

UNDERSTANDING THE DYNAMICS OF CONSTRUCTION DESIGN TEAM MEETINGS THROUGH JOINT LAUGHTER

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Joint laughter in meetings is an all too familiar occurrence; yet, it has received little attention to try and understand its underlying meaning. The role and effect of joint or collective laughter are examined in the context of the design team meetings for a case study construction project. Such meetings, which are standard practice in the UK construction industry, are the face-to-face communication mechanism for group decision-making involving the client, design, and construction teams during the design development phase of contractor design-led projects. The importance of the design phase to the overall success of a project is well-documented. Design team meetings provide a venue to facilitate successful group collaboration and promote the integration of ideas between sub-teams. The social and task-related interactions of the group dynamic need to be recognised, understood, and evaluated for meetings to be directed productively. A 360° panoramic video-recording camera was used to gather data from three consecutive design team meetings during a live construction project when adopting a non-participant observation technique. Computer-assisted qualitative data analysis software was used to structure and interpret packets of rich data focused on critical incidents (involving joint laughter) that occurred during the design team meetings. Results show that instances of laughter do not happen at random but at specific times in meetings when they perform distinct functions. These functions include, amongst other things, the building of an effective team-working environment. Ultimately, group collaboration and integration may be improved if team leaders and members recognise the importance of joint laughter and the part it plays to create an inclusive working environment, foster collegiality, and improve decision-making. Acknowledging that mutual laughter is an essential aspect of team dynamics that can improve social and task-related performance will inevitably result in better performing teams and the realisation of successful projects.

Keywords: collaboration, construction design, group dynamics, laughter

INTRODUCTION

During the past 40 years, the construction industry has been criticised for being fragmented and adversarial (Latham 1994; Egan 1998, 2002), pointing to a need to improve its delivery of value to clients and society by realising improvements in areas

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such as teamwork, collaboration, and integration, particularly at the interface between the design and construction sub-processes.

The increase in popularity of contractor-led procurement routes has led to prime or main contractors taking increased responsibility for design (Gray and Hughes, 2001); this has resulted in those who traditionally led the design process now finding themselves as sub-contractors participating in multi-disciplinary teams (Male, *et al.*, 2007; Greenwood *et al.*, 2008). The effect of these new procurement routes means main contractors are often contractually responsible for, and thus need to manage, the entire design process.

As noted by Tjell and Bosch-Sijtsema, (2015), the design process accounts for a relatively small proportion of the overall project cost but has a significant impact on the characteristics and future construction and running costs of a project: therefore, its management is critically important to the overall success of a construction project.

Design process complexity is influenced by decentralised decision-making and financial control (Dubois and Gadde, 2002), leaving the fiscal responsibility and authority with the project team, rather than senior management. The combined effect of unique and possibly uncertain site conditions and decentralised decision-making increases the need for effective management, particularly concerning the design.

Construction projects use design team meetings (DTM) as standard practice in the UK construction industry. DTMs are the face-to-face mechanism for group decision-making between the client, design, and construction teams during the design development phase of contractor design-led projects. The purpose of such meetings is to provide the project team with a collaborative forum for problem-solving and decision-making about the design. Due to the participants' involvement in the meeting (designers, constructors and client stakeholders are customarily represented), the integration of ideas can be facilitated across the entire team. While the recent uptake of new technologies (such as BIM, virtual reality, and augmented reality) has aided collaborative dialogue between project stakeholders, there remains a need for them to interact both on task and social, i.e. inter-personal, issues by meeting face-to-face (physically or sometimes virtually) as a team. The three principal stakeholder groups involved with the design process and therefore present at DTMs are the design, construction, and client teams. Research has revealed that these groups need collaborative interaction for different reasons. Morris (1972) has shown that, due to the uncertainty and complexity of construction projects, the most critical inter-relationship within a site-specific, project-based organisational structure is the dynamic and challenging relationship that exists between design and construction. This relationship must be a priority when striving for better project outcomes; a view that is supported by other writers (see Emmitt and Ruikar, 2013).

A further crucial inter-relationship that exists during the realisation of a construction project, in connection with the design process, lies at the client ↔ contractor (designers and constructors) interface. Vrijhoef and Koskela (2005) have recommended focus be placed on the client as the primary driver for the project at this boundary. However, Cox and Thompson (1997) suggest that few clients can afford to be 'repeat clients' over an extended period, which means they tend to be uninformed and new to the design process. The inclusion of an unfamiliar client during the design development phase can result in the creation of a unique, bespoke supply chain, i.e. a 'quasi-supply chain', which can contribute to the magnification of cost inefficiencies as the team attempts to realise and deliver a unique project. The relationship between

the client and the rest of the project team needs to be carefully managed to reduce these cost inefficiencies, particularly during the design development phase, when the client's requirements are captured and incorporated. This intervention will require meaningful conversations involving the client and both the designers and constructors of a project. DTMs provide the opportunity to have such significant conversations on a regular basis; thus, giving further emphasis to the importance of these meetings.

In summary, although the many different phases of a construction project need to be managed efficiently and effectively, a priority is the design phase. Bearing in mind the heavy burden of financial responsibility the design holds if not successfully executed, it is clear to see why DTMs need to be effectively managed for the overall project to be a success.

