

What value structure underlies shared decision making? A qualitative synthesis of models of shared decision making

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ABSTRACT

Objective: To construct the underlying value structure of shared decision making (SDM) models.

Method: We included previously identified SDM models ($n = 40$) and 15 additional ones. Using a thematic analysis, we coded the data using Schwartz's value theory to define values in SDM and to investigate value relations.

Results: We identified and defined eight values and developed three themes based on their relations: *shared control*, *a safe and supportive environment*, and *decisions tailored to patients*. We constructed a value structure based on the value relations and themes: the interplay of healthcare professionals' (HCPs) and patients' skills [Achievement], support for a patient [Benevolence], and a good relationship between HCP and patient [Security] all facilitate patients' autonomy [Self-Direction]. These values enable a more balanced relationship between HCP and patient and tailored decision making [Universalism].

Conclusion: SDM can be realized by an interplay of values. The values Benevolence and Security deserve more explicit attention, and may especially increase vulnerable patients' Self-Direction.

Practice implications: This value structure enables a comparison of values underlying SDM with those of specific populations, facilitating the incorporation of patients' values into treatment decision making. It may also inform the development of SDM measures, interventions, education programs, and HCPs when practicing.

1. Introduction

1.1. Shared decision making models

Shared decision making (SDM) is a treatment decision model that is increasingly considered the ideal model for treatment decision making and has been incorporated in healthcare policy in many countries [1,2]. SDM is considered a collaborative process between patient and healthcare professional (HCP) in which medical evidence, the HCP's expertise, and the values, preferences and context of patients are used to develop tailored treatment decisions for an individual patient [3]. Despite the

increased importance attached to SDM, no unified definition exists [4, 5]. Multiple SDM models have been developed for various healthcare settings, describing in successive steps how SDM should be performed in clinical practice [4].

1.2. Values and SDM

Several authors describe SDM as an ethical imperative to promote patient-centered care and relate SDM to the four principles of medical ethics (beneficence, non-maleficence, autonomy, and justice) [2,6,7]. Therefore, SDM is not a neutral activity, but has a normative character in

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which values are embedded. Values steer behaviors by providing directions to what is righteous and desirable [8,9]. Attention has been paid to values in designed products and services [10,11]. SDM can be considered a service, with underlying values facilitating a particular type of communication regarding treatment decision making between HCPs and patients and their relatives [12]. The values underlying SDM are seldom explicitly referred to. The identification of SDM's underlying values would enable a comparison of these with the values of its users and can therefore contribute to the alignment of both [13].

1.3. Schwartz's value theory

For this study, we use Schwartz's value theory since the theory is well grounded in empirical research [8], comprehensive in included value types [14], and used in numerous studies, including more recently in studying patients' [15,16] and HCPs' [17–19] values in decision making. To our best knowledge the theory has not been applied to SDM yet.

Schwartz based his circular value structure on Rokeach's (1973) [9] 36 values, ordering them into 10 value types by their motivational goal [8,14]. The value types in the middle of the circle refer to trans-situational motivational goals (Fig. 1) [20]. Schwartz's value theory has significantly contributed to the understanding of value relations [21], with the circular structure depicting the value relations (e. g., their compatibility or conflict). The nature and structure of values are universal, but individuals or groups may differ in how they prioritize the values [20].

Since values are defined as abstract ideals, their manifestation in a specific context is a topic of study [33]. Moyo et al. translated Schwartz's values to the context of HCPs' professional and personal values [17]. Therefore, we use both Schwartz's values and Moyo et al.'s translations as a tool to identify values underlying SDM.

1.4. Aim

We aimed to construct a value structure characterizing SDM. The value structure may be used to compare SDM's value structure with those of specific groups using SDM, and to incorporate patients' values into treatment decision making [13]. In this study we seek to :

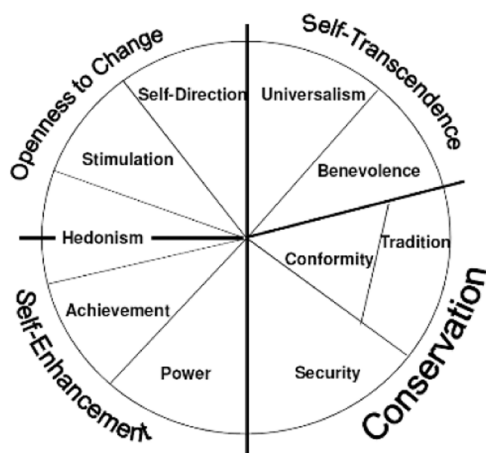


Fig. 1. Schwartz's theory of basic human values. Values located next to each other in the circle express greater compatible motivational goals, while those located further from each other show greater conflict. The circular structure organizes values along contrasting dimensions: 'openness to change' values to 'conservation' values, and 'Self-Enhancement' values to the 'Self-Transcendence' values [20]. Text taken from Oueslati et al. [13]. Figure taken from Schwartz [20] (Licensed under CC BY-NC-ND 3.0).

- 1) Identify how values manifest in scientific articles that describe SDM models.
- 2) Provide an overview of how the identified values of SDM models interrelate.

2. Methods

2.1. Study design

We combined a scoping review method with a thematic analysis of SDM's characteristics to construct SDM's underlying value structure [34–36]. As checklist, we used the PRISMA extension for Scoping Reviews (PRISMA-Scr; Appendix A) [37] and registered our protocol at OSF (<https://osf.io/>).

2.2. Literature search

We included articles describing SDM models derived from Bomhof-Roordink et al.'s review [4]. Next, we updated their search in seven electronic databases (Academic Search Premier, Cochrane, Embase, Emcare, PsycINFO, PubMed, and Web of Science) from September 2, 2019 to February 4, 2022. See Bomhof-Roordink et al. for the search strategy [4].

2.3. Eligibility criteria

We screened titles and abstracts and considered whether we could expect the presentation of a new SDM model in the article. Next, we excluded full text articles that were not in English, not peer-reviewed, and articles concerning patients unable to participate in decision making. Full-text articles were included if a new SDM model was presented, or if an existing model was adapted based on new research findings or authors' own insights. Articles that only briefly referred to an existing model described elsewhere, or only referred to SDM without elaborating on the process were excluded [4].

2.4. Selection process

Titles and abstracts were independently reviewed by RO and RA. RO and RA discussed inconsistencies regularly until consensus was reached. After this screening, the included full-text articles were independently screened by RO and RA and inconsistencies were discussed. In case of disagreement AJW was consulted.

2.5. Data analysis

We used reflexive thematic analysis (TA) to analyze the values underlying SDM and analyzed articles presenting new SDM models entirely. This flexible approach allowed us to both identify values in SDM and investigate value relations based on which we could develop themes [38]. TA's six phases of analysis were followed using Atlas.ti 23, in a recursive and iterative process [36].

First, RO familiarized herself with the articles and developed a table with Schwartz's value definitions, next to Moyo et al.'s translation of Schwartz's values (Table 1).

During the second phase the articles were coded both deductively by using Table 1 to identify relevant text fragments, and inductively to identify how Schwartz's values manifest in SDM. For example, with both Schwartz's and Moyo et al.'s description of Achievement in mind, we were able to identify text fragments referring to competences, knowledge, and skills of both HCPs and patients in SDM (deductive coding). At the same time, we identified what competencies, knowledge and skills were considered necessary in SDM (inductive coding).

The first three articles were independently coded by multiple members of the research group (AJW, AMS, DPT, MTS, RO, RR). The codes were compared, and differences were discussed until consensus

Table 1

A description of Schwartz’s ten universal values and Moyo et al.’s translation of these values to HCPs’ personal and professional values. Taken from Schwartz (2012) [20] and from Moyo et al. (2016), a shortened, edited version of their Table 1 [17]. See Table 1 in Moyo et al. for the references to the studies (n = 50) on which they base the values of HCPs. We only referred to the cited values [17].

