Unseriousness of school parents' council	2a	2		
Worried pregnant woman	2a	2		
Admiration for the citizen's initiative	2a	Other		
Censorship	2a	Other		
Commenting on social media	2a	Other		

Communicating with EP	2a	Other		
Corruption	2a	Other		
Directing voice to politicians	2a	Other		
More informed voting	2a	Other		
No intention of media exposure	2a	Other		
Non-activism in the past	2a	Other		
Non-participation in the protest	2a	Other		
Not considered an activist	2a	Other		
Protest organiser vs. participant	2a	Other		
Political complexity	2a	Other		
Protest was well-known	2a	Other		
Protesters from Split	2a	Other		
Sabor	2a	Other		
Children as additional protesters	2b	2		
Children as motivation enhancer	2b	2	1c	1
Children as the main motivation	2b	2	2a	2
Children at protest as a sign of parents' responsibility	2b	2		
Children bring positivity to a protest	2b	2		
Children's cry causes remorse	2b	2	2a	2
Convincing children to participate in the protest	2b	2	1c	1
Diversity of protesters	2b	2		
Influencing consciousness of the protest viewers	2b	2		
Influencing sentiment of media viewers	2b	2		
Invitation from another mother	3a	3		
Maternal care for children	3a	3	1b	1
Need for personal activation	3a	3	1c	1
Need for push of awareness	3a	3	1c	1
Need for push towards activism	3a	3	1c	1
Spillover of activism	3a	3	2a	2
Pregnancy as a constraint	3b	3		
Maternity leave provides more time for staying on top the developments	3c	3		
Activism as everyday life	3d	3		
Being kept informed	3d	3		
Changing gender roles	3d	3		
Information from social media	3d	3		
Information from wife	3d	3		
Landfill was not the first instance of reversing gender roles	3d	3		
Learning legal knowledge	3d	3		
Man is more dedicated	3d	3		
Media and social media	3d	3		
medical knowledge	3d	3		
Meetings with environmental organisation members	3d	3		
Need for expert knowledge	3d	3		
Need for expert support	3d	3	1c	1
No routine change	3d	3		
Offering legal advice	3d	3		
Organising a protest	3d	3		

Poster creation	3d	3
Recent developments	3d	3
Routine change	3d	3
Seeking expert knowledge	3d	3
Sending e-mails to MEPs	3d	3
Sharing posts about landfill on social media	3d	3
Sharing the petition online	3d	3
T-shirt	3d	3
Woman is more informed	3d	3
Woman participated more actively	3d	3
Connecting with an expert	Other	3
Contribution in form of legal advice	Other	3
Importance of seeking expert legal knowledge	Other	3
Activist in the past	Other	Other
Activists are there to disturb the peace	Other	Other
Activists who don't know how the things function	Other	Other
Consideration of one as an activist	Other	Other
Disappointment about activism in the past	Other	Other
Distrust in legal protection system	Other	Other
Feeling of uncertainty	Other	Other
Frustration	Other	Other
Great expectations from the redevelopment	Other	Other
Invitation from the priest	Other	Other
Lack of economic diversification on the national level	Other	Other
Motivation other than parenthood	Other	Other
No future for the settlement	Other	Other
Non-usedness to the landfill	Other	Other
Nostalgia about the factory	Other	Other
Not considering children's future in voting	Other	Other
Not only for children	Other	Other
Pride about the factory	Other	Other
Terrifying view on the site	Other	Other
Toxicity of the factory	Other	Other
Voting as a moral obligation	Other	Other
Voting for better future in general	Other	Other
Voting on local level	Other	Other
Voting on national level	Other	Other

### 9.3 Appendix C: Survey text

The introductory questionnaire will consist of the following questions and offered answers if applicable:

1. What is your sex?
  1. Male.
  2. Female.
2. What is your age in years?...
3. Since which year have you been living in Dugi Rat?
4. How old are your children?
  1. 1st child:...

2. Another child (add):...
5. What is your employment status?
  1. I am not employed.
  2. I am employed full-time.
  3. I am employed part-time.
  4. Other, please explain (e.g. I rent property as a source of income):...

### 9.3 Appendix D: Consent form

This questionnaire, together with a follow-up focus group interviews is a part of the data collection for the bachelor thesis of Filip Puljiz, a third year student of Human Geography and Planning study programme at the Faculty of Spatial Sciences of the University of Groningen (the Netherlands). Your participation is voluntary and can be withdrawn any time without providing a reason. The questionnaire answers are anonymous and confidentially treated. They will be stored at online drive that can be accessed exclusively by Filip Puljiz. The completion of this questionnaire will take approximately two minutes. The questionnaire consists of six questions that cover your demographic and employment data.

This questionnaire is an introduction to a focus group interview in which you are expected to participate. The focus group interview will be audio-recorded. Only Filip Puljiz will have the access to the recordings and their transcriptions that will be stored on his computer and treated confidentially and anonymously. Only Filip Puljiz will have access to them. The focus group interview will be moderated by Filip Puljiz, last approximately two hours and involve five other interviewees along with you. You will contribute to the interview with your views and standpoints. Please be honest about them although they might be contrary to those of the other interviewees because there are no right or wrong answers in a focus groups interview. Please do not interrupt when another person is speaking and treat what you hear from them confidentially.

In the process of writing the aforementioned bachelor thesis, no data that might lead to identification of the participant will be stated with exception of sex. Also, any indication of the potential future political activities of the participants will not be included in the thesis in order not to have influence on their outcomes by announcing them in an academic paper.

Thank you in advance for your time and contribution in the research!

This questionnaire is a part of the Bachelor Project course and it has exclusively scientific and educational purposes. If you have any questions, concerns or feedback, please contact Filip Puljiz on the e-mail address [f.puljiz@student.rug.nl](mailto:f.puljiz@student.rug.nl). This bachelor project is supervised by Dr. Roberta Rutigliano who can be contacted using e-mail address [r.rutigliano@rug.nl](mailto:r.rutigliano@rug.nl).

By continuing, you declare the following:

- I am 18 years or older.
- I have been informed about this research satisfactorily.
- I have read the information and understand what is expected from me and understood the information properly.
- I have had the opportunity to ask questions about the research.
- I know that my participation is voluntary and I have been informed about my rights.
- I also know that I can end my participation at any moment, without explaining why.



- I understand how my data will be processed and protected.
- I understand the text above and I agree with the participation in this research.