

Rhythm, Rye and Repetition

Teachers Understanding of the Concept of Rhythm in relation to Food and Meals in Waldorf Kindergartens in Sweden

Albina Granberg

University of Umeå, Sweden, Department of Food, Nutrition and Culinary Science

ABSTRACT. This study explores kindergarten teachers' understandings of rhythm in relation to food and meals within Swedish Waldorf kindergartens. While meals in Swedish kindergartens are recognized for their nutritional and pedagogical roles, research specific to Waldorf settings is limited, despite rhythm being a cornerstone of Waldorf pedagogy. This qualitative study employed semi-structured interviews with 24 teachers from Swedish Waldorf kindergartens and thematic analysis to investigate their understanding. The rhythm of meals across temporal scales- year, week and day, The rhythm of repetition - menu cyclicity and recurring dishes, The rhythm of consistent grains and variable dishes and The rhythm of security and calmness - predictability along the meals. A novel finding is the emphasis on a "rhythm of grains," intertwining nutritional considerations with anthroposophical beliefs, including planetary connections. Teachers perceived mealtime rhythm, particularly predictable menus, as beneficial for children's calmness and security, potentially aligning with repeated food exposure strategies for picky eaters. However, the study highlights a tension between this rhythmic approach and national dietary guidelines advocating for variety. The findings demonstrate that rhythm is a central, enacted principle in Waldorf kindergarten meal practices, raising questions about nutritional balance and suggesting the need for further research on the long-term impact of rhythmic meal patterns on children's dietary habits and nutritional status within this unique educational context.

Keywords: Food and meal, kindergarten, rhythm, Waldorf pedagogy

ZUSAMMENFASSUNG. Die vorliegende Studie untersucht das Verständnis von Elementarpädagoginnen über den Zusammenhang von Rhythmus, Essen und Mahlzeiten in schwedischen Waldorfkinderärten. Generell sind tägliche Mahlzeiten in schwedischen Kindergärten sowohl für ihre ernährungsbezogene als auch ihre pädagogische Rolle anerkannt. Es gibt allerdings nur wenige waldorfspezifische Untersuchungen, die diese Rollen in Hinblick auf das Rhythmuskonzept untersuchen, das ein Eckpfeiler der Waldorfpädagogik ist. In dieser Studie wurden halbstrukturierte Interviews mit 24 Erzieherinnen aus verschiedenen schwedischen Waldorfkinderärten geführt. Um die Perspektiven der Interviewten zu analysieren, wurden die Interviews einer thematischen Analyse unterzogen.

Das Ergebnis der Analyse zeigte deutlich vier Hauptkategorien von Rhythmus: der Rhythmus der Mahlzeiten in verschiedenen Zeiträumen (Jahr, Woche und Tag), der Rhythmus der Wiederholung (Zyklizität des Speiseplans und wiederkehrende Gerichte), der Rhythmus von gleichbleibenden Körnern und variablen Gerichten und der Rhythmus der Sicherheit und Ruhe (Vorhersehbarkeit der Mahlzeiten). Eine neue Erkenntnis ist die Betonung des „Körnerrhythmus“, der ernährungswissenschaftliche Überlegungen mit anthroposophischen Überzeugungen, einschließlich planetarischer Zusammenhänge, verknüpft. Weiters sahen die Lehrkräfte den Rhythmus

der Mahlzeiten, insbesondere vorhersehbare Menüs, als förderlich für die Ruhe und das Sicherheitsgefühl der Kinder an. Dieses wiederkehrende Angebot an Mahlzeiten wurde auch als Vorteil für Kinder mit wählerischem Essverhalten ("picky eaters") gewertet.

Die Studie hebt jedoch auch ein Spannungsverhältnis zwischen diesem rhythmischen Ansatz und den nationalen Ernährungsrichtlinien, die für Abwechslung in den Ernährungsplänen plädieren, hervor. Die Ergebnisse zeigen, dass der Rhythmus ein zentrales, gelebtes Prinzip in der Essenspraxis des Waldorfkindergartens ist, was Fragen über just diese Ausgewogenheit der Ernährung aufwirft. Es besteht eine deutliche Notwendigkeit weiterer Forschung über die langfristigen Auswirkungen rhythmischer Essensmuster auf die Ernährungsgewohnheiten und den Ernährungszustand der Kinder in diesem speziellen pädagogischen Kontext.

