VALUES IN THE EVALUATION AND CONSIDERATION PROCESS - AN EXPERIMENTAL STUDY ON VALUES IN A SPATIAL CONTEXT

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Summary: In the spatial context, personal and institutional values are crucial for decision-making and prioritisa-tion. This article takes a perspective on values in spatial research and university practice. The present study deals with an understanding of values and the investigation of the negotiation and adaptation of values in collaborative processes by students. The data obtained from an experimental survey provides an insight into the values that guide students' actions. The results of the study suggest that the values of 'protecting the environment', 'forward-looking', 'equality', 'common good', 'health' and 'sustainability' are considered stable and guiding. However, a transformation of values and a specific prioritisation of values within different demographic and socio-structural characteristics can also be observed. A shift in values occurs during the experimental planning process, which illustrates the transformative effect of planning dis-courses. The findings contribute to a deeper understanding of value culture and its dynamics, particularly in regard to the orientation towards action and possible conflicts of values in planning processes. The results emphasise the importance of transparent and cooperative planning processes to create a basis for decision-making.

Keywords: Personal and institutional values, experiments, negotiation, decision-making, spatial planning, planning culture

1 Introduction

Personal and institutional values are of crucial importance because, in combination with external factors such as legal requirements, they have a significant influence on the way planning decisions are made and on the prioritisation of objectives (HEALEY 1992). Especially in collaborative planning processes, where actors with individual beliefs and interests come together, the weighing of values becomes increasingly important (OTHENGRAFEN & LEVIN-KEITEL 2019, OTHENGRAFEN et al. 2019a). Despite the acknowledged importance of values in planning decision-making practice, there has so far been little empirical research into the value basis underlying spatial planning decision process-es (FÜRST 2004: 248, ALBERS & WEKEL 2017:53). Further studies are therefore required to enable a more differentiated analysis of the underlying (in-stitutional and personal) values (OTHENGRAFEN & LEVIN-KEITEL 2019: 128). The following article presents the results of a quantitative survey con-ducted by students in the fields of geography and spatial planning. The survey focused on the collab-orative planning process, in which mindsets, atti-tudes and values based on typical social orientation patterns and underlying norms were recorded, as well as changes in these values resulting from the experiment. The study focuses on analysing the val-ues that guide action, following the main research question: Which personal and institutional values guide students in the spatial planning process, and how do these values change through evaluation and consideration processes?

The aim is to identify underlying general val-ues and analyse the influence and transformation of values within the collective negotiation process. This question is addressed through five specific sub-questions (see section 3).

The paper is structured as follows: The theo-retical foundations of values in the planning pro-cess and a theoretical categorisation of values are first presented in section 2 to introduce the experi-ments. This is followed by the presentation of the empirical study and the analysis of the collected data. After the presentation of the results, these are interpreted with a particular focus on the identified values, their comparison, contextualisation, and a final conclusion. The article's quantitative scope highlights which values are central to students of the spatial sciences and how collaborative decision-making involving evaluation and consideration leads to the transformation of values.

2 Values in planning processes

The assessment and weighing of values is of central importance, as planners are often faced with the challenge of harmonising diverse and often conflicting interests and values. This requires a balanced approach and the selection between different planning alternatives, which is considered a core foundation of the planning profession (Fürst 2016, Brooks 2017:13, Müller et al. 2024). In spatial planning, the legal framework forms the basis within which planners must operate. This balancing process, which deliberately does not prescribe fixed requirements for the weighting of different interests, allows for flexible interpretation and the inclusion of a wide range of values (Gierke & Schmidt-Eichstaedt 2018). Due to the complexity of spatial planning environments, decision-making requires not only the consideration of objective criteria, but also the inclusion of subjective values and ethical convictions (Campbell 2002, Othengrafen & Levin-Keitel 2019).

Values are of great importance in the debate about what guides action in society or contributes to the development of guidelines for action. They represent ideas or beliefs aimed at both desirable behaviour and desired outcomes, thereby guiding behaviour and the evaluation of events and people. Often deeply anchored in identity, they influence decisions and actions across different areas of life, but vary among individuals, groups, and cultures (Unkrig 2023: 13f.), showing clear differences based on various characteristics. Influencing factors include, for instance, level of education, age, gender, migration background, or social structure. People with a higher level of education tend to favour universalist and self-determination-oriented values. They place less importance on tradition, conformity, and security than people with a lower level of education. With increasing age, values such as security and tradition gain importance, while values like self-determination and universalism tend to decline. Women are more inclined towards benevolence and universalist values, as well as security and tradition, whereas men more often prioritise self-determination and power-related values. People with a migration background place higher importance on security and conformity than on self-determination and universalism, while residents of urban areas value tradition less than those in rural regions (Thome 2019: 13). In an increasingly differentiated society, where overarching structures of meaning are disintegrating and being replaced by a multitude of contradictory perspectives, it is becoming more difficult not only to maintain a stable identity but also to establish uniform values. Instead, values emerge within fragmented social contexts through interactive dynamics and the exchange of differing perspectives that may help create a shared foundation (Olk & Otto 2021: 142).

Values emerge through the interplay of individual and institutional factors. Formed at both the personal and collective levels, they are influenced by cognitive attitudes, guiding principles, interactions between groups of actors, and the formal context (Othengrafen et al. 2019b: 162). Hörning & Reuter (2004) state that values are not only firmly anchored in cultural orders but are also dynamic constructs, interpreted individually and shaped within the framework of one's knowledge and abilities (Othengrafen et al. 2019b: 157). According to Straub (2004), this allows behaviours and reactions to deviate from prevailing collective patterns of action (Othengrafen et al. 2019b: 157). Pollock (1955) argues that values emerge and develop through social interactions, in which latent beliefs become visible and are reshaped through exchange with others. They are not merely the sum of individual ideas, but the product of collective processes that reflect shared experiences and social contexts (Bohnsack 2014). As fundamental guidelines that shape decision-making and social behaviour, values influence various areas of life and work (Kirchschläger 2023: 48). It is widely recognised that values influence how people interact with one another and, consequently, how processes are designed and implemented (Abels 2019: 79). Actors are not only bound by technical and economic requirements in their actions, but also by ethical considerations and values (Hutter et al. 2019: 16). In practice, they are often faced with the dilemma of weighing up conflicting values (Campbell 2002: 96). Values can be categorised into types such as moral, cultural, social, spiritual, personal, and institutional values (Unkrig 2023: 14f, Schwartz 1994/2012, APA 2021). These values can be differentiated according to their characteristics and content.

There are theoretical values, which focus on knowledge and cognition, and practical values, which increasingly guide action. A further distinction is made between subjective values, which are based on individual or collective beliefs, and objective values, which are intended to apply universally regardless of personal views. Intrinsic values are meaningful in themselves, independent of external attributions, while extrinsic values derive their significance from their usefulness. In addition, moral, religious, and aesthetic values influence different areas of life, along with universal values that ap-

ply across cultures, and context-dependent values that relate to specific cultures or historical periods (THOME 2019: 30ff.).