Group Dynamics

The work of Kurt Lewin and his followers (see Lewin, 1951) marks the emergence of group dynamics as a socio-psychological research area. Its focus is the examination of how people work and interact in small groups, and amongst its applications is the drive to improve the effectiveness and efficiency of how teams operate.

From the early work of Lewin (1951), group dynamics theory has developed into an established body of knowledge. Hackman (1987) defines three primary areas upon which a team needs to focus to be successful:

- Completing a task
- Developing social relations
- Benefitting the individual

Developing social relations is particularly relevant for this research project. Levi (2017) stresses the importance for the team in developing good social relations among its members to be able to work effectively and complete the necessary tasks. Skills necessary for good social relations include cohesion through collegiality and excellent communication. Cohesion comes from the emotional ties that team members have with one another. Effective communication is not a straightforward process, but essential elements such as understanding and trust can contribute to a constructive working environment. The benefit of productive social relations within a group tends to be the creation of clear and effective communication, which can influence the team's ability to operate successfully and, therefore, accomplish the task.

Humour and Laughter in the Workplace

The development of research into the role of laughter in work-related meetings has been inhibited by two commonly-held but incorrect assumptions. The first of these is that historically, emotion was considered to be the antithesis of rationality and, therefore, of less critical importance within organisational settings. This perspective has changed with the work of writers such as Ashforth and Humphrey (1995), who now accept that emotion is best considered as intertwined with rationality and, therefore worthy of investigation. Emotion within organisations is now supposed to be an inseparable (and sometimes inaugural) part of emotional life and, therefore, critically important to understand in relation to organisational performance, specifically about motivation, leadership, and group dynamics.

The second traditional assumption is that laughter is inextricably linked to humour. Authors such as Rogerson-Revell (2007) have shown that this is not necessarily the

case. Furthermore, Greatbatch and Clark (2003) postulate that laughter can manipulate relationships between individuals and groups. A review of empirical work on laughter in work-group settings reveals that it serves five primary functions:

Collegiality: to create and maintain social cohesion and group solidarity (Meyer 1997, 2000)

Superiority: to attack others in a socially acceptable way and enhance self-esteem at the expense of others (Rodrigues and Collinson, 1995)

Support: to gain the approval of others (Meyer 1997, 2000)

Relief: to manage embarrassment fear or stress in threatening situations

Conflict: to express opposition, resistance, and dissent (Rodrigues and Collinson 1995; Mulkay, 1998)

Greatbatch and Clark (2003) criticise many of these studies, pointing out that they do not take into account that laughter can occur during natural interactions. Similar to studies of laughter within organisational settings are rare (exceptions being Holmes, 2000 and Kangasharju and Nikko, 2009) and none currently exist that are specific to the construction industry.

Holmes (2000) highlights both the positive and negative impact of joint laughter in workplace meetings in relation to organisational goals. Positive functions include solidarity and good relationships with fellow workers, improvements in job performance, increased employee satisfaction, encouraging creativity, and diffusing conflict among employees (Holmes, 2000).

Further positive effects of joint laughter during workplace meetings are investigated by Kangasharju and Nikko (2009). Applying conversational analysis, the authors linked joint laughter to:

the opening phase of a meeting

a topic-closing device

reducing tension in challenging situations

The importance of the opening phase of a meeting is well established (Ashforth and Humphrey, 1995). The behaviour of the group leader, as well as the behaviour of the participants, during this phase, determines the general character and atmosphere of the encounter, including the acceptable nature and discourse of formal or informal group interactions. Ashforth and Humphrey (1995) claim that it is the primary task of the leader to create and sustain solidarity within a group, which creates 'fellow-feeling' and aids members of the organisation to proceed in the same direction. An adverse effect of laughter during the meetings reviewed by Kangasharju and Nikko (2009) was its use in manipulating the proceedings of a meeting. An example of a specific negative function, as highlighted by Holmes (2000), is the manipulation of the meeting when participants deliberately changed the dialogue from formal to informal, which can include some participants in the conversation but exclude others - sometimes intentionally. (It should be noted that this outcome only occurred in the data collected during a cross-cultural disagreement between the Swedish and Finish participants, while all participants contributed to a Swedish 'round-the-table' procedure that is not standard practice within UK DTMs.)

Research that investigates the emotional behaviour -- witnessed through joint laughter -- that exists between participants in the unique, temporary, fragmented, complicated and, sometimes, adversarial nature of construction DTMs, does not currently exist. This project aims to address this gap.

DATA COLLECTION AND ANALYSIS

Data Collection

The data for this study were collected as part of a pilot study for a broader project that looks at the function and social interactions between participants during DTMs.

Three consecutive DTMs on a single project were observed. The specific project is a new-build educational building in the North East of England, selected because it is a contractor design-led procured project and, therefore, the contractor holds the design responsibility. Because data collected by interviews lacks authenticity, an ethnographic research strategy was used to capture the occurrence of joint laughter taking place in its natural setting and to enhance the understanding of the setting.