Schlüsselwörter: Waldorfkindergärten in Schweden, Ernährung, Gesundheit, Rhythmus

Introduction

In Sweden, a substantial proportion of children aged 1-5 years are enrolled in preschools or kindergartens¹ (Sepp & Höijer, 2016), where they typically consume at least one daily meal. For some children, kindergarten meals, encompassing breakfast, lunch, and snacks, can constitute up to 70% of their daily energy and nutritional intake (Livsmedelsverket, 2016). The historical genesis of meal provision in Swedish kindergartens can be traced to the 1930s transformation of compulsory schooling. This era witnessed a re-conceptualization of schools, moving beyond a purely pedagogical function to encompass a broader role as an arena for social reform (Gullberg, 2006). This pivotal shift expanded the school's mandate beyond knowledge dissemination to include the cultivation of „new and better, stronger and healthier citizens for the future“ through multifaceted approaches (Gullberg, 2006, p. 339). The initial impetus for introducing free school meals was to ensure nutritional security for children from lower socioeconomic backgrounds. It also presented an opportunity to inculcate socially normative table manners and, to some extent, religious and bourgeois behavioral standards (Sepp, 2013). While initially targeted at children from disadvantaged families, universal provision of free school lunch in all kindergartens and schools across Swedish municipalities has been in place since 1974 (Höijer et al., 2020). This universal provision is not solely viewed as a health intervention but also as a strategy to advance health equity (Gullberg, 2006).

Contemporary understandings of kindergarten meals in Sweden continue to reflect this multifaceted perspective, acknowledging their crucial role in fostering child development alongside ensuring adequate nutrition and positive food experiences (Johansson & Pramling Samuelsson, 2001). Food and mealtimes in kindergarten settings can be conceptualized as recurring routine situations (Munck Sundman, 2016), offering valuable opportunities for learning about food, social interaction, and mealtime etiquette (Sepp, 2013). Furthermore, meals can serve as pedagogical instruments for illustrating and comprehending complex concepts, such as sustainable development (Björklund, 2021). As previously established, kindergarten meals remain a recognized platform for social reforms and a means of promoting health equality (Gullberg, 2006).

Foods and Meals at Waldorf Kindergartens

Currently, approximately 80 Steiner/Waldorf (hereafter referred to as Waldorf) kindergartens are operating in Sweden (Tyson, 2025). Research specifically focusing on food and meals within Waldorf kindergartens remains limited. However, Schwartz (2008) briefly observed the less frequent use of processed foods in these settings. Frödén (2012) suggests that meals in Waldorf schools are often characterized by both vegetarian and ecological principles. Bone (2007), reflecting on food and meals in New Zealand Waldorf kindergartens, argues that these meals affirm the spirituality and grace of life. Kühne (2008), discussing anthroposophical nutrition, posits that seasonal rhythms should guide ingredient selection for menus throughout the year.

1. There is a discussion regarding the use of the term preschool or kindergarten. To my knowledge, kindergarten is often more used than preschool in the context of Waldorf education. Therefore, I prefer to use the term kindergarten in the following text.

The curriculum framework for Waldorf schools and kindergartens in Sweden (Waldorfskolefederationen, 2016) implicitly and explicitly emphasizes the significance of food and meals in early childhood education. For example, it articulates an aspirational goal for Waldorf kindergartens to cultivate an understanding of the interconnectedness between agriculture, harvesting, ingredients, and cooking processes. The curriculum further highlights the pedagogical advantages of preparing meals within the kindergarten environment, enabling children to directly experience the cooking process. Food and meals are also mentioned in relation to the concept of rhythm (Waldorfskolefederationen, 2016) a concept central to Waldorf pedagogy and explored in detail below.