Values can be located at different levels of abstraction, such as the distinction between values as a 'guiding principle of my life' and 'ways of acting'. A guiding principle refers to an abstract and fundamental inner orientation. It provides direction for life as a whole and is rarely subject to change. Ways of acting, on the other hand, are specific expressions of this basic orientation in real-life contexts. They represent concrete, situation-specific realisations of guiding principles and values, which can be adapted depending on the circumstances. This reflects a different level of abstraction (SCHWARTZ 1994: 21).

Building on these theoretical considerations, the following section further develops conceptual perspectives on how values are formed, interpreted, and negotiated in planning contexts. This conceptualisation also forms the basis for the design of the experimental research approach presented in the following section.

The way in which actors understand their tasks, perceive problems, and how these thought patterns manifest themselves in everyday practice through specific rules, procedures, instruments and action patterns is a central focus of analysis (LEVIN-KEITEL & OTHENGRAFEN 2016: 161f). At the same time, these patterns must be considered within the context of formal framework conditions, such as laws, as well as informal cultural values, attitudes and traditions (OTHENGRAFEN et al. 2019b: 162). There is an interplay between manifested elements, such as legal foundations, and non-manifested elements, such as individual and collective perceptions and behavioural patterns (OTHENGRAFEN et al. 2019b: 161).

It is important to note that these are collective patterns that go beyond the personal characteristics of individuals and are publicly perceptible (RECKWITZ 2006: 559, OTHENGRAFEN et al. 2019b: 157). This is achieved by identifying, systematically recording and analysing the thought patterns and actions of actors and institutions based on socially embedded orientations and associated values. In particular, the orientations of planning institutions and individual actors are systematically captured. Personal values such as a preference for social justice or sustainability interact with institutional values shaped by legal requirements, strategic principles or cultural norms (OTHENGRAFEN & REIMER 2018: 1733).

Institutional values are those that are collectively embedded within a society, organisation or group. Within an institution, they represent social ideas,

principles or beliefs that serve as orientation frameworks for what is considered important and appropriate. These values possess a certain degree of stability and influence how members of an institution think, what goals they pursue and how they act in specific situations, thereby shaping the organisational culture (AGOSTINI 2021: 63). Within organisations, they affect strategic orientation and decision-making, internal processes, rules and work organisation (SCHEIN 2010). Institutional values are therefore structural guidelines shaped by the cultural and social norms within an institution or society, and they exert long-term influence (LEVIN-KEITEL & OTHENGRAFEN 2016: 5f).

Personal values are the principles or beliefs that determine an individual's behaviour and attitudes towards desirable outcomes or behaviours and play a significant role in the choice and evaluation of actions (AGOSTINI 2021: 15f). Personal values emerge from an individual's interpretation, social experiences, and appropriation of the cultural order, as well as from their ethical and moral beliefs and the prevailing social norms and expectations (UNKRIG 2023: 14f). These cultural orders are interpreted and shaped by each individual based on their own experiences, knowledge, and skills (LEVIN-KEITEL & OTHENGRAFEN 2016: 5f). Although culture provides a certain structure, individuals have the freedom to deviate from collective patterns of behaviour and develop their own values. This occurs through the active, interpretive appropriation of systems of meaning and social practices (LEVIN-KEITEL & OTHENGRAFEN 2016: 5f).

Personal values reflect an individual's perspective and the way in which a person interprets norms, rules, and symbols and integrates them into their actions (UNKRIG 2023: 29f). A key distinction lies between subjectivity and collectivity: personal values are individual and can vary greatly from person to person, while institutional values are collective and supported by the entire organisation in pursuit of a common goal (AGOSTINI 2021: 154). At the same time, both levels strongly influence one another, which, according to Heintz, can be seen as a fundamental issue in human societies. This is because individual values influence institutional expectations, and conversely, institutional expectations shape individual values (HEINTZ 1981: 158).

In some cases, long-term strategic planning goals may conflict with personal attitudes. KÜHN even argues that values can 'fight' with one another in planning conflicts (KÜHN 2023: 542). In this context, SCHWARTZ's typology of values is instructive; it organises opposing pairs of values that come into

conflict in order to highlight tensions between different motivational goals and to better understand the interplay between personal and institutional priorities. For example, self-determination (independence) and conformity (adaptation), stimulation (curiosity) and security (stability), as well as power (status) and universalism (justice) are juxtaposed, as they represent opposing goals. This typology illustrates how individual aspirations such as achievement or power can compete with collective values such as altruism or universalism (SCHWARTZ 2012: 9).

The theoretical background to the survey of values can be found in Communicative Planning Theory. According to HEALEY (1992), understanding and open communication are key to integrating different values and resolving value conflicts. In planning decisions where no predetermined value standards exist, these must be developed through reflection and argumentative exchange during the decision-making process to achieve a well-founded assessment and a shared understanding of values (HEIDMANN 2012: 247). The approach emphasises communicative actions and exchanges, as well as joint learning processes between actors, which are central to this investigation (STÖGLEHNER 2019: 111). Communication is understood not only as an exchange of arguments, but also as a means of developing a deeper understanding of other actors' interests and of formulating common goals and values (FREY et al. 2008: 23).

It becomes clear that planning decisions are not only technical and rational but also communicative processes in which different values, perspectives and interests are negotiated. These processes can be understood as forms of mutual learning among stakeholders (DILLER 2009: 1, STÖGLEHNER 2019: 111, FÜRST 2016: 44). The focus here is on creating a shared foundation for decision-making that is accepted by all stakeholders (SELLE 1996).

The negotiation of values in the planning process can also be linked to value change, as emphasised by OLK and OTTO (2021). In the context of social differentiation, the diversity of often contradictory social realities and value hierarchies leads to the erosion of stable, universal values. Instead, a plurality of interpretations and lifestyles emerges, each of which must be renegotiated individually and in context. These conditions are also reflected in planning processes, where different interests and perspectives can lead to the development of a new common understanding through dialogue and cooperation. This can transform the value orientations of those involved (OLK & OTTO 2021: 143).

Although this concept originates in social work, it can also be applied to spatial planning, as planners similarly operate in fragmented societal contexts involving multiple stakeholder interests and normative uncertainties. From this perspective, planning is not limited to technical implementation. It also involves mediating between competing values and creating value-based frameworks for spatial development. Furthermore, the ethical complexity of planning decisions, where actors often have to make trade-offs between conflicting values in politically contested environments, is well documented in the literature (e.g. CAMPBELL 2002, ALEXANDER 2005). This highlights the need to consider values not merely as individual preferences but as subjects of negotiation within situated and often power-dependent decision-making processes.