Schwartz (1992; 2012)*		Moyo et al. (2016)	
Value type	Goal definition	Value type	Goal definition
Achievement	Personal success through demonstrating competence according to social standards.	Capability	Competence, knowledge, and research values.
Benevolence	Preserving and enhancing the welfare of those with whom one is in frequent personal contact.	Altruism	Caring, helping, empathy, altruism, compassion.
Conformity	Restraint of actions, inclinations, and impulses likely to upset or harm others and violate social expectations or norms.	Professionalism	Adherence to standards and professional code, self-discipline, and “fitting in” and “going along” [[22] cited in Moyo et al., [17]], professional behavior, accountability, self-awareness, team-work, and ethical behavior.
Hedonism	Pleasure or sensuous gratification for oneself.	Pleasure	Pleasure from medicine and dentistry.
Power	Social status and prestige, control or dominance over people and resources.	Authority	Leadership, social or professional status, structure or hierarchy, and medical authority or paternalism.
Security	Safety, harmony, and stability of society, of relationships, and of self.	Safety	Confidentiality, patient privacy, patient safety: “protect public from unsafe health products or practices” [[23] cited in Moyo et al., [17]], and “provide safe and competent care” [[24] cited in Moyo et al., [17]]. Security: “protection of the environment” [[25], cited in Moyo et al., [17]], emotional stability, prudence, vigilance, self-protection. Financial security values: “well[-] paid”, “financial stability” and “earn a good living” [[26], cited in Moyo et al., [17]] personal financial perks and gains, and a comfortable lifestyle [derived from [27] in Moyo et al., [17]].
Self-Direction	Independent thought and action –	Critical thinking	Self-direction values: freedom, independence,

Table 1 (continued)

Schwartz (1992; 2012)*		Moyo et al. (2016)	
Value type	Goal definition	Value type	Goal definition
	choosing, creating, exploring.		autonomy, education and self-direction for the patient. Self-oriented values for self-direction included critical-thinking, problem-solving, imagination and creativity, objectivity, self-regulation, and control of one’s own work.
Stimulation	Excitement, novelty, and challenge in life.	Intellectual stimulation	Personal and intellectual stimulation, and “exciting life” [Rokeach Value Framework (RVS) used in [28–31], cited in Moyo et al., [17]]
Tradition	Respect, commitment, and acceptance of the customs and ideas that one’s culture or religion provides.	Morality	Honor, integrity, honesty, morality, duty, humility, temperance, and “ethics (...) grounded in culture [and] history (...)” [[32], cited in Moyo et al., [17]]
Universalism	Understanding, appreciation, tolerance, and protection of welfare of all people and for nature.	Equality	Acceptance of others, respect for others, advocacy, equality, equity, social justice, upholding human dignity and patient rights, charity, socialism, solidarity, and humanism.

*The ten universal values were distinguished by Schwartz (1992) [8]. We used the definitions of the ten values described in Schwartz (2012) [20].

was reached. Thereafter six articles were double coded by RO and AJW independently and findings were compared, and ten articles were coded solely by RO. After this, the codes and a selection of quotations were discussed a second time within the research group (AJW, AMS, DPT, RO, RR) until consensus was reached. Then, RO and AJW double coded one additional article and findings were compared, and RO coded the remaining articles.

During the *third* phase, our focus shifted to the analysis of value relations. Several text fragments explicitly mentioned a relation between values, e.g., “(...) the clinician must create a safe space [Security] where the patient feels relaxed and sufficiently empowered to ask questions, [and] express preferences (...) [Achievement]” [39]. Such explicit value relations were coded. In addition, we reflected on implicit relations between the values, e.g., why are skills [Achievement] important for both HCPs and patients? Why is a safe environment [Security] stressed in certain SDM models?

The codes and explicit and implicit value relations formed the building blocks for the development of themes in phase *four*. Maps were drawn to depict the value relations. RO developed initial themes based on the value relations, which were discussed among the research team (AJW, AMS, DPT, MTS, RA, RO, RR). During the *fifth* phase RO further refined, defined and named the themes [36]. Also, the SDM value structure was constructed, based on the value relations in the defined themes. The *sixth* phase consisted of writing down the findings and

creating a figure.

3. Results

3.1. Description of models and values

In total, we included 55 articles describing SDM models: 40 from Bomhof-Roordink et al. [4] and 15 derived from the updated search (Fig. 2). Table 2 provides an overview of all the articles describing SDM models, their study design, and the healthcare setting. All newly identified SDM models were developed for specific healthcare settings or

decisions; we did not identify new generic SDM models.

In the articles, we identified eight of Schwartz's values (Achievement, Benevolence, Conformity, Power, Security, Self-direction, Tradition, Universalism) and defined them for the context of SDM (Table 3; See Appendix for a detailed description).

Achievement in SDM refers to the knowledge, competences, and skills that both HCPs and patients need to engage in SDM. Achievement included most variation in codes as well as in number of quotations. Benevolence refers to the support provided to patients during SDM and to the enhancement of patients' wellbeing. Conformity sets restrictions on the selection of treatments, for both HCP and patient, based on e.g.,

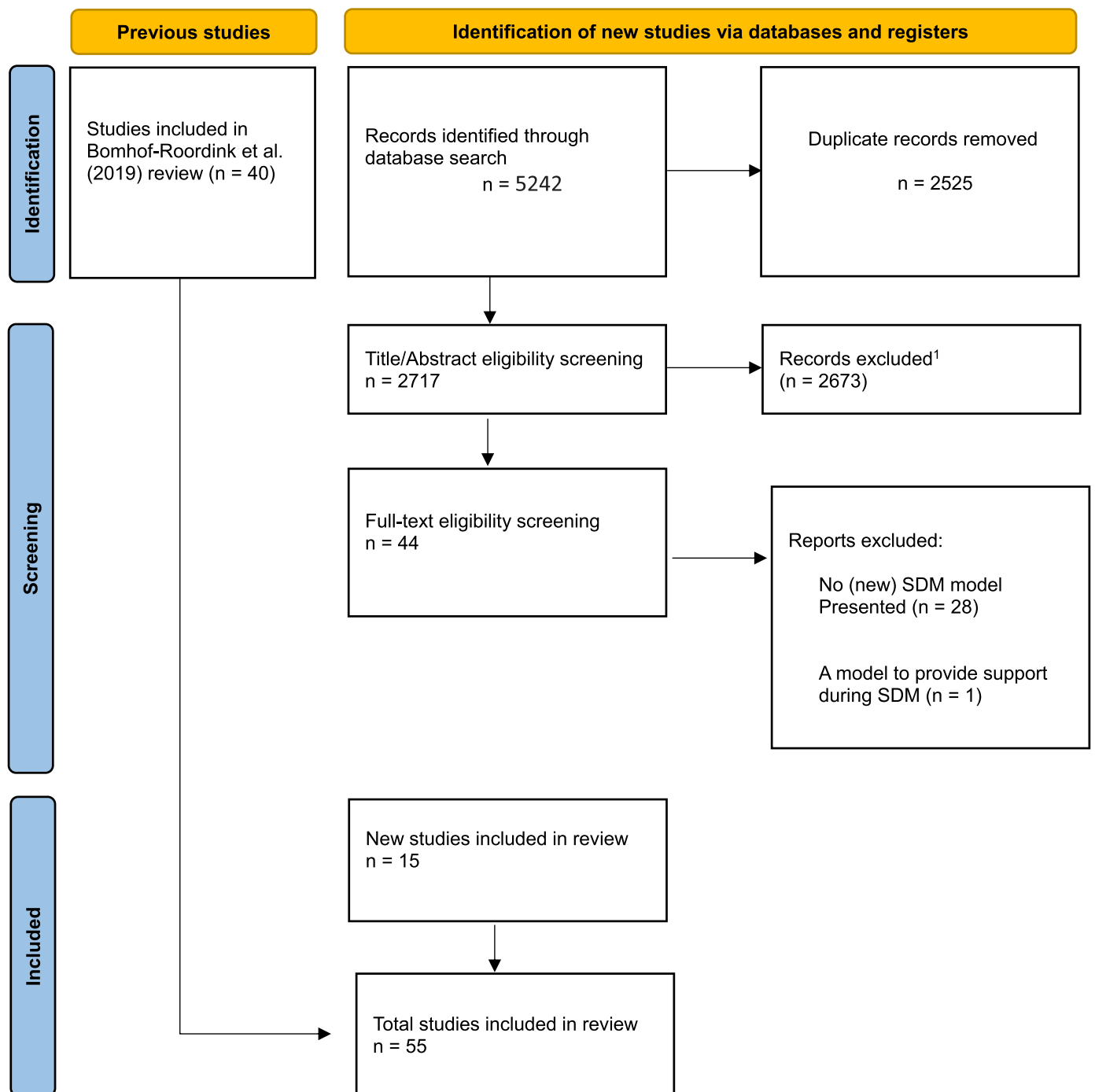


Fig. 2. PRISMA flow diagram [92] of the inclusion process of articles describing new SDM models. ¹ Reasons for exclusion: In the title or abstract no reference is made to an SDM model, the article was already included or excluded by Bomhof-Roordink et al. (2019) [4] (published before September 2019), the abstract referred to a conference presentation.

Table 2
Overview of the included articles describing SDM models.