The Concept of Rhythm in Waldorf Pedagogy

The concept of rhythm is a cornerstone of Waldorf pedagogy, considered fundamental across all age groups from preschool to secondary education (Mansikka, 2007; Mathisen, 2015; Tjärnstig, 2020; Tyson, 2025). Waldorf education underscores rhythm's pivotal role in nurturing children's holistic well-being and facilitating learning. Indeed, Jansson (2022) suggests that rhythm can be understood as a central discourse or conceptual framework within Waldorf pedagogy. From an anthroposophical perspective, life itself is inherently rhythmic, with rhythm considered the very foundation of existence (Malm, 2013). The annual cycle, with its predictable sequence of seasons and associated transformations, exemplifies this rhythm (Tyson, 2025). The cyclical progression from winter to spring, summer following spring, autumn succeeding summer, and the return to winter, marked by seasonal changes like falling leaves and snow, illustrates this natural rhythm. This rhythm of nature is seen to resonate with intrinsic human physiological rhythms: periods of sleep and wakefulness, inhalation and exhalation, and the rhythmic pulsation of the heart. This consonance between natural and bodily rhythms suggests that human well-being, encompassing both physical and mental health, is positively influenced by living in harmony with the rhythms of the natural world (Jansson, 2022).

Consistent with this rhythmic philosophy, Waldorf kindergartens are deliberately structured and organized around principles of harmonious and rhythmic patterns (Frödén & von Wright, 2018; Tyson, 2025). This rhythmic structure manifests in consistently repeated daily and weekly routines, as well as in the observance of festivals and celebrations that mark the annual cycle. A typical daily rhythm in Waldorf kindergartens incorporates alternating periods of activity and rest, designed to foster equilibrium in children and to mirror the fundamental principle of respiration – inhalation and exhalation (Bone, 2007). Frödén & von Wright (2018) observe that „children and teachers move rhythmically and consistently in and out in daily routines and activities in a calm, continuous pace. The children will, so it is argued, experience and become aware of how certain moods are to be connected and associated with specific activities“ (Frödén & von Wright, 2018, p. 1411). This predictability, arising from consistent routines, cultivates a sense of familiarity and security within the kindergarten environment (Frödén & von Wright, 2018). The curriculum for Waldorf kindergartens explicitly highlights the importance of rhythm, emphasizing the need for structured daily organization and the integration of seasonal awareness and natural phenomena through rhythmic principles (Waldorfskolefederationen, 2016). It is deemed essential to render the rhythms of nature and seasonal changes perceptible to children, thereby fostering an understanding of the natural world and surrounding environment (Waldorfskolefederationen, 2016).

The integration of natural rhythms into kindergarten activities can take diverse forms. One approach involves engaging children in household tasks that align with seasonal cycles (Nicol, 2016), such as bread making, which can be contextualized within the annual rhythm. The bread-making process can extend across seasons, commencing with planting wheat grains, followed by harvesting, winnowing, threshing, and grinding the wheat into flour. Subsequently, children can participate in the baking process (Kranich, 2002). A more readily implemented alternative is jam making, involving berry picking, washing, combining with sugar, and cooking the ingredients into jam, as suggested in the curriculum (Waldorfskolefederationen, 2016). Such activities can be incorporated into the weekly rhythm, performed repeatedly on the same day each week (Nicol, 2016). As Jansson (2022) elucidates, daily rhythm can encompass daily routines performed at specific times, such as outdoor play, teatime, and indoor play, while weekly rhythm can involve a schedule

of recurring activities on specific days each week, for example, painting on Mondays and baking on Tuesdays (Astley & Jackson, 2000). A key benefit of this rhythmic approach for young children is its contribution to developing a grasp of temporal awareness (Waldorfskolefederationen, 2016).

While the theoretical significance of rhythm within Waldorf pedagogy is well-established and discussed in scholarly literature, empirical research focusing specifically on Waldorf kindergartens remains comparatively limited, particularly in contrast to research on Waldorf schools (Tyson, 2024). Furthermore, studies examining meal situations in relation to the concept of rhythm, despite the acknowledged importance of food and meals within the kindergarten setting (Waldorfskolefederationen, 2016), are, to the best of my knowledge, absent from the existing body of research. Therefore, the present study aims to explore kindergartens teachers' understandings of the concept of rhythm in relation to food and meals within Waldorf kindergartens in Sweden.

Methodology

This study, situated within a larger research project investigating food and meals in Swedish Waldorf kindergartens, adopts ethnography as its overarching methodological framework. Data generation was primarily achieved through semi-structured interviews, complemented by observational fieldwork (though the results section is based on the interview data). Ethnography, recognized for its capacity to examine phenomena within their naturalistic and cultural contexts, is particularly pertinent to this research, aligning with the need to understand the nuanced and often tacit rhythms that shape daily life in kindergarten settings. The application of ethnographic methodologies in educational research and related fields is well-established and widely utilized (Lind, 2001).