These theoretical considerations also provide the basis for the methodological approach of this study. The concepts described in the theory section, particularly the interactions between personal and institutional values and the communicative negotiation process, can be effectively captured in experimental settings. Students are a suitable study group because they are in a phase of value formation and professional socialisation, while also having initial exposure to planning issues. The participants' educational background as students of geography and spatial planning entails an early engagement with normative guiding principles. While this makes them an appropriate target group for investigating the early phases of value-based professionalisation, it limits the transferability of the results to practicing planners. However, in the sense of Communicative Planning Theory (HEALEY 1992), initial spaces for reflection can be created in which values are made explicit and transformed through exchange.

3 Methodological approach: Student experiments on the understanding of values

Building on the theoretical framework of communicative planning and value negotiation (see section 2), the following empirical study involves the extraction and categorisation of values from student experiments. The aim is to empirically explore how value orientations emerge, shift and are negotiated in simulated planning processes. It examines which fundamental beliefs and ethical principles characterise students in a spatial context. Based on theory, it can be assumed that communicative planning processes provide a platform on which different actors

contribute their personal values and convictions and reflect on and transform them through exchange with others. Specifically, the following sub-questions are to be answered:

1. Which values are fundamentally important to students?
2. Which values are actually considered central by students when working on planning tasks and the associated negotiations?
3. Which values are held by students from different backgrounds?
4. How do the values that are hypothetically considered important differ from the values that are actually used when working on planning tasks?
5. What contribution do the study, and the values detected make to the understanding of spatial evaluation and consideration?

3.1 Determining values through experiments

The survey of students' personal and institutional values was carried out using in-house experiments designed as laboratory experiments. Here, the term 'laboratory experiment' refers to a controlled university setting with predefined group sizes, timeframes, and task structures. It does not imply a laboratory environment in the natural sciences sense, but rather a simulated planning scenario designed for empirical observation and comparison. The survey aimed to collect primary data on planning decisions and the understanding of values. Although the experimental setup was independently developed by the authors, it conceptually aligns with established approaches in planning education and theory. In particular, it corresponds with communicative planning frameworks (Healey 1992) and educational models that use simulated decision-making to explore the normative dimensions of planning (e.g., Olesen 2018, Campbell 2002, Alexander 2005). These connections contextualise the experiment within broader discussions on value negotiation and ethical reasoning in planning processes.

The experiment sheds light on how communicative exchange can lead to an alignment of values.

Through dialogue, students learn to reconsider their own convictions in light of others' arguments and to modify them if necessary.

Students were chosen as study participants because they could be accessed in larger numbers under controllable conditions, including fixed group sizes, uniform instructions, identical tasks, and limited timeframes. The selection was based not only on pragmatic considerations such as accessibility and standardisation, but also on the theoretical focus of the study: students represent a relevant target group for observing value formation and negotiation processes in planning contexts. As future professionals, they are at a formative stage where institutional and personal value orientations begin to interact. Their participation allows for an investigation into how educational and collaborative processes may initiate value transformations, as suggested in the communicative and reflexive planning literature (Healey 1992, Olesen 2018).

However, it should be noted that the educational context of university seminars shapes students' value orientations in specific ways. Their perspectives may reflect academic discourses more than practical planning realities, and their decisions are not constrained by institutional responsibilities or political consequences. As such, the findings must be interpreted within the limits of a simulated environment. Nevertheless, the inclusion of students remains appropriate, as their role in the study is theoretically grounded in the concept of early-stage value development and identity formation within the planning field.

The survey design comprises two standardised questionnaires and a fictitious planning scenario conducted in group work involving 2 to 5 students under controlled conditions (see Fig. 1). All students had prior exposure to the basics of planning theory and received instructions on the experimental task during their seminars. This ensured that participants approached the simulated decision-making process with a shared, practice-oriented frame of reference.

The participants were enrolled in undergraduate and graduate programmes in Geography (JLU Gießen) and Spatial Planning (TU Dortmund) at two German universities. They had also attended
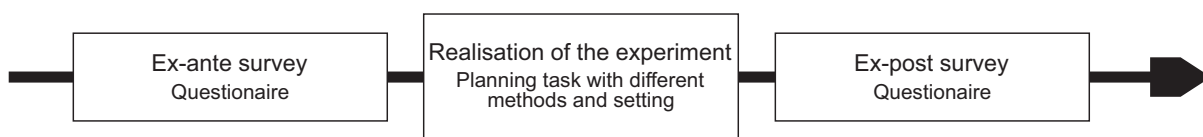

Fig. 1: Survey design of the experiments

seminars with planning-related content. While all students had a basic theoretical foundation in planning, the depth of knowledge varied depending on their academic level and course participation. The first questionnaire (ex-ante) was administered before the experiment, and the second (ex-post) afterwards. This structure was designed to collect information on participants' understanding of values before and after they engaged with the planning scenario. The aim was to capture both their hypothetical and applied understanding of values throughout the process.

Participants were recruited from a pool of Geography and Spatial Planning students through active selection within thematically suitable lectures. A total of 18 standardised experiments were conducted over a period of 22 months, each lasting exactly 90 minutes for the laboratory component, plus time for the ex-ante questionnaire. For the analysis, 205 valid responses (i.e. completed and matched ex-ante and ex-post questionnaires) were used, drawn from a pool of approximately 350 students, with an average age of 23. The gender distribution was as follows: 49% male, 45% female, 1% diverse, and 5% did not disclose their gender. Regarding academic background, 49% of participants were enrolled in a Bachelor of Science in Geography, 20% in a Bachelor of Science in Spatial Planning, 10% in a Master of Science in Geography, and 11% in a Master of Science in Spatial Planning. Additionally, 6% reported studying other programmes, and 3% did not provide an answer.

The planning example formed the basis of the experimental component, which aimed to develop proposals for the subsequent use of a conversion area. Each group received a planning case centred on a fictitious site called 'METS-Kaserne,' based on a real-world conversion site in Mannheim. This site was chosen due to its heterogeneous spatial context and manageable size, which enabled students to realistically engage with the planning task without being overwhelmed by its scale.

None of the participants had prior professional or regional ties to the site, and all relevant information was standardised and provided within the experiment to ensure comparability of group discussions. The selected conversion site is a former military barracks covering approximately 2.6 hectares. After a long period of vacancy, the site is now to be reactivated and integrated into urban development. It is located in a historically significant area (with listed buildings) adjacent to residential areas, agricultural land, commercial zones, wooded green spaces, and a motorway (cf. Fig. S1, Supplement).

Due to its central location, the site offers significant potential for various uses. It is well connected to public transport, green infrastructure, and social facilities. Three scenarios were defined for the proposed future use of the site within the experiment: the development of a residential area, the establishment of a commercial zone, or the ecological renaturation of the area.