#	Author, publication year	Country ¹	Study design/ type of paper	Setting paper
1	Aoki (2020) [40]*	Japan	Review: concept analysis	Severe mental illness
2	Banerji et al. (2021) [41]*	USA	Non-empirical paper	Hereditary angioedema
3	Bomhof-Roordink et al. (2019) [42]	The Netherlands	Qualitative: interviews	Oncology
4	Caverly et al. (2021) [43]*	USA	Qualitative: focus groups	Cancer screening (primary care)
5	Chao et al. (2022) [44]*	Taiwan	Qualitative: case study	Percutaneous coronary intervention in non-reading adult older women
6	Charles et al. (1997) [45]	Canada	Non-empirical paper	Generic
7	Charles et al. (1999) [46]	Canada	Non-empirical paper	Serious illness
8	Chor et al. (2019) [47]	USA	Non-empirical paper	Pelvic examinations in symptomatic non-pregnant patients
9	Croes et al. (2020) [48]*	USA	Delphi study	Breast cancer screening
10	Dobler et al. (2017) [49]	USA	Non-empirical paper	Lung cancer screening
11	Eliacin et al. (2015) [50]	USA	Qualitative: interviews	Mental healthcare
12	Elwyn et al. (2000) [51]	UK	Qualitative: focus groups	Primary care
13	Elwyn et al. (2012) [6]	UK	Non-empirical paper	Generic
14	Elwyn et al. (2013) [52]	UK, USA, Canada	Quantitative: secondary analysis	Generic
15	Elwyn et al. (2017) [53]	USA, UK	Qualitative and quantitative: commentary, survey, review	Generic
16	Elwyn & Vermunt (2020) [54]*	USA, The Netherlands	Meeting with experts	Multiple long-term conditions
17	Gillick (2015) [55]	USA	Non-empirical paper	Serious illness
18	Grim et al. (2016) [56]	Sweden	Qualitative: focus groups	Mental healthcare
19	Gurtner et al. (2021) [57]*	Switzerland, The Netherlands	Review	Mental healthcare
20	Haiek et al. (2021) [58]*	Canada	Non-empirical paper	Infant feeding and care during the COVID-19 pandemic
21	Hoffmann et al. (2022) [59]*	Australia	Non-empirical paper	Physical therapy
22	Iobst et al. (2022) [60]*	USA	Qualitative: interviews, questionnaire	Labor and birth
23	Jansen et al. (2016) [61]	Australia	Non-empirical paper	Older patients (deprescribing)
24	Joseph-Williams et al. (2019) [62]	UK	Qualitative: observation of consultations	Chronic kidney disease and early stage breast cancer
25	Kane et al. (2014) [63]	USA	Non-empirical paper	Oncology
26	Karkazis et al. (2010) [64]	USA	Non-empirical paper	Genital surgery for disorders of sex development
27	Langer & Jensen-Doss (2018) [65]	USA	Non-empirical paper	Youth mental healthcare
28	Légaré et al. (2011) [66]	Canada	Qualitative: expert panel	Interprofessional SDM in primary care

Table 2 (continued)

#	Author, publication year	Country ¹	Study design/ type of paper	Setting paper
29	Légaré et al. (2011) [67]	Canada	Quantitative: survey and qualitative: interviews, focus groups	Interprofessional SDM in primary care
30	Lenzen et al. (2018) [68]	The Netherlands	Qualitative: interviews and focus groups	Nurses in primary care
31	Lown et al. (2009) [69]	USA	Qualitative: working groups	Primary care
32	Makoul & Clayman (2006) [70]	USA	Review	Generic
33	Montori et al. (2006) [71]	Canada	Non-empirical paper	Chronic care
34	Moore & Kaplan (2018) [72]	USA	Non-empirical paper	Physical therapy
35	Murray et al. (2006) [73]	UK, Canada	Non-empirical paper	Primary care
36	Ng et al. (2019) [74]	Malaysia	Non-empirical paper	Primary care
37	Ng & Lee (2021) [75]*	Malaysia	Non-empirical paper	Primary care
38	Park & Cho (2018) [76]	South Korea	Review	Pediatrics care
39	Peek et al. (2008) [77]	USA	Qualitative: interviews and focus groups	Diabetes
40	Probst et al. (2017) [78]	USA	Non-empirical paper	Emergency department
41	Probst et al. (2018) [39]	USA	Non-empirical paper	Emergency cardiovascular care
42	Rennke et al. (2017) [79]	USA	Review, Qualitative: expert feedback	Inpatient setting
43	Rusiecki et al. (2018) [80]	USA	Quantitative: pre-post surveys	Generic
44	Saeed et al. (2021) [81]*	USA	Non-empirical paper	Renal replacement therapy
45	Saidinejad (2018) [82]	USA	Non-empirical paper	Pediatric emergency department
46	Shay & Latafa (2014) [83]	USA	Qualitative: interviews	Primary care
47	Simon et al. (2006) [84]	Germany	Qualitative and Quantitative: Delphi method and survey	Depression, gynecology, primary care, urology, anesthesia
48	Stiggelbout et al. (2015) [7]	The Netherlands	Non-empirical paper	Generic
49	Towle & Godolphin (1999) [85]	Canada	Qualitative: interviews	Generic
50	Truglio-Londrigan & Slyer (2018) [86]	USA	Review	Nursing practice
51	Van de Pol et al. (2016) [87]	The Netherlands	Delphi study	Older patients with multiple morbidities
52	Vaskouei-Eshkevarei et al. (2020) [88]*	Iran	Qualitative: literature analysis, interviews & focus groups	Diabetes care
53	Volk et al. (2014) [89]	USA	Quantitative: pre- post surveys	Primary care
54	Wilson et al. (2021) [90]*	USA	Review	Cannabis for pain and symptom management

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Table 2 (continued)

#	Author, publication year	Country ¹	Study design/ type of paper	Setting paper
55	Worthington et al. (2020) [91]*, Appendix C	USA	Quantitative: pre- post surveys	Contraception counseling (internal medicine)

¹Based on the affiliation(s) of the first author.

* SDM models derived from the updated search.

evidence, availability of treatment options and patient characteristics and values. In this way, Conformity demarcates the professional boundaries for HCPs to select treatment options and describes when HCPs can conform to patients and when not. Power in SDM is flexible, as both HCP and patient can take the lead. Security stresses the relational aspect between HCP and patient and refers to a good relationship and a safe environment. Self-Direction pertains to the cognitive process of considering options, constructing preferences, and choosing, and applies to both patient and HCP. Tradition refers to culture, religion, language, and complementary and alternative medicine. The value Tradition was addressed summarily. Universalism refers to aspects indicating a more balanced relationship between HCP and patient, e.g., partnership, collaboration, deliberation, which results in tailoring and tailored decisions.

3.2. Themes

Based on the value relations we developed three themes describing SDM's underlying mechanism: shared control, a safe and supportive environment, and decisions tailored to patients.

3.2.1. Shared control

SDM aims to reduce the power imbalance between HCP and patient, and strives for Universalism, moving away from Power. This is reflected in the articles by the manifestation of various aspects of Universalism such as equality, bi-directional information exchange, partnership, collaboration, deliberation, negotiation and ideally, a mutual agreement (Table 3). We found various depictions of the power dynamics between HCP and patient, such as a comparison with a tango in which patient and HCP can alternately take the lead [45,46], an "awkward dance" [93] cited in Probst et al. [39], as a continuum along which both patient and HCP can move [69,70], or as a successful, egalitarian marriage [50]:

"(...) using marriage to describe the patient-provider relationship reconfigures the traditional roles of patients and providers and assigns new meanings to their relationship. In this new configuration, patients are no longer submissive recipients of care, but active participants and equal partners who complement their counterparts." [50]

This division of power does not occur naturally. Both HCP and patient need various skills [Achievement] to increase patients' Self-Direction and move towards Universalism. The skills of HCPs are focused on increasing patients' Achievement and Self-Direction. They need to create choice awareness among patients, inform them about options, pros and cons, and benefits and risks, in an *understandable* way. To ensure patient involvement, HCPs are required to engage, stimulate, and invite patients to inform and express themselves and reflect on decision making. This increases patients' involvement and their expression of Self-Direction, leading to a more balanced encounter [85].

Patients' (health literacy) skills and knowledge also improve their position in decision making, e.g., by being aware of options and understanding them, informing and expressing themselves. Patients lacking these skills tend to behave more passively [57], which increases the HCP's power [88]. A power imbalance felt by patients can disempower them. In order to exercise their own power, patients may try to counterbalance a HCP's power by bringing supportive others [Benevolence]

Table 3

Manifestation of Schwartz's value types in SDM, based on the included articles describing SDM models.