Data Collection Methods

This study is based upon qualitative, individual semi-structured interviews (as described by Cohen et al., 2018, Bryman et al., 2025) conducted between April 2023 and May 2024. Semi-structured interviews were selected as they offer a valuable approach for gaining in-depth insights into participants' perspectives and lived experiences. This method facilitates the elicitation of rich, narrative data regarding how individuals conceptualize and articulate their understanding of specific phenomena, in this case, the rhythms inherent in mealtime practices at Waldorf kindergartens.

Ethical Considerations

Ethical approval for this study was granted by the Swedish Ethical Review Authority (registration number 2023-01721-01). Throughout the research process, adherence to the ethical guidelines outlined by The Swedish Research Council (Åkerman, 2024) was maintained. Informed consent was obtained from all participants prior to their involvement, following the provision of both written and verbal information regarding the study's aims and procedures. All interviews were audio-recorded with participant consent. To guarantee the highest possible level of privacy protection, pseudonyms are used for all teacher names in the transcripts and in the reporting of findings.

Participants and Recruitment Process

Participants in this study were kindergarten teachers currently employed in Waldorf kindergartens. A purposeful sampling strategy (Palinkas et al., 2015) was employed to recruit participants, aligning with the qualitative research objective of acquiring rich and context-specific data from individuals with direct experience. The inclusion criterion for participation was current employment as a teacher in a Waldorf kindergarten.

Initially, 74 Waldorf kindergartens across Sweden were contacted via email, with contact details sourced from the Waldorf Schools Federation (Waldorfskolefederationen, 2016). At the same time, an email was disseminated to the Waldorf University College in Sweden to broaden awareness of the study amongst their student network. Both initial contacts included an information letter detailing the study and a consent form for teacher participation. In response, 8 Waldorf kindergartens from various regions of Sweden agreed to participate, resulting in a total of 24 semi-structured interviews scheduled during the spring of 2024.

Procedure

Data generation primarily involved semi-structured interviews conducted with kindergarten teachers. These interviews predominantly took place at the participants' respective kindergarten workplaces. However, to accommodate participant availability and logistical considerations, some interviews were conducted during a gathering of Waldorf kindergarten teachers at the Waldorf University College in Sweden. Interview settings varied, including quiet rooms within kindergarten premises, such as offices or storage spaces. To facilitate participation for teachers unable to leave their assigned children's groups, several interviews were conducted during outdoor periods of the kindergarten day. While this allowed teachers to maintain oversight of the children, even with additional staff present, it occasionally resulted in suboptimal audio quality and a higher frequency of interruptions compared to interviews conducted in more private, indoor settings. One interview was conducted digitally via Microsoft Teams to enable the participation of a teacher for whom in-person participation was not feasible. A question guide was utilized to ensure consistency and focus across interviews. The questions were open-ended and spans across multiple fields, all concerning food and meals in Waldorf kindergarten. All interviews were audio-recorded. A digital recorder that was not connected to the internet, to secure the adequate data security during data handling, was used. The interview duration were ranging from 15-20 minutes to approximately one hour.

Data Analysis

The audio-recorded interviews were transcribed verbatim, generating a substantial dataset of nearly 600 pages of transcriptions. Thematic analysis, as described by Braun and Clarke (2022), was employed as the framework for data analysis throughout the entire process. The initial phase of thematic analysis involved repeated readings of the transcriptions to achieve data familiarization. Subsequently, initial codes were generated, and coded segments were systematically organized into sub-themes, which were further synthesized into more comprehensive overarching themes. Themes were iteratively refined and renamed throughout the analytical process, culminating in the identification of four key themes directly reflecting the concept of rhythm within meal situations in Waldorf kindergartens. Data saturation, indicating a point where no new themes or insights were emerging (Hennik & Kaiser, 2022), was deemed to have been reached upon analysis of approximately three-quarters of the transcribed interviews.