The task was to develop a spatial solution within the given constraints using one of the assigned methods: verbal argumentative assessment, SWOT analysis, or multi-criteria decision analysis (MCDA) known in German as 'Nutzwertanalyse 1'. Alternatively, the solution could be developed freely within the control group. The objective was not to produce a detailed plan or drawing, but rather to structure and justify a planning decision based on the information provided, including land-use data, social structure, accessibility, and other criteria. The scenarios did not include predefined normative goals such as 'affordable housing' or 'ecological focus,' allowing students to prioritise values freely within the decision-making process.

The planning task gave students the opportunity to take on the role of planners and to experience what it feels like to participate in a simulated planning process, becoming aware of their own values in a practical context. According to OLESEN (2018), this experience forms a vital foundation for discussing whether students should consistently adhere to a fixed value system or adopt different roles and act as hybrid actors. It also gives students the opportunity to be creative and to reflect on how certain values can be prioritised in the planning process (OLESEN 2018: 312).

During the course, students were confronted with various influencing factors (settings), such as instructions to use specific planning methods, time constraints, the availability of assistance, and participatory influence through comments on the planning process. These factors had to be processed as part of a negotiation process that involved evaluation and reflection in order to arrive at a proposed utilisation strategy. Whether students followed a structured, method-based approach or chose a free approach, opinions, norms, and values had to be discussed, defended, and negotiated. The final decision within the experiment was left entirely to the students.

The students' understanding of values was assessed through explicit enquiry using structured value lists in the surveys. These included personal and institutional values based on the typologies of

Schwartz and the American Planning Association (SCHWARTZ 1994/2012, APA 2021). Although the value lists were derived from these established frameworks, it is acknowledged that the structure and wording of the survey items may have influenced students' perceptions of which values appeared more salient or important. This potential influence represents an inherent limitation of structured value elicitation formats and must be considered when interpreting the results.

The first (ex-ante) survey was completed before the experiment and focused primarily on personal and institutional values. Students were instructed to respond quickly and intuitively using a modified Likert scale ranging from –1 to +7. Two sets of value lists were used; each further divided into two sublists. The values were examined in two contexts: individual-social and institutional-professional. Each context (personal and institutional) was divided into two lists to capture different levels of abstraction (see tables in the Supplement)

The second (ex-post) survey followed the experiment and focused on the planning task and the role of values in decision-making. Unlike the ex-ante survey, values were not rated on a scale. Instead, participants were asked to freely name the ten most important values that influenced their planning decisions. While value lists were provided for reference, participants selected only the values they found relevant, rather than completing the lists in full.

The study's surveys meet the quality criteria of validity, reliability, representativeness, usefulness, and efficiency. The questions capture the intended constructs and are standardised, the sample adequately represents the target population, the survey is cost-efficient, and data protection and ethical standards are upheld. The study is characterised by a logical and consistent approach that is independent of the researcher. Furthermore, students were comprehensively informed, and their data was anonymised.

It should be noted that the values and norms internalised by students at university do not necessarily correspond to those of the professional world, for example in spatial planning practice. The transferability of values taught in academia to professional practice is limited due to differing structural conditions. Students can only acquire institutional values relevant to practice during professional experience (UNKRIG 2023: 16f). However, internships and real-world exposure can strengthen this transfer. Moreover, there is a link between values acquired at university and practice-relevant skills, as many

of the values and competencies taught in academic settings can be applied across diverse professional contexts (OLESEN 2018: 314).

3.2 Procedure for analysing the ex-ante and ex-poste survey

3.2.1 Weighting analysis of the ex-ante survey

In the ex-ante survey, students assessed personal and institutional values in terms of their importance for their own lives and for spatial planning. Analysis of this data produced a list of the ten values rated as most important. The question on 'particularly important values' may have been interpreted differently by participants, either as a reflection of deeply held personal beliefs or as values perceived to be important within the planning context. This ambiguity must be acknowledged as a potential limitation. Therefore, the results may also reflect students' orientation towards perceived expectations rather than purely individual conviction.

The importance was calculated from the sum of the weighted frequencies of the individual ratings. The frequency of the rating '–1' was multiplied by a factor of minus one, the frequency of '0' by a factor of one, the frequency of '1' by a factor of two, and the frequency of '7' by a factor of eight. These weighted scores were then added together.

Next, the importance of values was calculated both per value list and separately for personal and institutional values within each list. The importance scores of the ten highest-rated values were then divided by the respective total in order to determine the percentage share of each value in relation to the corresponding value list and sublist. This procedure quantifies the intensity of value importance and allows identification of the most significant values.

3.2.2 Kruskal-Wallis test of the ex-ante survey

As the requirements for variance analysis, such as homogeneity of variance within groups and normal distribution of the dependent variables within groups, were not met, an alternative method was chosen for further analysis of the ex-ante survey. These assumptions were tested using the Bartlett test for variance homogeneity and the Shapiro-Wilk test for normal distribution. Due to the violation of these assumptions, the Kruskal-Wallis test was applied. This non-parametric test enables the analysis

of differences between several independent groups. In the ex-ante analysis, it was used to test whether the values collected were assessed differently across groups defined by gender, experience, and degree programme. The analysis examined whether the observed differences in ratings were random or statistically significant. The Diverse Gender group was not included in the statistical testing due to a lack of available data.

3.2.3 Frequency distribution of the ex-post survey

The ex-post survey, conducted after the experiments, aimed to record students' values in relation to the experiment and the planning task in a structured manner. Counting and visualising frequencies as percentages makes it clear which values were mentioned most frequently during the experiment and are therefore considered particularly important in this context. Analysing the frequency of responses resulted in a list of the ten most important values in the execution of planning tasks, reflecting the distribution of mentions within the experiment. The frequencies of the mentioned values were then totalled. Subsequently, the frequencies of the ten most frequently mentioned values were divided by this total to calculate their percentage shares. Finally, the value structures were analysed in relation to various demographic and socio-structural characteristics.

4 Results

4.1 Weighting analysis of the ex-ante survey

The analysis of the ex-ante survey (see Tab. 1 and Tab. 2) shows which values students considered particularly important even before the experiment and hypothetically based their decisions on. These results provide insights into the value structure that shapes their decision-making and perspectives, clarifying their views on various social and personal priorities. The statistical analysis clearly identified nine distinct groups. These are presented in a distribution ranging from important to unimportant. The left-hand position represents high relevance of individual values, whereas a position further to the right indicates that the respective value is considered less important by the students.

The results are derived from value list 1 (Tab. S1 and Tab. S2, Supplement), which includes 30 values describing the guiding princi-

ples of life, and value list 2 (Tab. S3 and Tab. S4, Supplement), which includes 27 values describing ways of acting.

In Table 3, the five most important personal and institutional values with a value-oriented action model are listed together. The percentage distribution per value ranges from 2-3% of the total share.

In summary, the ex-ante survey evaluation revealed that the top 10 values of students include the following aspects: 'health', 'sustainability', 'protecting the environment', 'forward-looking', 'family security', 'freedom', 'true friendship', 'a world at peace', 'equality', 'common good' and that they are highly relevant.