Schwartz's value type	Manifestation of the value type in SDM
Achievement	<p><i>Knowledge, competences, and skills</i> that both HCPs and patients need to engage in SDM.</p> <p>Patients need to be able to participate, provide HCPs with information regarding their health problem, describe their symptoms, express preferences, values and goals, ask and answer questions, be aware of choices, search, gather, and assess information from various information sources, understand information, and share their understanding and thinking process. Also, they have to seek support from others. The more cognitive aspects demanded from patients are placed under Self-Direction.</p> <p>HCPs need to <i>establish a framework for SDM</i> by acknowledging that a decision has to be made, acknowledge equipoise, guide the process of decision making, discuss the role the patient would like to take, consider patients' decision-making capacity, and explore patients' information needs, share (medical) information, and educate patients. Furthermore, HCPs need to <i>explore patients' situation</i>, expectations and fears, and their social structure; they have to know and show they know their patient, elicit the patient's perspective and goals, understand and recognize the perspective and respond to it.</p> <p>Regarding <i>treatment options</i>, HCPs need to create choice awareness among their patients, present treatment options, discuss pros and cons, benefits and risks, and communicate uncertainty. Also, they need to evaluate and base the options on evidence, present evidence and set goals.</p> <p>For this, HCPs need good <i>communication skills</i>. They have to listen to patients, ask and answer questions, use verbal and non-verbal communication, express empathy, communicate in a neutral way and in understandable language, check patients' understanding, assess a patient's readiness to make a decision, have the ability to create a safe environment, and engage and stimulate patients to participate in decision making, and to be culturally sensitive.</p>
Benevolence	<p>Support for patients and occasionally for HCPs. It involves general support, emotional support, and practical support for patients in decision making. Support can be provided by HCPs, patients' social network or decision aids. Benevolence also refers to patients' improved adherence and health outcomes (including satisfaction), acting in patients' best interest, and being empathic.</p>
Conformity	<p>Restrictions on treatment selection by evidence, available treatment options, a patient's ability, or self-efficacy to follow a treatment, impact of a treatment on a patient's daily life and goals, and limitations of options because they have to be tailored to individual patients.</p> <p>Conformity also refers to whom one has to conform. In case of disagreement a decision can be deferred, or patients can go to another HCP. Either a patient or a HCP can decide (not necessarily together). HCPs must accept patients' choices if reasonable, even if it is not the "best" decision according to the HCP, and they have to accept when a patient is not ready to decide. HCPs are not obliged to provide contra indicated treatments and should endorse a patient's decision.</p>
Hedonism Power	<p>No manifestations found.</p> <p>Power is not a value to pursue in SDM, but SDM functions as a mechanism to reduce the power of the HCP and to create a power balance between HCP and patient. References are made to HCPs having an influential position, or the power to prescribe. Patients in contrast exercise power by adhering or not. Power in SDM is described as "equal" between HCP and patient or flexible as both HCP and patient can alternately take the lead.</p>
Security	<p>A good relationship between HCP and patient, which is characterized by trust and honesty. It is enabled when HCP and patient have a human connection. It also refers to a safe environment. Some authors mention that such a relationship develops over time and a few authors consider the relationship between HCP and patient an essential element of SDM.</p>

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Table 3 (continued)

Schwartz's value type	Manifestation of the value type in SDM
Self-Direction	<p>Patient autonomy and HCPs professional autonomy.</p> <p>Patients' Self-Direction: Patient involvement in decision making to their preferred extent, self-advocacy, autonomy, and preferences that should be informed and that can change. Self-Direction also refers to patients considering what is most important to them, identifying and constructing their preferences, opinions, goals, options, and choosing and deciding. Patients can choose to defer a decision. Self-Direction also refers to the involvement of people from the patients' social network who can have a say in decision making and who can influence patients' preferences.</p> <p>HCPs' Self-Direction (professional autonomy): The formulation of treatment recommendations, often personalized, to which patients could respond. HCPs' professional autonomy is restricted by medical evidence, patient values, preferences, views, and ability (see Conformity). It also refers to the involvement of other HCPs in decision making.</p>
Stimulation Tradition	<p>No manifestations found.</p> <p>Cultural aspects of the patient's context: culture, religion, language, and complementary and alternative medicine. It is mentioned that a cultural background can influence patient decision-making preferences and views on illness and treatment.</p>
Universalism	<p>A more balanced relationship between HCP and patient: equality, partnership, mutual respect, collaboration (also with the patient's extended network), information exchange, prioritizing goals and options together, a joint deliberation and discussion about options between patients and the HCP and patients with their social network, a shared understanding of the problem, a shared responsibility, negotiation, deciding together, and a mutual agreement. HCP and patient co-construct their preferences by both sharing information and preferences and mutually influencing each other. It also refers to tailoring, which leads to tailored decisions to individual patients.</p>

to the consultation [56] or by subsequently not complying [77]:

"The advantages of being accompanied by someone who knows you well can have a counterbalancing impact on the power imbalance that often occurs in the meeting with staff." [56]

We also found relations between Achievement and Universalism, as HCPs having good interpersonal skills enable the development of a partnership with patients [71,76] and can lead to a decision on which both agree [86]. HCPs' skills, e.g., good listening and non-verbal skills, also reduce their perceived power enabling a more balanced relationship [51,69,81]:

"Physicians need to be mindful of the physician-patient power differential and make every effort to reduce it by sitting down rather than standing, apologize in case of patient waiting and ask about the preferred name. A forward leaning body posture conveys attentiveness and facilitates the conversation (...)." [81]

When HCPs lack certain skills, e.g., the creation of a positive emotional tone, they are perceived as more authoritarian [86]. Also, the acknowledgment of the HCPs medical knowledge and the patients' experiential knowledge functions as an equalizer [47,56,59], leading to a "meeting between experts" [85]:

"Acknowledging that both clinicians and patients have relevant and valuable information to contribute to the decision-making process can help to equalise the unequal power relationship that exists in the traditional paternalistic approach." [59]

While patients' involvement [Self-Direction] is increased by their own and HCPs' skills, HCPs' "professional" Self-Direction (professional autonomy) is restricted [Conformity] by evidence, but also by what fits

the individual patient. Strictly adhering to medical evidence increases the HCP's Power [60]. Patients' Self-Direction is also restricted as HCPs should endorse a patient's decision and are not obliged to provide treatments that are not medically indicated (see Conformity, Table 3).

In this theme we see that within SDM there is a movement towards Universalism, a shared control between patient and HCP. This is partly thought to be reached by skills of both HCPs and patients that are aimed at increasing patients' Self-Direction in decision making. Furthermore, HCPs' Self-Direction is not only restricted [Conformity] by evidence, but also by SDM's requirement to tailor evidence and options to the individual patient, which will eliminate some treatment options. According to SDM, the skills of both HCP and patients facilitate the development of a more balanced relationship.

3.2.2. A safe and supportive environment

For the movement towards Universalism, also reference is made to supporting a patient during decision making [Benevolence] and a good, trusting relationship between HCP and patient [Security].

We identified the value Benevolence often in relation to other values, and mostly in relation to a patient's Self-Direction. Patient autonomy is supposed to be supported by HCPs [6,43,61,76,88]:

"At its core, SDM rests on accepting that individual self-determination is a desirable goal and that clinicians need to support patients to achieve this goal (...)." [6]

References are made to general support for patients in decision making [6,41,53,56–58,62,66,76,86,87,89], to emotional support [44, 56,62,64,67], and practical support [62]. Support can be provided by HCPs, patients' social network, and tools (e.g., visual and decision aids, questionnaires). Authors refer to specific stages of decision making in which to support patients. In these stages Benevolence was related to Achievement or Self-Direction. References are made to supporting patients in 1) information provision [Achievement] [39,43,49,52,59,61, 63,65,72], and understanding information [Achievement] (e.g. on condition, treatment plans, options) [6,7,44,48,52,55–57,63,64,75,78, 82,90], 2) identifying and clarifying their preferences, goals, priorities and what matters most to them [Self-Direction] [6,7,40,52,55,58,60,61, 63,66–69,72,76], 3) the expression of their values, preferences, goals and concerns [Achievement] [6,44,52,54,56,60,61,68,81,90], 4) considering options [Self-Direction] [6,51,52,68,85], and weighing pros and cons [Self-Direction] [7,42,45,52,56–58,63,66,68,72,82], and in 5) deciding [Self-Direction] [6,43,48,61,76,78,88]. In this way, Benevolence increases patients' Achievement and facilitates their Self-Direction.

Relations were also found between Benevolence and Universalism: support can facilitate collaboration [39,52,66], information exchange [66], deliberation [2,6,39,42,49,52], active discussion [39,59,75] and conversation [49,78] between HCP and patient. Support can further facilitate more equality [56] and equity [49] and has to be culturally appropriate [Tradition] [75,86].

For the provision of support HCPs need skills [Achievement] [58, 63]. Support was often described in general terms.