Results

A central finding of this study is the pervasive view among teachers that rhythm serves as an organizational principle, structuring not only the kindergarten day but also broader temporal scales, including months, years, and especially the seasons. Teachers consistently expressed that a rhythmic mindset is common to all staff and provides a foundational framework for their pedagogical work. Rhythm, structuring not only the kindergarten day but also broader temporal scales, including months, years, and especially the seasons. The thematic analysis revealed four overarching themes: The rhythm of meals across temporal scales- year, week and day, The rhythm of repetition - menu cyclicity and recurring dishes, The rhythm of consistent grains and variable dishes and The rhythm of security and calmness - predictability along the meals.

The Rhythm of Meals Across Temporal Scales - Year, Week, and Day

This theme, *The Rhythm of Meals Across Temporal Scales - Year, Week, and Day*, captures how the concept of rhythm, in relation to food and meals, is manifest across annual, weekly, and daily timeframes within Waldorf kindergartens. Meals are integral to the daily schedule and are consistently incorporated throughout the day. A key finding across all interviews is the active incorporation of multiple, distinct rhythms into the daily kindergarten experience by teachers, with mealtimes being intricately interwoven with these rhythmic patterns. The daily rhythm encompasses several meal occasions, including breakfast, tea time, lunch, and afternoon snacks. Teachers consistently emphasized the significance of meal rhythms as integral components of the day, viewing mealtimes as equally important as other kindergarten activities. Teachers articulated a philosophy where nothing in the Waldorf kindergarten is considered haphazard; rather, a deliberate rhythmic approach informs meal planning and all routine situations, such as dressing for outdoor play or table cleaning. Collaborative cooking and baking with children is prioritized by many teachers. For some, these activities are integrated into the weekly rhythm, typically occurring once per week. However, for others, baking is not a fixed weekly activity but is undertaken based on perceived needs and spontaneous opportunities. Furthermore, in some kindergartens, preparing birthday cakes or cookies is a collaborative activity undertaken with children as part of birthday celebrations, thus becoming integrated into the annual rhythm. The prioritization of cooking and baking with children, sometimes as part of the weekly rhythm, is illustrated by Karl:

We cook with the children once a week, we always make soup on Thursdays. The children are involved from the beginning, peeling and cutting the vegetables /.../ It is an important part of our weekly rhythm, to cook with the children every Thursday. /.../ It is recurring, week after week, year after year" (Karl)

One teacher emphasized the dependence of cooking and baking rhythms on seasonal rhythms, particularly in autumn when preserving the harvest becomes central. Children participate in preserving fruits, berries, and vegetables through jam making, fruit drying, and pie baking. In contrast, for other teachers, cooking or baking is less structured within a weekly rhythm, occurring more spontaneously. Birthday baking, for example, exemplifies how baking can be integrated into the annual, rather than weekly, rhythm.

The Rhythm of Repetition - Menu Cyclicity and Recurring Dishes

The theme *The Rhythm of Repetition: Menu Cyclicity and Recurring Dishes* elucidates how menus are structured cyclically, featuring dishes that recur over specific periods. A consistently highlighted rhythm across interviews was the recurring menu of dishes offered in kindergartens. While teacher practices varied, cyclical and rhythmic repetition of specific dishes before menu changes was a common characteristic. This recurring menu typically assigns a specific dish to each weekday. For instance, rice and lentil stew might be served every Monday, and barley risotto every Tuesday, for a set duration. The duration of a given menu varied across kindergartens, from two to three weeks up to a full year, with 5-6 weeks being most typical before menu revision. One teacher illustrated the consistent weekly rhythm by describing a Friday meal: a whole oat gratin, invariably served with potatoes and sauerkraut, a menu item repeated every Friday, throughout the year. The experiences of teachers and children about a recurring dish like the oat gratin may differ, and Signe says:

We get it every Friday...many teachers are really bored with the gratin, but the children are enthusiastic every single time (Signe)

For many teachers, this recurring rhythm primarily pertained to lunch; however, some also noted distinct recurring rhythms for breakfast and snacks, such as consistently serving eggs as a snack on certain days and sandwiches on others. Furthermore, dessert serving patterns also exhibited rhythmic organization in several kindergartens. While some teachers reserved dessert for holidays or birthdays, others served it daily or weekly. One teacher specifically mentioned serving dessert every Thursday as a deliberate element of the weekly rhythm, believing the sugar content and associated positive affect provided children with an energy

boost to sustain them through the remainder of the kindergarten week leading into the weekend. Menu revisions often coincided with seasonal transitions or seasonal festivals, aligning with the annual festive rhythm. Soup, with seasonal ingredients, as nettle leaves in the spring or root vegetables in the winter, is often served as a festive dish and a way to end a season and begin with another.