4.2 Kruskal-Wallis test of the ex-ante survey

The variance analysis of the top 10 values shows that there is a significant difference in the values 'Protecting the environment' and 'family security' in relation to gender. Significant differences between the genders can still be seen in the values: 'a purpose in life', 'wealth, equality', 'a world at peace', 'self-discipline', 'family security', 'unity with nature', 'authority', 'social justice', 'equivalent living conditions', 'social recognition', 'welfare economic justice', 'inclusion', 'moderate', 'loyal', 'tolerant', 'influential', 'accepting all sides of life', 'maintaining a good public image', 'helpful, pious', 'responsible', 'indulge yourself', 'independent', 'tolerant', 'protecting the environment', 'influential', 'respectful', 'choosing your own goals', 'helpful', 'successful'.

In terms of experience, there is also a significant difference between 'a world at peace' in: 'politeness', 'unity with nature', 'social order', 'creativity', 'national security', 'ambitious', 'influential', 'deferential towards parents and older people', 'accepting all sides of life', 'obedience', 'enjoy life', 'forgiving', 'curious', 'successful'. No differences were found in relation to the degree programme. However, significance was found for: 'inner harmony', 'social order', 'a stimulating life', 'compensation for favours', 'equivalent living conditions', 'social order', 'inclusion', 'ambitious', 'humble', 'honest', 'independent', 'choosing one's own goals', 'collaborative', 'market-oriented'.

4.3 Frequency distribution of the ex-post survey

In the ex-post survey, ten central values emerged that were mentioned most frequently by the participants. These values not only form the ba-

Tab. 1: List of personal values

important →							unimportant
Equality (equal opportunities for all)	Politeness (good manners)	Pleasure (fulfilment of desires)	National security (protecting my nation against enemies)	Wealth (material possessions, money)	Respect for tradition (preserving old customs)	Authority (the right to lead and decide)	Social power (control over everything, dominance)
Inner harmony (at peace with myself)	A varied life (challenges, new things and changes)	A spiritual life (emphasising spiritual, not material interests)	Creativity (originality, imagination)	Compensation for favours (avoidance of debt of gratitude)	Influential (exerting influence on people and events)		Pious (accepting religious beliefs)
Freedom (freedom of action and thought)	Wisdom (a mature understanding of life)	A sense of belonging (the feeling that others care about me)	Unity with nature (fitting in with nature)	Humble (modest, selfless)	Maintaining a good public image (saving face)		
A meaning in life (a purpose in life)	Independent (self-reliant, relying on oneself)	Social order (stability of society)	A world of beauty (beauty of nature and the arts)	Obedience (fulfil duties)			
Self-respect (belief in one's own worth)	Choosing your own goals (pursuing your own intentions)	A stimulating life (stimulating experiences)	Accepting all sides of life (accepting the circumstances of life)				
A world at peace (free from war and conflict)	Responsible (reliable, dependable)	Self-discipline (self-control, resistance to temptation)					
Mature love (deep spiritual and emotional intimacy)	Curious (interested in everything, exploring)	Social recognition (respect, approval by others)					
A private life (the right to privacy)	Indulge yourself (do something good for yourself)	Moderate (avoid extreme feelings and attitudes)					
Family security (security for loved ones)		Ambitious (hard working, determined)					
True friendship (close, supportive friends)		Daring (seeking adventure and risk)					
Social justice (eliminating injustice, caring for the weak)		Deferential towards parents and older people (respectful)					
Loyal (reliable towards my friends and groups)		Capable (competent, effective and efficient)					
Tolerant (of different ideas and beliefs)		Honest (genuine, sincere)					
Protecting the environment (protect nature)		Intelligent (think logically)					
Healthy (not physically or mentally ill)		Helpful (committed to the welfare of others)					
Enjoy life (enjoy food, eroticism and pleasure, etc.)		Forgiving (willing to forgive others)					
		Successful (achieve goals)					
		Clean (tidy)					

sis of their personal convictions, but also reflect the focal points that students prioritise in their future professional assessments and considerations. No categorisations were made within these values. The values were given directly by the students. The top 10 values mentioned in the ex-post survey are listed in Table 4.

4.4 Differentiated distribution of core values ex-post survey

Table 5 shows the distribution of the top 10 values of the ex-post survey in relation to demographic and socio-structural characteristics. The multiple occupancy of 10th place is due to several values having the same rating and therefore sharing the place.

Tab. 2: List of institutional values

Equality (equal opportunities for all)	Social order (stability of society)	Unrestricted freedom (freedom of action and thought of the individual to pursue their own interests)	Respect for tradition (preservation of old building fabric/culture, planning culture)	Influential (exerting influence on people and events)	/	/	Social power (control over planning processes and content, dominance)
Equivalent living conditions (equal development of the sub-areas)	Change (shaping social change for the purpose of continuous development)	Restricted freedom (equality and freedom are in balance)	Social recognition (planning as a socially accepted and valued organisation, approval by others)	Intuitive (instinctive behaviour/ knowledge)			
Common good (interest of the general public)	Creativity (originality and imagination in terms of ideas and instruments)	Wealth (promotion of economic prosperity at different levels of scale)	Fair performance (taking care of the top performers, eliminating injustices)				
Unity with nature (recognising/ considering natural limits in order to harmonise with the natural foundations of life)	National security (social protection from danger or harm)	Collaborative (working together)	Independent (self-reliant, relying on oneself)				
Social justice (caring for the weak, eliminating injustice)	A world of beauty (aesthetics of the city, cityscape and landscape)	Curious (interested in everything, exploring)	Choosing one's own goals (pursuing one's own goals and intentions, acting autonomously)				
Intergenerational justice (taking future generations into account in planning)	Welfare-economic justice (taking care of the most, eliminating injustices)		Obedience (fulfil duties, follow legal and political requirements)				
Diversity (presence and consideration of diversity/ different groups)	Participation (equal opportunities for the planned to participate in planning processes)		Maintaining a good public image (saving the face of spatial planning)				
Inclusion (creating an environment for the different needs and abilities of all people)	Situationality (applicability and appropriateness in relation to the specific situation)						
Integrity (integrity, incorruptibility, honesty of planners)	Moderate (avoid extreme attitudes)						
Health (not physically or mentally ill)	Loyal (reliable to the planning discipline)						
Resilience (adaptability and the ability to evolve)	Tolerant (towards different ideas and beliefs)						
Sustainability (ensuring the fulfilment of needs for future generations)	Honest (genuine, sincere)						
Protecting the environment (protecting nature)	Public trust (trust in spatial planning)						
Respectful (towards individuals and groups)	Helpful (committed to the welfare of others)						
Capable (competent, effective and efficient)	Responsible (reliable, dependable)						
Forward-looking (farsighted, focussed on the future)	Successful (achieving goals)						
Comprehensible (making processes transparent)	Market-orientated (orientation towards market economy interests)						
Moral (being aware of important values/ethical guiding principles and acting accordingly)	Courageous (taking risks)						