Besides support [Benevolence], the value Security manifests in SDM as a good relationship between HCP and patient, characterized by trust and honesty. In specific settings, this value was more pronounced, e.g., mental healthcare [40,50,56,57], nursing [44,86], pediatrics [76] chronic diseases [71,77,81,88], primary care [69,83], and in two generic models [6,46]. We identified relations between Security and Achievement, as a good relationship between HCP and patient enable patients to express themselves, share concerns, and ask questions [6,39, 46,57,69,71,78,86]:

"The clinician should strive to create an environment in which the patient feels at ease expressing preferences and asking questions." [78]

Mistrust on the other hand, due to age differences, ethnic background, or gender can obstruct patients of expressing themselves [46,50,

77,86].

Security enables patients' Self-Direction as it strengthens patients' autonomy [6,57] and facilitates their involvement in decision making [39,50,51,57].

Security was also linked to Universalism, by functioning as an equalizer [40,51,69,75]:

"(...) one patient explained, 'I create relationships with healthcare providers that are around things besides my health. It's sort of a great equalizer in some way ...'" [69]

In addition, Security facilitates aspects of Universalism, e.g., information sharing [69,86], collaboration [40,50], deliberation [6], negotiation [46,50], and reaching an agreement [50,64].

The development of rapport is enabled by HCPs' skills [Achievement], such as being sensitive to patients' cultural beliefs and behaviors, listening to patients, showing they are knowledgeable [48], sharing information [77], and showing they know the patient [81].

Benevolence can also contribute to the development of the relationship between HCP and patient by HCPs being empathic [48,50], and providing emotional support [44].

The relations described in this theme show that the movement towards Universalism in SDM is facilitated by supporting [Benevolence] patients' Achievement and Self-Direction and by the development of a solid and trusting relationship [Security]. Benevolence and Security enable patients to inform and express themselves [Achievement], construct informed preferences [Self-Direction], and establish collaborative partnerships [Universalism]. For the realization of the values Security and Benevolence, HCPs need skills [Achievement].

3.2.3. Decisions tailored to patients

The third theme concerns the development, or co-creation, of decisions by HCPs and patients that are tailored to that patient. This was expressed in the relation between Achievement and Self-Direction. Patients' competencies, knowledge and skills often refer to what patients need to participate in decision making (e.g., inform themselves, ask and answer questions, become aware of options, express their concerns, preferences, values, etc.) and thereby bring their personal views and situation into decision making. HCPs' skills on the other hand, have a strong focus on informing patients about their disease in an understandable way, checking their understanding, and surfacing the patient's perspective and situation. The skills demanded from HCPs to elicit a patient's perspective help to tailor treatment options to individual patients and to select the treatment option that best fits that patient [Universalism] [7,41,45,49,62,64,70,78]:

"Gaining insight into the patient's goals, situation, and perception of HAE [Hereditary Angioedema] is critical to collaboratively identifying an appropriate therapy." [41]

The concept of tailoring is further deepened in the relation between Self-Direction and Universalism. By truly involving patients, their perspective is added to the decision-making process. Patient involvement is therefore not only a principled issue to let patients have a say, but necessary for the selection of a treatment option that best fits an individual patient. Many articles mention that patients need time to consider the various options and that they should reflect on what decision is best for themselves, or deliberate [Universalism] with others in their social network about treatment options. Such conversations can facilitate tailored decision making as these people know the patient personally and can tailor their advice and information to the patient [46].

Tailoring is described as a process in which patients continually express their preferences, causing the HCPs to increasingly adapt the options they present to the patient in front of them [62]:

"As the patient's preferences emerged, option presentation (including pros and cons) became more tailored. We observed a continuous, iterative

process whereby clinicians would consider the stated preferences as they discussed further options; in some situations options would become eliminated (e.g., if the patient had strong cultural beliefs about organ transplantation)." [62]

Ideally the HCP and patient mutually influence each other in the process of selecting the best fitting treatment option for a patient [52,62,69,76].

Patients are not necessarily supposed to choose the best treatment option all by themselves, but they need to be supported. This was expressed in the relations we found between Benevolence and Universalism. HCPs need to help patients to make decisions aligned to their values and lifestyle [51,56,63,78,85]. Decision aids can also help to improve a match between patients' values and the treatment options [7,39,54,63,76].

Furthermore, a good relationship with the HCP [Security] facilitates the information exchange between HCP and patient [69,86] and open conversation [50]. This enables the tailoring of treatment options to an individual patient.

The "professional" Self-Direction (professional autonomy) of HCPs is in this way not only limited by evidence and availability of options, but also by the values, lifestyle, and perspective of an individual patient, ensuring tailored decision making. Some articles mention that Tradition can influence patients' decision-making preferences [6,63,78] and views on illness and treatment [55,65,79]. HCPs' [48] and decision aids [75] have to be culturally sensitive. Furthermore, HCPs can take Tradition into account in the assessment of patients' situation and preferences [65,86,87].

3.3. Underlying value structure of SDM

The prominent value relations in the themes show that Achievement, Benevolence and Security enable patients' Self-Direction, through which they facilitate Universalism, moving away from Power. Achievement, Benevolence and Security are also directly related to Universalism. Additionally, Benevolence and Security are facilitators of patients' Achievement. Conformity, in contrast, restricts both patients and HCPs in their Self-Direction. The restriction of HCPs' Self-Direction creates more space for patients' Self-Direction in decision making. This facilitates a collaborative partnership in which tailored decisions can be developed. Tradition can influence patients' Self-Direction and can be considered by HCPs in the assessment of the patient's context and in tailoring information and decision making to patients (Fig. 3).

Other relations we found are that Achievement facilitates Benevolence, as skills are needed to support patients [58,63] and information provision reduces decisional regret [81]. Also, Achievement facilitates Security by HCPs' communication skills [48,81,86].

Benevolence enables Security by being empathic or providing emotional support [44,48,50], while Security increases Benevolence because a good relationship can improve patients' health outcomes, adherence, and satisfaction [50,57], just as does patient involvement [Self-Direction] [57,59,63,72,76,85,88]. Patient involvement can also lead to trust [Security] [63] and informed patients [Achievement] [59].

When Universalism is reached, "shared" decision making is believed to improve patients' medical knowledge [40,41,57,60,72] [Achievement], the HCP-patient relationship [7,40] and trust [Security] [63,79], to empower patients [40,41,47,57], and increase their autonomy and involvement [Self-Direction] [68,72]. But most of all, "shared" decision making increases patients' health outcomes, adherence, and satisfaction [Benevolence] [7,39–41,45,50,56,57,63,64,65,68,72,76,77,79,81,83,85,87,90].

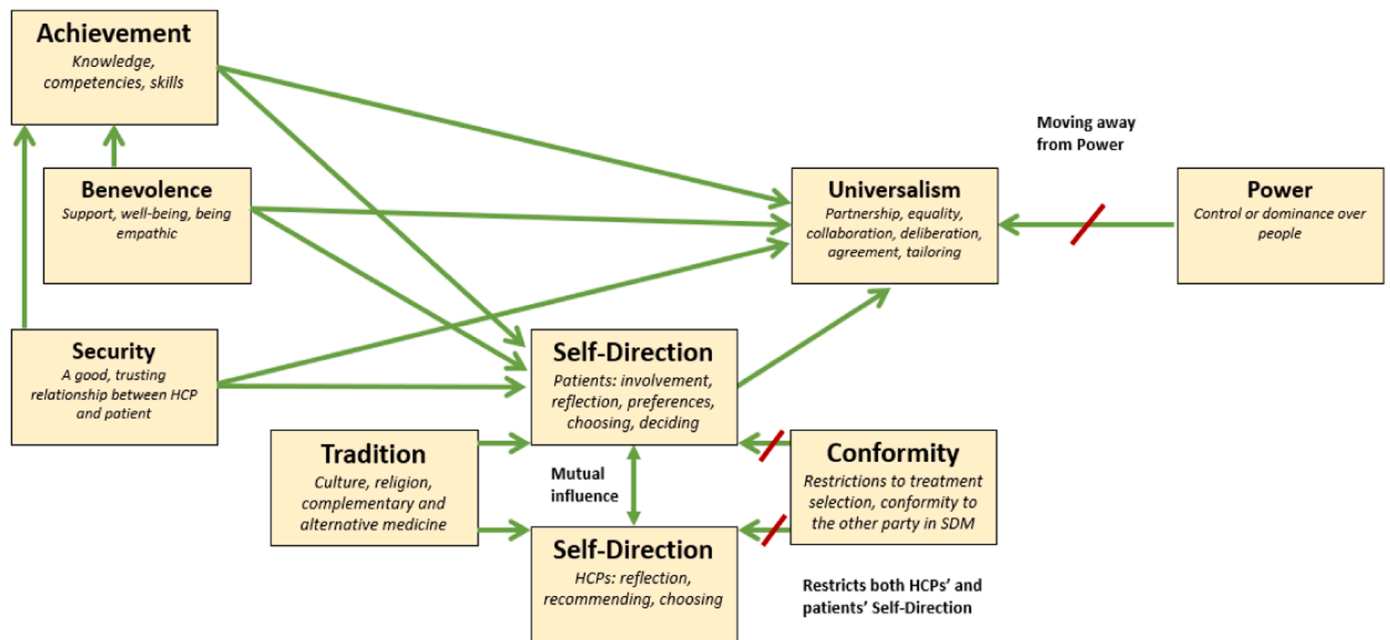


Fig. 3. A topography of SDM's underlying values. The figure shows how Universalism can be reached by an interplay of values. Regular arrows denote positive value relations, while the struck-through arrows denote a restriction or negative relation between the values. Achievement, Benevolence and Security enable patients' Self-Direction through which they facilitate Universalism, moving away from Power. Achievement, Benevolence and Security are also directly related to Universalism. Additionally, Benevolence and Security are facilitators of patients' Achievement. Conformity restricts both HCPs' and patients' Self-Direction. By HCPs' restricted Self-Direction, patients' Self-Direction gets more space in decision making. Tradition can influence patients' Self-Direction and HCPs can take Tradition into account in decision making.