The Rhythm of Consistent Grains and Variable Dishes

The theme *The Rhythm of Consistent Grains and Variable Dishes* illustrates how grains serve as a consistent menu component while dishes vary. A significant finding was the emphasis most teachers placed on grains as a crucial part of children's meals. A specific rhythmic principle was often followed, dictating that particular grains should be consumed on certain days of the week. This widely held view amongst teachers prescribed wheat for Sundays, rice for Mondays, barley for Tuesdays, millet for Wednesdays, rye for Thursdays, oats for Fridays, and corn for Saturdays. Consequently, the grain component of the dish remains consistent, even as dishes change with menu revisions. Teachers offered various rationales for this emphasis on grains. Some highlighted the nutritional value of whole grains compared to refined flour products like pasta or couscous, considering whole grains more beneficial for both physical and spiritual well-being, and promoting chewing. Some teachers also suggested that different grains possess distinct qualities, catering to varying needs in children. While kindergartens typically serve the same dishes to all children, some teachers acknowledged the idea that certain children might benefit from specific grains due to their perceived qualities. For example, one teacher mentioned that children who are „in the clouds“ might benefit from less millet, opting instead for more „grounding“ grains. Another teacher mentioned a kindergarten document detailing grain qualities and their relation to children's needs, though its practical application was infrequent. Some teachers considered the grain rhythm somewhat outdated, though grains remained central to kindergarten meals. They viewed the grain rhythm as a way to make rhythm more accessible and introduce ancient grains to children. One teacher explained their decision to eliminate pasta from the menu, as children consume it at home, prioritizing ancient grains for their nutritional and educational value. Another teacher described a grain seed as encapsulating all seasons and solar energy, justifying its central role in Waldorf kindergarten dishes. The connection between specific grains and days of the week was also linked to the solar system and planets by some teachers. One teacher attempted to explain this connection:

“Since way back, we know that the days are connected to the planets, Monday to the moon, Tuesday to mars, which is an old mythology and not connected to the Waldorf pedagogy at all. But then, as I understand it, Waldorf pedagogy has looked at the grains and then tried to compare the qualities of the grains to a planet. Like, the moon is kind of watery, you know, it controls the tides, so rice then is connected to the moon, due to how it is grown, in a lot of water, something like that. I don't remember everything, and it is not super important either” (Bodil)

While the rationale for prioritizing grains varied among teachers, most agreed on their importance and their role in establishing concrete mealtime rhythms in the kindergarten.

The Rhythm of Security and Calmness - Predictability along the meals

The fourth theme, The Rhythm of Security and Calmness: Predictability along the meals, explores teacher perspectives on the established mealtime rhythm and its perceived influence on children in Waldorf kindergartens. Unanimously, all 24 interviewed teachers articulated a positive perception of the recurring meal structure. A prevalent view was that predictability regarding meal content fostered a sense of calmness in children. While the nuances of this calmness were described diversely, a central understanding emerged: knowing the anticipated meal allows children to more readily engage in free play and experience a calmer state. One teacher, Karin, elaborated:

I think the human is a rhythmic being. If we let us be in the rhythm, we have the freedom to do other things that we want. But if we disrupt those rhythms, we get in trouble. If the rhythm is in place, we have the children's attention and can help them with themselves. You know, we have those rhythms everywhere.../.../, inhalation, exhalation.. (Karin)