Tab.3: The most important personal and intentional values of the ex-ante survey

	Personal values	Institutional values
Guiding principle of my life	family security freedom true friendship a world at peace equality	sustainability equality common good intergenerational justice unity with nature
Types of action	health honest responsible loyal enjoy life	protecting the environment forward-looking comprehensible capable respectful

Tab. 4: Top 10 values mentioned in the ex-post survey

1. protecting the environment	(8.77 %)	6. comprehensible	(5.89 %)
2. forward-looking	(8.38%)	7. equality	(4.45 %)
3. common good	(7.20 %)	8 social justice	(3.40 %)
4. collaborative	(6.68 %)	9 responsible	(3.27 %)
5. sustainability	(6.02 %)	10. health	(3.27 %)

5   Findings and discussion on values

5.1 Fundamental values of students: An analysis of their importance

The interpretations of value meanings presented in this section are based on the researchers' thematic analysis of the survey data, including weighted importance, frequency, and group differences. While the students selected and rated the values independently, many of them were consistently rated as very important. The results of the study are presented in Table 1 and Table 2.

This approach allows orientation patterns to be reconstructed rather than causal mechanisms of action to be identified. The findings indicate that students ascribe significant importance to a wide range of values. This broad agreement may indicate not only individual convictions but also a normative alignment with prevailing expectations in planning education. This could result from curricular exposure and the internalisation of planning ideals, as promoted in academic programmes and documents such as the AESOP Core Curriculum (2024). While the study was not designed to measure curriculum effectiveness, the findings may indirectly reflect intended learning outcomes. The values identified in the ex-post survey likely mirror what students perceive as socially desirable or professionally appropriate in the field of spatial planning. Since most partici-

pants were still in training, the results mainly illustrate how planning knowledge and values are shaped within academic learning, rather than applied professional practice. Furthermore, the findings are based on weighted survey responses and do not imply causal mechanisms. The findings from the weighting analysis of the ex-ante survey (see Fig. 1) further illustrate that the value 'health' can be interpreted as expressing a concern for quality of life and minimising physical and mental stress through health-promoting design. The prioritisation of 'sustainability' reflects a perceived responsibility to meet current needs without endangering the resource base for future generations. Prioritisation of 'protecting the environment' suggests an awareness of the ecological implications of planning, which must be designed in a way that its impact on nature is minimised. 'Forward-looking' can be interpreted as an orientation towards anticipating long-term consequences and designing sustainable solutions. The value of 'family security' aims to create spaces that promote safety and social stability for families. 'Freedom' gives planners the opportunity to develop creative and innovative approaches that enable flexible and sustainable solutions. The value of 'true friendship' can be interpreted as indicating the importance of social relationships and human connection. 'A world at peace' emphasises the desire to contribute to global peace through equitable resource use and inclusive design of

Tab.5: Distribution of core values from the ex-post survey

	Women	Men
Gender (Diverse: no data, n=1)	1. looking ahead 2. protecting the environment 3. common good 4. comprehensible 5. sustainability 6. collaborative 7. equality 8. capable 9. healthy 10. tolerant	1. protecting the environment 2. collaborative 3. common good 4. forward-looking 5. sustainability 6. comprehensible 7. equality 8. social justice 9. responsible 10. respect for tradition/ successful/ social order
	Bachelor	**Master**
Experience	1. protecting the environment 2. common good 3. forward-looking 4. collaborative 5. sustainability 6. equality 7. comprehensible 8. social justice 9. tolerant 10. capable	1. collaborative 2. comprehensible 3. protecting the environment 4. forward-looking 5. common good 6. intuitive 7. creativity 8. sustainability 9. resilience 10. respect for tradition/ successful/ market-orientated/ situationality/ social justice/ responsible
	Geography	**Spatial planning**
Study programme	1. protecting the environment 2. sustainability 3. comprehensible 4. forward-looking 5. common good 6. collaborative 7. equality 8. successful 9. creativity 10. social justice/social order	1. common good 2. collaborative 3. protecting the environment 4. forward-looking 5. comprehensible 6. sustainability 7. equality 8. social justice 9. tolerant 10. respect for tradition/responsible

spaces and structures. 'Equality' emphasises that all people, regardless of their social or economic background, should be treated fairly, with their needs taken into account in planning. The value of 'common good' ensures that decisions are made in the public interest and promote long-term well-being for all.

These findings do not suggest that values act independently or possess agency. Rather, they illustrate how students interpret certain value orientations, which function as interpretive frameworks in the context of spatial decision-making. Given that many values were rated similarly highly, the results reflect value pluralism and the necessity of negotiation and prioritisation (see section 5.4).

5.2 Central values of students when working on planning tasks

As shown by the frequency distribution of the ex-post survey (see Fig. 1), students attach great importance to sustainable and responsible decision-making when working on planning tasks. The value of 'protecting the environment' indicates that conserving natural resources and reducing ecological burdens are top priorities, while 'sustainability' complements this with a focus on long-term planning strategies. The value 'forward-looking' refers to the importance of recognising developments at an early stage and responding flexibly to them, which is essential for future-oriented planning. The 'common good' and the desire for 'social justice'

and 'health' highlight the expectation that planning should be as inclusive and fair as possible, so that all social groups benefit equally in a collaborative manner. Values such as 'equality', 'responsibility', and 'comprehensibility' underline the importance of transparency and accountability, which not only foster trust but also contribute to creating a fair and healthy environment for all stakeholders.

5.3 Values held by students from different backgrounds

Analysing value orientations across different demographic and academic groups provides insight into how diversity influences ethical priorities in planning contexts. Previous studies (e.g. THOME 2019, UNKRIG 2023) have shown that factors such as gender, educational background, or field of study can impact value preferences. This is particularly relevant in planning, where a variety of perspectives is necessary to address complex societal challenges and conflicting interests. In the present case, the more specific analysis of values in terms of demographic and socio-structural characteristics reveals both similarities and differences in value priorities in these contexts. For instance, the Kruskal-Wallis test of the ex-ante survey reveals significant differences related to gender, experience, and subject. However, analysing the top 10 values reveals that there are predominantly no differences. Therefore, it can be concluded that the top 10 values are largely independent of gender, experience, and subject. These values appear to have universal significance and are prioritised similarly by the different groups. The ex-post survey's more specific frequency distribution clearly shows that women place a stronger focus on 'forward-looking', 'common good', and 'collaborative', while men particularly emphasise 'collaborative', 'responsible', and 'social justice'. This observation leads to the conclusion that women adopt a long-term, community-oriented perspective in planning, whereas men also emphasise responsibility and justice. However, both genders emphasise the importance of 'sustainability' and 'equality', which illustrates the common desire for fair and environmentally friendly planning. The analysis of experience, which differentiated between Bachelor's and Master's students, revealed that Bachelor's students focus on values such as 'protecting the environment', 'common good', and 'forward-looking', indicating a more fundamental understanding of social and environmental issues. In contrast, Master's