4. Discussion and conclusion

4.1. Discussion

4.1.1. Key findings

This study shows how Schwartz's values manifest in SDM and captures the value relations characterizing SDM. The values Achievement, Benevolence, and Security facilitate patients' Self-Direction, through which a state of Universalism in the relationship between HCP and patient can be reached. Achievement, Benevolence, and Security are also directly related to Universalism. Additionally, Security and Benevolence are enablers of Achievement. HCPs' "professional" Self-Direction is restricted by Conformity which allows for further tailoring of treatment decisions to individual patients. Tradition can influence patients' Self-Direction and can be considered by HCPs in the decision-making process. SDM assumes that this movement towards Universalism improves patients' wellbeing.

4.1.2. The value structure and key elements of SDM

Previous studies described SDM's separate key elements [4,70] that appeared in various values we defined, e.g., tailored information provision by the HCP [Achievement], patients constructing their preferences [Self-Direction], deliberation [Universalism], and support [Benevolence]. This study focuses on SDM's normative aspects and shows the *interrelatedness* of these elements in the value structure and how certain elements, e.g., support during decision making [Benevolence], can facilitate the realization of others, e.g., deliberation [Universalism].

4.1.3. SDM and relationality

SDM has been criticized for being too rational, and not enough relational [94–96], and too narrow because it insufficiently includes influences of decision partners [97,98]. Thomas et al. and Olthuis et al. argue that SDM assumes that individuals follow a rational, systematic process by weighing pros and cons in decision making [94,95], taking

personal, social, and environmental factors insufficiently into account. In doing so Thomas et al. refer to generic SDM models [6,45,46,51,70,85] that informed the development of at least six other SDM models [4]. Below we will discuss our findings in the light of these comments.

The skills of both HCPs and patients referred to in Achievement involve conditions for SDM to take place and enable patients to exercise their Self-Direction. Many elements under Achievement fit well within the rational model of decision making [94,95]. Pieterse et al. argue that besides skills, HCPs' underlying qualities, such as courage, curiosity, and flexibility are also necessary to practice SDM [99]. The "skilled" activities we identified were, in line with other findings [4,5], mostly supposed to be carried out by HCPs. This resulted in the critique that patients are considered "passive participants" in SDM [5]. Recently, Galasiński et al. developed a SDM definition addressing both HCPs and patients to establish equal communication rights [100].

Beside the emphasis on the skills, our synthesized value structure shows relational elements in SDM as well. We recognized Benevolence, support for patients in several stages of decision making, as an enabler of patients' Achievement and Self-Direction, and of Universalism. Other authors also addressed the importance of supporting patients, arguing that SDM aims at fostering patient autonomy by supportive HCPs, attentive to patients' needs [96,101]. Bomhof-Roordink et al. [4] noted that only a few SDM models [42,69] pay attention to the involvement of informal caregivers in SDM and suggest making their role explicit in future SDM models. By analyzing the entire text of articles presenting SDM models, we found more references to the involvement of patients' social network [40,44,46,59–63,75,79,81,82,87] in decision making, e.g., in the deliberation phase, in which patients can discuss options with persons close to them [6,7,42,46,56,60,62,63,69,72,75,82].

The relational aspect was additionally expressed in the value Security, referring to a trusting relationship between HCP and patient, as an enabler of patients' Achievement and Self-Direction, and of Universalism. The value Security was more pronounced in articles pertaining vulnerable patients such as mental healthcare patients [40,50,56,57], ethnic minorities [77], older patients [44,81], and children [76].

Security can especially enable vulnerable patients' Self-Direction and patients with limited health literacy [102]. In a few SDM models that were developed based on data collected among patients, Security was also more prominent [50,56,69,77,83,88]. In most of the settings in which Security was more pronounced, it is possible to develop a relationship because HCP and patient have frequent contact. While we identified Security as an enabler of patients' Achievement and Self-Direction, and of Universalism, Joseph-Williams et al. found that patients trusting their HCP could also be a barrier to patient participation as it can render them less involved [103]. Therefore, HCPs need to be careful to surface patients' perspectives, even within a good relationship with their patients.

Support for patients was mostly referred to in general terms and the relation between HCP and patient was mostly stressed in SDM models for vulnerable patient groups, in settings where HCPs and patients had frequent contact and in models for which data was collected among patients. However, these values deserve more explicit and concrete attention in future models and in clinical practice as they play an important role in improving patients' Achievement, enable patients' Self-Direction, and facilitate Universalism.

Furthermore, we found many references to tailored decisions as described in the third theme. This highlights that SDM is not only about assessing different options and pros and cons, but that this assessment should fit into a patient's context and capabilities, values and wishes.

4.1.4. Limitations

This study has several limitations. The first is that we analyzed the entire articles in which SDM models were presented and not only the SDM models. It might be debatable whether the values we obtained from parts outside the SDM model are values truly underlying SDM. Yet, we assume that these values reflect the authors' motivation and explanation for their SDM model.

Secondly, we only included articles presenting newly developed or adapted SDM models. The inclusion of articles merely discussing existing models might have led to an extension of our value definitions, additional value relations, or an emphasis on other values. Therefore, our value definitions should be used as a starting point in SDM research and can further be supplemented in future studies. This study, however, provides an overview of the values underlying SDM based on articles presenting SDM models in particular.

Thirdly, in some instances one could argue if we properly redefined Schwartz's values in the context of SDM. To increase the *credibility* of our analysis, we enhanced our recognition of values by using both Schwartz's and Moyo et al.'s value definitions [17,20]. Furthermore, the assignments of codes to values were discussed several times within the research group and ten articles were double coded.

Lastly, we might have missed SDM models in our search strategy or codes in our coding process. Nevertheless, the sample size ($n = 55$) we used to construct SDM's underlying value structure was considerable and therefore the information power in this study was sufficient to answer the main research question [104].

4.2. Conclusion

This study unraveled the value structure underlying SDM and shows that SDM can be realized through an interplay of various values. The value structure shows that besides knowledge and skills, also support

and a good relationship with the HCP enable patients' Achievement and Self-Direction and facilitate Universalism. These values can be taken more explicitly into account in SDM, especially since vulnerable patients can benefit from the presence of these values.

4.3. Implications for practice

Our value structure is beneficial for research, clinical, and educational practice. The value structure enables a comparison of the values of SDM with those of specific patient populations. This can facilitate the incorporation of patients' values into decision making, thereby promoting patient-centered care. The value structure can also be used in the development of future SDM models by ascertaining whether next to Achievement also Benevolence and Security are represented in the model, and whether it is explicitly described how patients can be supported and how HCPs can work on their relationship with patients. Furthermore, the value structure may inform the development of SDM measures and interventions to support SDM for all patients. HCPs in clinical practice can consider these values, and training programs for HCPs can encourage this.

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CRedit authorship contribution statement

Roukayya Oueslati: Funding acquisition, Conceptualization, Formal analysis, Validation, Visualization, Investigation, Methodology, Writing – original draft. **Anke J. Woudstra:** Formal analysis, Validation, Writing – review & editing. **Rima Alkirawan:** Investigation, Validation. **Ria Reis:** Conceptualization, Methodology, Validation, Writing – review & editing. **Yvonne van Zaalen:** Validation, Writing – review & editing. **Meralda T. Slager:** Funding acquisition, Validation, Writing – review & editing, Supervision. **Anne M. Stiggelbout:** Funding acquisition, Conceptualization, Methodology, Validation, Writing – review & editing, Supervision. **Dorothea P. Touwen:** Funding acquisition, Conceptualization, Methodology, Validation, Writing – review & editing, Supervision.