Numerous teachers posited that the cyclical rhythm of dishes over several weeks provides children with structure, paradoxically enhancing their autonomy by reducing mealtime uncertainty. This predictability, in essence, liberates children from meal-related anxieties. Indeed, the predictability and rhythm of mealtimes were consistently identified as key contributors to feelings of security and tranquility, with predictability highlighted as a primary catalyst for calmness. Many teachers further asserted that this predictability not only engenders security but also cultivates a more peaceful mealtime atmosphere, as children have prior knowledge of the forthcoming dishes. Moreover, several teachers suggested that the recurring meal rhythm serves as a stabilizing element in potentially fluctuating environments. The cyclical nature of dishes also provides a framework for temporal orientation within the week. The rhythm of grains and overall meal predictability helps children orient themselves temporally. Children's ability to reference „rice day“ or „millet day“ exemplifies how recurring dishes create a tangible context for understanding weekly structure and the progression of time. Furthermore, the repetitive exposure to dishes inherent in this rhythm was consistently cited as particularly beneficial for selective eaters, and children with special needs, including those with autism who benefit from predictability. One teacher stated:

I think it is positive for every child, but foremost the children who might be a bit selective in their eating. For them, it is not boring to eat the same dish for a longer period of time. Instead, the rhythm of the recurring dish is actually helping them (Kerstin)

Teachers emphasized that the recurring nature of dishes offers repeated opportunities for engagement: initially, a child might only observe the dish; subsequently, they may attempt a component; and ultimately, over the menu cycle, they often consume a complete dish, demonstrating the positive impact of repetition.

Discussion

This study aimed to explore kindergarten teachers' understandings of the concept of rhythm in relation to food and meals within Waldorf kindergartens. The discussion will now address key findings in light of this aim. The concept of rhythm is well-established in both academic literature (e.g., Mathisen, 2015; Tyson, 2025) and the Waldorf curriculum (Waldorfskolefederationen, 2016). The primary finding of this study is the consistent emphasis placed on rhythm by all participating teachers, albeit articulated in diverse ways. The study demonstrates that rhythm is a central and operative concept within Waldorf kindergartens. Furthermore, it reveals that rhythm in relation to food and meals is understood and enacted across multiple dimensions, ranging from concrete practices to more abstract principles, but is consistently present in the daily kindergarten life. Teachers conceptualize rhythm as permeating the entire year, weeks, and days, aligning with Frödén & von Wright's (2018) description of rhythm as a central organizing principle in Waldorf kindergartens, but also to specific dietary components like grains.

A particularly noteworthy and somewhat unexpected finding is the emphasis on grains and the „rhythm of grains.“ As the results indicate, grains hold a significant and valued position in the meal philosophy of most interviewed teachers. The rationales for this emphasis vary. Some teachers prioritize nutritional aspects, citing the superior nutritional value of ancient grains compared to refined alternatives (Johansson et al., 2021; Spisni et al., 2019) and their cultural-historical significance of ancient grains (Løes et al., 2020). Others offer more spiritually oriented explanations, emphasizing the „solar power“ inherent in grains and their capacity to encapsulate a new plant, ideas attributed to Steiner (Moore, 1977), or the grains connection to planets (Renzenbrink, 1981). The planetary connection, cited by some teachers as justification for a specific grain rhythm, is elaborated by Harstein (2012), who notes the historical association of weekdays with planets and the subsequent development of a nutritional system linking specific grains to each day of the week based on perceived planetary qualities. Harstein (2012) and Kühne (2008) suggest that this grain rhythm is rigorously followed within anthroposophical institutions, advocating for a grain-based approach to anthroposophical nutrition. Some teachers in this study also expressed a belief in the therapeutic qualities of grains, suggesting they can support children's diverse needs. This concept of grain-specific benefits is also discussed by Kühne (1999) and Harstein (2012). Harstein (2012) exemplifies this by linking rice to the moon due to its water-based cultivation, associating it with adaptability and fluidity. However, despite these articulated beliefs in grain qualities, the practical application of grain-specific tailoring to individual

children's needs appears limited in daily kindergarten practice. It seems that the „rhythm of grains“ primarily functions to introduce the nutritional benefits of grains in a structured, repetitive manner. Furthermore, it provides a rhythmic framework for menu planning, combining a stable element (the grain) with a rotating set of dishes. It is pertinent to note that grains, particularly whole grains, are a significant source of dietary fibre and possess numerous nutritional advantages for children. However, the high satiety index of whole grains and fibre presents a potential consideration. In young children, excessive fibre intake may induce premature satiety, potentially leading to insufficient energy and nutrient consumption relative to their needs (Livsmedelsverket, 2011, 2024)