students emphasise values such as 'collaborative', 'comprehensible', and 'responsible', indicating a more intensive examination of the requirements for transparency, cooperation, and ethical responsibility in planning. This difference suggests that advanced stages of study lead to a stronger focus on organisational and social skills. The analysis also reveals programme-specific differences: geography students focus on values such as 'protecting the environment', 'sustainability', and 'common good', reflecting the emphasis on ecological aspects and the collective good in geography education. Spatial planning students, on the other hand, prioritise values such as 'common good', 'collaborative', and 'comprehensible', indicating a focus on practical planning principles and the need for collaboration. To a certain extent, these differences reflect the respective focuses and general emphases of the degree programmes, although further research would be needed to draw robust conclusions about programme-specific value orientations.

5.4 Difference between assumed and applied values in planning tasks

Comparing the values most frequently applied in the experiment (ex-post survey) with the hypothetical values from the ex-ante survey reveals interesting overlaps and discrepancies (see Fig. 2).

The ex-ante values reflect a perspective that places greater emphasis on the personal environment and individual needs. Values such as 'family security' and 'true friendship' suggest that planners initially focus primarily on stability and security within their immediate social environment. 'Freedom' also indicates that personal autonomy and independence play a fundamental role. These values reflect a strong need for individual security, personal freedom, and emotional connection. They can be interpreted as expressing a basic orientation towards self-determination, individuality, and personal security, possibly rooted in a more individualistic mindset.

In contrast, the ex-post survey shows that community-oriented and responsible values gained importance after the planning process. This shift towards values such as 'social justice', 'collaborative', and 'responsible' suggests that students developed a greater awareness of social responsibility and the need for collective approaches as a result of the planning work. This change reflects a transition from individual thinking to a stronger sense
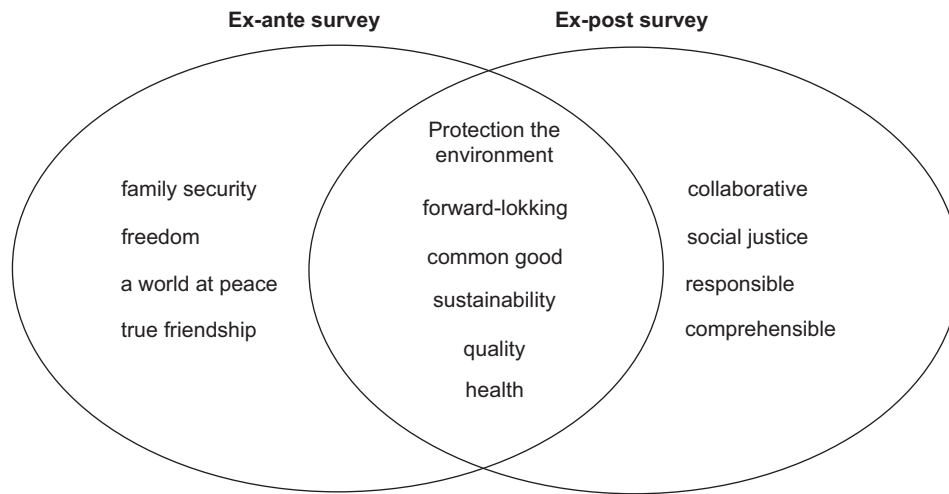
Fig.2: Comparison of the values obtained from the ex-ante and ex-post survey

of social responsibility. The increased emphasis on 'comprehensible' indicates that planners increasingly regard the transparency and clarity of their decisions as central to the legitimacy and acceptance of their work. This shows that transparency and clear communication are important not only for planners themselves but also for potential recipients and stakeholders, highlighting the link to the communicative planning model.

The overlapping values are: 'protecting the environment', 'forward-looking', 'equality', 'common good', 'health', and 'sustainability'. 'Protecting the environment' and 'sustainability' are closely linked. They emphasise ecological responsibility in planning. Their consistency shows that planners are aware of the long-term consequences of their decisions and feel a sense of obligation towards the environment and future generations. 'Forward-looking' and 'health' also show parallels. The value 'forward-looking' implies a long-term mindset, which is essential for sustainable and future-oriented decisions. The fundamental value of 'health' supports this perspective, as its aim is to ensure the quality of life for all those involved. Both values demonstrate a willingness to consider the future impact of today's decisions rather than focusing solely on the present. 'Equality' and 'common good' represent social responsibility and justice. Planning often involves the fair distribution of resources and ensuring that decisions are made in the interest of the 'common good'. The stability of these values across both surveys indicates that planners develop a strong sense of justice and fairness that remains consistent even after the planning phase. This demonstrates a clear orien-

tation towards the 'common good', which endures regardless of individual interests. The persistence of these values across both phases may be interpreted as an indication of their broader importance at both the individual and collective levels, reflecting the central demands of spatial planning.

The shifts in value priorities suggest that the planning process had a transformative impact on the participants. However, this should not be interpreted as a fundamental change in personal values, but rather as a contextual activation of existing planning-related orientations once students engaged with a specific site and task. This is evident in how group members negotiated and justified decisions, reflecting elements of communicative planning such as mutual reasoning, value balancing, and consensus building. Although communication processes were not directly observed, the changes in value prioritisation indicate the influence of interaction and joint reflection.

Values expressed before the planning process often reflected personal perspectives, whereas those expressed afterwards placed greater emphasis on collective and societal dimensions. This indicates a shift from individual to community-oriented thinking. The experience was shaped by prior academic training and influenced by the specific planning scenario. The group-based negotiation process, characterised by shared responsibility and diverse viewpoints, affected how values were perceived and prioritised. This transformation also revealed the emergence of value conflicts, which should not be viewed as rigid opposites, but rather as dynamic tensions from which general principles may emerge through negotiation.