Declaration of Competing Interest

The authors report there are no competing interests to declare.

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Appendix. Manifestation of Schwartz's values in SDM

Note that the bold words were often, but not always literally found in the articles and sometimes represent an idea that we found in text fragments.

Value type	Manifestation in SDM (number SDM model in Table 2)
Achievement	<p>Knowledge (1, 3, 7, 8-10, 17, 18, 20-22, 23, 26, 28, 31, 33-35, 37-39, 46, 50, 51), competences and skills (9, 13, 21, 25, 29, 37, 49) that both HCPs and patients need to have to engage in SDM. These will be specified below.</p> <p>Competences and skills of patients: They need to have communication skills (50, 51), be able to participate in SDM (18, 19, 23, 40, 51), describe symptoms (31, 46), be aware of choice (8, 13, 14, 19, 23, 25, 45), search and gather information (1, 3, 6, 10, 18, 22, 26, 31, 33, 35) from different sources (1-3, 18, 22, 26, 31, 33, 35) for which time is needed (1-3), just as for processing information (26, 34, 41). They have to assess information (49), understand information/options (5, 8, 13, 23, 45), also the relatives (5), share their understanding of information (7, 31, 34, 36, 45) and thinking process (31), express problem, preferences, values, opinions, concerns, feelings and/or goals (1, 2, 3, 6, 7, 14, 17, 19, 20, 22, 25, 29, 31, 34-36, 40, 44, 46, 49-51, 55), select and prioritize goals (17, 51), and ask and answer questions (3, 6, 8, 18, 26, 30, 31, 39, 40, 46, 47, 54) for which time should be provided (8, 26, 47, 54). Furthermore, patients can raise options not listed by the HCP (27, 32, 49), speak up for themselves and guide conversations (31, 46), need to have the ability to make decisions (40) and to summarize and report back to their HCP (34), to track and report the process (54), and seek support from others (1, 31, 44). Low health literacy and numeracy may hamper SDM (13, 17, 23, 34).</p> <p>Competences and skills of HCPs: <i>Establish a framework for SDM:</i> identify (37, 43) and acknowledge that a decision needs to be made (with the patient) (19, 41, 49, 52). HCPs have to consider patients' decision-making capacity (5, 19, 51), prepare patients (1, 18, 24, 30, 51), acknowledge/communicate equipoise/preference sensitive decisions/multiple options (2, 8, 12, 14, 28, 37, 43, 47, 48, 50), discuss the role the patient would like to take in decision making (6, 9, 12, 13, 19, 23, 26, 32, 48, 49, 51, 53), explore a patient's preference for information (12, 13, 26, 49), share (medical) information (1, 3, 9, 13-14, 21, 23, 26, 29, 31, 32, 36, 38-41, 46, 52, 53), educate patients (2, 8, 20, 21, 44, 50), guide patients in the decision-making process (3, 13, 18, 31, 37, 38, 50, 53), articulate a time frame (44) and manage time constraints (34).</p> <p><i>Patient situation:</i> HCPs have to explore patients' situation (e.g., history, problem analysis, network etc.) (2, 5, 9, 10, 26, 30, 50-52, 54), their expectations and/or fears (19, 20, 21, 26), assess their social structure (5, 50, 51), acknowledge the impact of values of others (28, 29), know their patient (3, 50) and show they know their patient (20, 44), elicit the patient's perspective (e.g., preferences, values, concerns, experiences) (2, 3, 5, 8, 9, 12-16, 18, 20, 21, 23, 24-26, 27, 31, 32, 36, 37, 40-44, 47-51, 53-55), their patients' goals (5, 15, 16, 23, 44, 51), as well as those of relatives (5), understand and recognize their patient's perspective (2, 7, 10, 38, 40) and respond to it (2, 12, 15, 26, 35, 39, 49).</p> <p><i>Treatment options:</i> HCPs have to identify options (12, 28), create choice awareness among their patients (2, 3, 5, 8-10, 13-14, 19, 21, 24, 28, 29, 34, 37, 40, 41, 44, 47, 48, 51-53, 55), present treatment options (1-3, 6, 8, 9, 12-17, 19-28, 31-34, 36, 38, 40, 41, 43, 45, 46-48, 50, 51, 53-55), discuss the pros and cons and benefits and risks of treatment options (1, 3, 4, 6, 8, 9, 13, 16, 17, 19-23, 25, 26, 31-34, 36-38, 40, 43, 45, 47, 48, 51, 53, 54), also with relatives (5), communicate uncertainty (9, 13, 20, 21, 25, 49, 53), prognosis (44), search information (31), evaluate evidence (26, 49), base the options/information on evidence (1, 9, 20, 21, 25, 26, 31, 32, 48, 54) and present evidence (13, 21, 32, 37, 42, 45, 49). Also, HCPs have to set goals (2, 16) and prioritize them (16), share own values (33, 35), and seek support/information/advice (31).</p> <p><i>Communication skills:</i> HCPs need to have good communication skills (12, 13, 16, 21, 26, 30, 31, 37-39, 49-51, 52). They have to listen to patients (9, 14, 15, 20, 21, 31, 34, 35, 39, 41, 46, 50) and family and friends (31), ask (20) and answer (39, 46) questions, use both verbal and non-verbal communication (31, 44, 52), express empathy (as a skill) (16, 38, 44), and act sensitive to patients' cultural beliefs and behaviors (9). Also, they have to communicate pros and cons, benefits and risks in a neutral way (6, 9, 19, 26, 34, 37, 48, 54), specified by some by using numbers rather than percentages (37, 48), in understandable language (1, 2, 6, 9, 15, 17, 19, 21, 23, 31, 34, 37, 39-41, 44-46, 54). Furthermore, they have to tailor communication to an individual patient (1, 9, 12, 13, 20, 24, 25, 30, 31, 40, 44, 50, 51, 53), summarize (34, 51), check a patient's understanding/knowledge (9, 12-14, 19, 20, 23, 24-27, 31, 32, 35, 42-44, 47, 48, 51, 53, 55) and reaction (13), clarify mutual understanding (19), and assess a patient's readiness to make a decision (13, 21, 37, 38, 50, 51, 53). HCPs also need to have the ability to create a safe environment for patients (18, 30), engage (12, 18, 22, 28, 36, 45, 47, 51, 52) and stimulate patients' involvement in decision making (2, 3, 5, 9, 18, 19, 21, 23-25, 30, 34, 35, 38, 47, 49-51), stimulate patients to express themselves (5, 23, 36, 48, 51-54) and to seek information (31, 35), and gradually involve relatives (5).</p> <p>HCPs also need to have measurement and documentation skills (9, 34) and be able to self-reflect (30).</p>
Benevolence	<p>General support for patients by HCPs in treatment decision making (2, 13, 15, 18-20, 24, 28, 30, 38, 50, 51, 53), emotional support (5, 18, 24, 26, 29), practical support (24). Support can also be provided by patients' social network (14, 18, 22, 29, 30, 37, 44) or by decision aids (see paragraph 3.2.2). Benevolence also refers to improved adherence and health outcomes (including satisfaction) (1, 2, 6, 8, 11, 18, 19, 22, 25-27, 30, 34, 38-42, 44-46, 48, 49, 51, 52, 54), to decisions made in the patient's best interest (38, 46), and to being empathic and showing empathy (9, 11, 31, 33-35, 54). Benevolence additionally refers to support for the HCP (31), e.g., during their communication [Achievement] with patients (7, 23, 27, 37, 40, 51).</p>
Conformity	<p>Restrictions to treatment selection, by e.g., available resources or options (2, 9, 12, 27-29, 42), permissibility by the law (54), or protocol (22), evidence supporting treatment options (1, 7, 14, 26, 27, 29, 36-38, 40, 48) or without evidence (27), patients' ability or self-efficacy to follow a treatment (1, 18, 30, 32, 42, 52), impact of a treatment on patients' daily life (1), and patients' goals (2, 16, 17, 51). Treatment selection occurs through tailoring evidence/treatment options to the individual patient (e.g., preferences, values, lifestyle, context, problem, circumstances, risk patient is willing to take) (2-4, 6-10, 12, 14, 15, 17, 21, 23-27, 32-34, 37, 38, 40-43, 48, 49, 51, 52, 54), by the incorporation of patient values (3, 9, 14, 15, 25, 26, 31, 40-42, 51, 52) and opinions of relatives (5). The HCP determines what options are possible for the patient (3).</p> <p>Conformity also refers to whom one has to conform. In case of disagreement and negotiation [see Universalism] is not helpful, decisions can be deferred (28), discussed further/again (19, 27), or a patient can go to another HCP (7, 26, 27, 33). A patient or HCP can decide (not necessarily together) (3, 4, 9, 14, 25, 26, 31, 33, 46, 52). HCPs must accept patient's decisions (2, 6, 9, 37, 52), if reasonable (2), even if it is not the "best" decision according to the HCP (2, 6). HCPs also have to accept when a patient is not ready to decide (37) and are not obliged to provide contra indicated treatments (26, 27). Furthermore, HCPs should endorse a decision (2, 6, 7, 27, 28).</p>
Power	<p>Power is not a value to pursue in SDM, but SDM rather functions as a mechanism to reduce power. References are made to HCPs having an influential position (1, 3, 4, 8, 12, 17, 21, 22, 26, 31, 34, 38, 44, 50) or a "power" to prescribe (33). Patients in contrast, exercise "power" by adhering or not (31, 33, 39, 50) or accepting or rejecting a treatment plan (17, 31).</p>
Security	<p>Power in SDM is described as "equal" between HCP and patient (37) or flexible as both patient and HCP can alternately take the lead (7, 31, 32, 49, 50). A good, trustworthy relationship between HCP and patient (1, 5, 7-9, 11, 13, 18, 19, 22, 23, 31, 33, 37-39, 42, 44, 46, 50-52), that is built over time (11, 31, 19, 44, 46, 50). Two articles address the development of rapport and a good relation with relatives as well (5, 44). Security also refers to a safe environment for patients (6-8, 18, 21, 30, 40) The relationship is enabled when HCPs and patients have a human connection (11, 41), and is characterized by honesty (1, 11, 26, 29, 31, 38, 44-46), trust (7, 9, 11, 18, 19, 22, 23, 31, 37-39, 42, 46, 50, 52) and privacy (52). A good relationship is considered an essential (1, 11, 13, 18, 19, 37, 50) or important (39) element of SDM.</p>
Self-Direction	<p>Patients Refers to patient autonomy (4-6, 8, 12, 13, 17, 19, 27, 30, 40, 52) and relational autonomy (13), patient involvement in decision making (1-3, 6, 7, 11, 12, 15, 17-19, 22, 25, 26, 28, 29, 34, 36, 38-40, 45, 47-52), but also the involvement of the patient's social network (1, 5-7, 21-25, 37, 42, 51, 44, 45), who can influence the patient (3, 24, 28, 29, 42), self-advocacy (31, 46), patients' preferences, opinions and goals (1, 2, 10, 17, 25, 26, 42, 51, 52). Patients can choose their role in decision making (6, 7, 9, 12-15, 19, 21, 23, 25-27, 31, 32, 34, 38, 40, 42, 46, 48-53), which can change (50). The role of relatives should also be discussed (23). Self-Direction also refers to patients identifying their preferences (22) and considering what is most important to them (1, 13, 16, 17, 21, 25, 34, 36, 44) for which they need time (13). Additionally, it refers to their relatives who should also consider and prioritize preferences (25). Sometimes patients seek validation (22). Patients also have to consider evidence (7, 14, 27) and HCPs' preferences (14), construct informed preferences (2, 10, 13), and reflect on themselves (50). Patients have to reflect on what decision is best for oneself (considering options) (3, 5, 6, 10, 15, 21, 26, 31, 33, 37, 41, 47), and need time to consider information, options and preferences (1, 3, 18, 19, 21, 25, 26, 34, 37, 48). Patients can choose and decide (regarding treatment options) (2-5, 9, 10, 14, 15, 17, 21, 25, 31, 33, 36, 39, 46, 52), choose a HCP (22, 26), and what information they want (4, 12, 26, 34, 49).</p>