A predominantly finding with potential relevance beyond Waldorf pedagogy is the unanimous teacher perception that mealtime rhythm fosters calmness in children. As the dishes are recurring, the children are prepared to what to be served. This is similar to how predictability, as consistent routines, creates a sense of security along the children, as described by Frödén & von Wright (2018). The recurring nature of dishes, as practiced in Waldorf kindergartens, can be interpreted as a way of repeated food exposure (Spill et al., 2019). The repeated food exposure is known as a strategi to increase food acceptance along children (Anzman-Frasca & Ehrenberg, 2018; Spill et al., 2019). Picky eating² is a common and often transient phase in early childhood (Cardona Cano et al., 2015), but can be persistent in some and is also associated with neurodevelopmental disorders (Marí-Bauset et al., 2014; Mayes & Zickgraf, 2019; Smiths et al., 2020). This study suggests that the recurring dish rhythm, a distinctive feature of Waldorf kindergartens, may be particularly beneficial for children who are selective eaters for various reasons, including those with neurodevelopmental conditions. Repeated food exposure is also a recommended strategy for children with neurodevelopmental disorders (Tanner & Andreone, 2015). Given the preference for sameness, predictability, and routines often observed in individuals with autism (Fodstad & Matson, 2008), the predictability offered by recurring dishes, as highlighted by teachers in this study, could be particularly advantageous for children with such a diagnosis. However, it is crucial to acknowledge a potential tension. While teachers in this study emphasize the benefits of mealtime rhythm and recurring dishes, Swedish national dietary guidelines from The Swedish Food Agency (Livsmedelsverket, 2016) and the National Agency for Education (Skolverket, 2017) advocate for dietary variety in kindergarten and school meals to ensure comprehensive nutrient intake. If kindergarten meals contribute significantly to children's daily nutritional intake (up to 70%, as noted by Livsmedelsverket, 2016), the potential for reduced dietary variety within a rhythmic menu structure warrants careful consideration and further investigation.

Conclusion

This study set out to explore kindergarten teachers' understandings of rhythm in relation to food and meals within Swedish Waldorf kindergartens. The findings unequivocally demonstrate that rhythm is not merely a theoretical concept within this pedagogical approach, but a deeply embedded and actively enacted principle informing mealtime practices. Teachers consistently articulated a rhythmic ethos that permeates all temporal scales – from the annual cycle of seasons to the daily kindergarten routine – and manifests in diverse, yet interconnected, mealtime rhythms. These include the cyclical nature of menus and the recurrence of specific dishes, the intentional use of grains as a consistent element amidst dish variation, and the overarching aim to cultivate a predictable and secure mealtime experience for children.

A particularly novel finding is the emphasis placed on the „rhythm of grains,“ revealing a unique intersection of nutritional considerations and anthroposophical beliefs. While teachers acknowledged the nutritional value of whole grains, their rationales extended to encompass more esoteric perspectives, linking specific grains to planetary influences and perceived therapeutic qualities. This highlights the distinctive cultural and philosophical underpinnings of Waldorf education as they are expressed in everyday practices like meal provision. Furthermore, the study underscores the perceived benefits of mealtime rhythm, particularly menu predictability and recurring dishes, in fostering a sense of calmness and security among children. This finding resonates with research on repeated food exposure and its potential to enhance food acceptance,

2. Picky eating, selective eating or fussy eating are all concept who captures the phenomena.

suggesting a possible alignment between Waldorf mealtime practices and strategies beneficial for addressing picky eating and promoting positive food experiences in early childhood settings.

However, it is crucial to acknowledge the inherent tension between the rhythmic menu approach, with its emphasis on repetition, and national dietary recommendations advocating for variety to ensure nutritional adequacy. This study raises important questions regarding the nutritional implications of such rhythmic meal planning and warrants further investigation into how Waldorf kindergartens navigate this potential conflict. Future research could benefit from nutritional assessments of meals served in Waldorf kindergartens to evaluate their nutritional profile within the context of cyclical menus. Furthermore, exploring the long-term impact of rhythmic mealtime practices on children's food preferences and eating habits would provide valuable insights. Ultimately, this study contributes to a richer understanding of the multifaceted role of food and meals in early childhood education, highlighting how the concept of rhythm, deeply interwoven with Waldorf pedagogy, shapes not only daily routines but also children's experiences of nourishment, security, and temporal awareness.

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