5.5 Contribution of detected values to decision-making in spatial planning

The study clearly shows that the planning process can lead to a change in the values of those involved. The educational experiment simulates a simplified, structured version of planning processes, focusing on value-based decision-making under controlled conditions. Although it cannot replicate the full complexity of real-world planning, the experiment provides valuable insights into how future planners prioritise values when confronted with spatial dilemmas and group negotiations. These findings may help to anticipate the ethical perspectives and potential challenges that graduates will bring into planning practice. In the context of planning, long-standing values can be questioned and adapted in response to new situations and institutional framework conditions, thereby initiating a dynamic change in values. During the planning process, values that were initially individualistic and focused on personal interests and characteristics often evolve into collective, long-term and sustainability-oriented values as a result of group-based negotiation and reflection. As OLK & OTTO describe in their article, this occurs primarily through fragmented and competing social realities that no longer provide fixed normative guidelines. This promotes negotiation processes in which new hierarchies of meaning and values emerge (OLK & OTTO 2021: 142). This is further reflected in the fact that actors in these processes increasingly develop not only individual values but also collective and cooperative orientations that reflect the requirements of pluralistic and decentralised living environments. Therefore, the change in values during the planning process is understood not only as an adaptation to new circumstances but also as the active creation of a new normative framework. One of the most important implications is therefore the significance of value transformation. This transformation highlights the importance of traceability and transparency as essential elements of a contemporary planning culture. The public is increasingly demanding insight into decision-making processes and the reasoning behind planning projects. This demand is justified, as values that were initially communicated may undergo significant transformation during the planning process. The transformation of students' values, as evident in the ex-ante and ex-post surveys, is relevant to understanding decision-making in spatial planning processes, particularly in relation to value conflicts. At the same time, the importance of a value-based, community-oriented approach becomes apparent. While this study focuses on students and a simulated planning scenario, it also raises important questions about the tension between personal and institutional values in real-world planning practice. In institutional contexts, planners often operate within predetermined frameworks and are bound by strategic goals, legal obligations or political expectations. This highlights the risk that personal values may be marginalised in practice unless institutional cultures explicitly allow for ethical reflection and individual responsibility. This is an issue that deserves further empirical attention.

The overlaps in the values 'protecting the environment', 'forward-looking', 'equality', 'common good', 'health' and 'sustainability' suggest that these values are more deeply rooted in planners' self-image and ethos. Not only are these values personally relevant, they also have a collective dimension that is particularly important in planning practice. They represent a kind of underlying ethical stance that encompasses both individual and social responsibility, remaining consistent throughout the planning process. This suggests that planning education implicitly fosters a certain normative orientation in students. Although ethical value formation during education is rarely examined in the planning literature, the findings indicate that core values such as 'sustainability', 'justice' and 'responsible' may be shaped through curricular exposure and collaborative learning. Future studies could compare these patterns with those in other disciplines to better understand how academic contexts contribute to ethical positioning in professional fields. The study's findings reflect the key ethical principles outlined in frameworks such as the AICP Code of Ethics (APA 2021) and the ECTP-CEU Guidelines (ECTP-CEU 2017). The shift observed during the experiment from individualistic to more community-oriented values highlights the importance of ethical reflection in planning processes. This indicates that essential foundations for value-based professional conduct are already being formed during academic training.

The study is based on an understanding of planning as a communicative and reflective process rather than a purely technocratic or rule-based one. Following authors such as HEALEY (1992) and STÖGLEHNER (2019), planning is viewed as an arena in which various actors bring together competing interests, values and types of knowledge through dialogue and negotiation. This perspective frames spatial planning as a cultural and ethical practice in which value conflicts are part of a broader societal discourse, not merely technical challenges.

6   Conclusion and perspectives

In the context of the empirical study of value perceptions, a comprehensive analysis was conducted to understand which values fundamentally underlie an experimental collaborative planning process. Given the complexity and multifaceted nature of spatial planning as a value-laden, communicative and socially embedded practice, the experiments can be described as a valuable tool for identifying and analysing value orientations.

The values identified by the students reveal important implications. These concern not only the way in which processes are designed, but also the fundamental principles and values that shape their professional self-image. As the study has shown, the relevance of values can be described by their function as a communicative basis for decision-making. Analysing and addressing values increases the transparency of planning decisions.

The question, 'Which personal and institutional values guide students in the spatial planning process and how do these values change through evaluation and consideration processes?' can be answered to the extent that the values 'protecting the environment', 'forward-looking', 'equality', 'common good', 'health' and 'sustainability' are fundamental for students and central to the processing of planning tasks. These values provide an important point of reference for defining and achieving shared goals. Differences in value priorities can be traced back to demographic and socio-structural characteristics.

The findings suggest that value-based decision-making in spatial planning is shaped by the dynamic interplay of personal convictions, institutional expectations and situational demands. This highlights the need to make value orientations visible and open to discussion. Educating future planners to recognise the difference between personal and institutional values and encouraging them to reflect on how values evolve during planning processes. This can foster ethical awareness and enhance the legitimacy of planning practice. In particular, collaborative settings demonstrate how individual perspectives can initially shift towards more community-oriented values. This shows that values are not static or universal, but rather context-dependent and shaped through interaction. Transparent communication about underlying normative frameworks should therefore be a central element of both planning education and professional practice. These findings emphasise the importance of integrating ethical reflection and value discourse into planning education and professional contexts. They support an understanding of planning as not only a technical activity, but also a value-mediated and communicative process. In this sense, the study contributes to ongoing debates about the normative foundations of planning as both a discipline and a profession.

However, as this is a cross-sectional study, the findings provide only a limited perspective on individual characteristics. Participants may have interpreted the values examined differently, and their relative importance may change over time. To gain deeper insights, it would be useful to repeat the study over a longer timeframe or with a larger, more diverse sample, including practicing planners.

As the experiment was conducted at German universities with students from planning-related disciplines, the results should be viewed in the context of German planning education and culture. Variations in planning systems, educational backgrounds and institutional frameworks in other countries may influence how values are developed, negotiated and prioritised. Nevertheless, the findings could be used to explore how personal values shape planning across different contexts in an international comparison. The study also provides valuable insights for planning education, emphasising the importance of communication, reflection and awareness of values in spatial planning.

While the interpretations of value patterns are necessarily context-dependent and exploratory in nature, they offer valuable insights into how future planners might approach complex decision-making processes. Their relevance lies in identifying shared orientations that appear to persist across individual and group boundaries. In light of these findings, it is evident that spatial planning cannot be understood as a neutral or purely technical task. Rather, it is a process of situated ethical judgement within complex and often power-laden environments. As Campbell (2002) and Alexander (2005) argue, planning decisions are inherently normative, requiring practitioners to negotiate conflicting values under uncertain conditions and amidst competing interests. The experiment shows that, even in a simplified setting, students encounter tensions that point to the need for ethical reflection as a core competency in planning education.

Beyond the specific findings, the study encourages a broader reflection on the role of value discourse in planning. It supports the idea that planning should be understood as a socially embedded, ethically reflective and communicatively negotiated

practice. These insights align with and build upon previous ideas in communicative and collaborative planning theory (HEALEY 1992, SELLE 1996), by empirically illustrating how value orientations shift during simulated decision-making.

From an educational perspective, the findings emphasise the importance of equipping future planners with the competencies to navigate ethical tensions and promote transparent, inclusive processes. This may call for a stronger integration of ethical reasoning, deliberation skills and reflexive methodologies into planning curricula.

Supplement

The lists of values, the planning task to be completed during the experiment, and the survey questionnaires are available for download separately as additional information.

Acknowledgements

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