(continued on next page)

(continued)

Value type	Manifestation in SDM (number SDM model in Table 2)
	<p>Patients can also decide to postpone the decision (8, 13, 18, 32, 48) or let the HCP or others decide (3, 11, 23, 42, 48, 51). Patients' preferences for a treatment or their decision should be "informed" (2, 13, 20, 21, 24, 26, 31, 36, 40, 45, 47), and can change due to received information, changing circumstances and reflection (6, 8, 10, 12, 19, 22, 24-26, 31, 34, 42, 44, 48, 49), or changed guidelines (9). Therefore, (continuously) follow-up, reviewing/evaluating decisions is an integral component to SDM (1, 2, 5, 8, 12, 13, 16, 18, 19, 23, 25, 28, 29, 31-37, 45, 48-50, 53-55).</p> <p>HCPs HCPs also have a say in decision making, as they have to provide treatment recommendations to patients (1, 3, 4, 6-8, 10, 14, 17, 21, 24-26, 28, 32, 35, 39, 46, 48, 52-54), often personalized, which may change depending to the composition of the team, disease and illness factors, the environment and their expertise (42). Also other participants (6) or HCPs can be involved (12, 22, 29). HCPs' Self-Direction is restricted by medical evidence, patients' values, preferences, views, ability etc. (see Conformity). Furthermore, HCPs should practice self-reflection (50, 30).</p> <p>HCPs and Patients HCPs and patients need to consider each other's preferences (14) and both need to participate (6, 7, 12, 50).</p>
Tradition	<p>Culture (9, 13, 17, 25, 27, 31, 34, 37, 40, 42, 50, 51), religion/spirituality (17, 31, 50, 51), language (9, 37, 44), and complementary and alternative medicine (37, 49). Culture and religion/spirituality can be considered in exploring patients' context (27, 37, 42, 50, 51), HCPs should respect patients' culture (31). Culture and religion/spirituality may influence patients' decision-making preferences (13, 25, 40), and influence their views on treatments and illness (17, 27, 42). Interpreters should be used if HCPs and patient do not speak the same language (44), HCPs should provide information in different languages (9), and act sensitive to patients' culture (9).</p>
Universalism	<p>A more equal relationship (between HCP and patient) (1, 6, 8, 11, 15, 18, 20, 29, 31, 37-39, 47, 50, 52), and equity (10, 22), partnership (1, 8, 11, 12, 14, 16, 31-34, 38, 47, 49, 50, 53), collaboration between HCP and patient (1, 2, 4, 8-11, 14-19, 21, 23, 24, 26-29, 31, 34, 38, 40, 42, 43, 50, 52, 54) and with the patient's extended network (1, 13, 14, 19, 33), but also between HCPs in a team (13, 28, 19), family harmony (5), exchange information (1, 6, 7, 11-14, 18, 20, 23, 25, 27-30, 32-35, 37-39, 41, 42, 46, 47, 50, 52), using the same medical terminology (8), and prioritize goals or problems together (1, 34, 51, 54). Furthermore Universalism refers to a joint deliberation with the HCP (1, 7, 8, 10, 13, 14, 16, 18, 26, 29, 33-35, 41, 42, 47, 50, 51, 54, 52) for which time is needed (1, 40, 51), and to patients deliberating with their social network (3, 7, 13, 18, 22, 24, 25, 31, 34, 37, 45, 48) for which also time is needed (3, 18, 45), and preparation for collaboration/deliberation (18, 34). It additionally refers to a discussion about options (1, 2, 5, 9, 21, 22, 30-32, 36, 37, 41, 47, 52) with a mutual or shared understanding of the problem and the options (2, 12, 26, 28, 33, 34, 38), and a shared responsibility (38, 39, 47, 49, 50, 52). Universalism also refers to collaboration, partnership, information exchange, mutual respect and understanding among HCPs (1, 13, 19, 26, 29, 31, 28). HCPs and patients After autonomous reflection (30, 50) [Self-Direction] and mutual reflection (50), HCP and patient can mutually influence each other (5, 14, 24, 31, 38). Universalism refers to negotiation (6, 12, 31, 34-37, 43, 47, 49, 53, 55), also in case of disagreement (7, 27, 36, 49, 50), resolving conflict (5, 12, 49), deciding together (2-4, 17, 19, 25, 28, 30, 40, 41, 47, 48, 51, 52, 54), and reach a mutual agreement (1, 6-8, 11, 12, 16, 18, 19, 23, 27-29, 31, 32, 34-38, 40, 41, 46, 47, 51, 53). This results in tailoring and tailored decisions (1, 2, 4, 5, 7, 10, 15, 16, 19-21, 23-27, 34, 41, 46, 48, 51, 54). Additionally, Universalism refers to a shared process (3, 6, 26, 54) although there could still be areas of agreement and disagreement (6, 31). Furthermore, Universalism refers to mutual respect between HCPs and patients (11, 13, 26, 31, 33, 35, 37, 38, 45, 46, 50) and being open-minded to each other (31, 46). It refers to HCPs respecting patients in general and their preferences and choices (2, 6, 8, 22, 31, 35, 37, 45, 46), especially if they are reasonable (2). Also patients should respect their HCP (31).</p>

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