The dataset for this research project consists of 3 hours of 360° panoramic video recordings, which capture not only the narrative of the meetings but also the ability to allocate individual participants to the narrative and allow for what Symon and Cassell (2012) call 'meaning-making'. Permission was sought and given by all participants for the use of the data for this investigation. The time during the meetings when joint laughter occurred was explicitly noted; these occurrences form the critical events which are the focus of the analysis. Joint laughter was defined as when the majority of the participants were engaging in laughter at the same time.

The length of the meetings varied between 50 and 75 minutes. The number of participants ranged from 7 to 10, and the same individuals took part in more than one meeting. The prime purpose of the meetings was the sharing of information and decision-making about the design of the project. The three stakeholder sub-groups, i.e. design team, construction team, and client team, were represented at each meeting.

Data Analysis

The process used to structure and analyse the data follows that of Powell *et al.*, (2003), specially developed for video-recorded data. This involved: (1) attentively viewing the video data; (2) describing the video data; (3) identifying critical events; (4) transcribing; (5) coding the results; (6) constructing a storyline; and (7) composing the narrative (see Powell, Francisco and Maher, 2003, p. 413). Each critical event, i.e. where joint laughter occurred, was structured using NVivo software, and thematically analysed to (i) consider its functions; (ii) to understand its contribution to group dynamics; and (iii) to acknowledge its contribution to future strategic behaviour about improving collaboration and integration. The basis of the thematic analysis derived from the five primary functions of laughter according to Greatbatch and Clark (2003), namely: collegiality, superiority, support, relief, and conflict. The analysis of the joint laughter critical events focuses on the verbal interactions of each meeting's participants. Non-verbal forms of communication lie outside the scope of the investigation.

Results of the Analysis

Occurrences of joint laughter were observed in connection to social relationships and conversational humour during the three DTMs. Joint laughter occurred that was linked to both principal meeting activities, i.e. the clarification of information and decision-making. Joint laughter also occurred that was linked to both interpersonal and intra-organisational group interactions. The two most prominent functions of joint laughter about successful group collaboration included joint laughter during the opening phase of a meeting to create a good working environment and joint laughter

as an aid to fostering collegiality. These two areas will be the focus of the following discussion of the findings.

Joint Laughter in the Opening Phase of a Meeting

All three of the DTMs observed contained joint laughter during the opening phase of the meeting. During each meeting, the 'Chair', (who was also the leader), took the time to lighten the atmosphere using the device of informal yet explanatory conversation; thus, ensuring that all the participants understood the overall aim of the meeting and their role. The dialogue was friendly and inclusive. Interestingly, the joint laughter that consistently occurred during this phase was not instigated by the Chair but by one of the participants. The Chair's reaction to the joint laughter was to participate actively; this appeared to create an atmosphere of solidarity and cohesion amongst the group during the first five minutes of the meeting. The data might suggest that this role can be undertaken by any group member as well as by the leader and the same benefits result, provided the team leader supports it. See Extract 1.

Extract 1: The opening phase of a meeting

P1 Thank you everyone for attending. We will do a quick round the table with introductions, it Sarah's* first meeting this one. You have done design team stuff before, so we don't need to introduce that. You know me, Fred*. Which way round should we go? ...

(...everyone introduces themselves)

P1 Thank you for that ...

P2 And you are ... (Laughter)

P1 I said first ... (Laughter)

*Pseudonyms and numeric references are used to maintain anonymity.

Following on from the opening phase, the atmosphere throughout each meeting remained relatively inclusive (from the observer's perspective) with a total number of 25 joint laughter critical events occurring during the three hours of DTMs observed. Due to a lack of comparable empirical data, it should not be assumed that this is representative of such group interactions at DTMs: the individual participants, the history of their social interactions, the state or stage of the project, and many other variables, exist that could produce different results. However, from the perspective of the observer, the meetings consistently felt friendly and comfortable environments to share ideas and work collaboratively for the benefit of the project, rather than to gain individual advantage and harbour adversarial behaviour. The observable positive atmosphere during the meetings may in some part be attributed to participants' response and openness to laugh together as a group from the early phase of the encounter.

Joint Laughter to Foster Collegiality

Throughout the data collection period, the project team reflected a collegial working environment in several ways beyond the opening phase of the meeting. The first and most repetitive social relationship observed was the occurrence of 'in' jokes - 'in' jokes being a reference to a humorous subject matter the group had apparently enjoyed and laughed together at during previous meetings or interactions from those observed. The contents of the jokes included two central themes: the first being the inappropriate name for specific rooms of the completed project (a name that would be considered politically incorrect if used formally and, therefore, potentially a 'secret' held by the

group); and secondly, friendly banter about conversations held with people outside the meeting but into the broader organization. See Extract 2.

Extract 2: Joint laughter linked to collegiality and a previous 'in' joke

P1 The only comment that I have got is that this is going to be a really noisy space with a hard floor and the openness of it.

P2 The prison trays will make no noise at all (laughter) we will get plastic cutlery.

P1 No baked potatoes then (laughter and smiling).

P3 (Chair) John* is very enthusiastic and his prison trays.

P2 He is.

P4 Are they reusable?

P5 Are they like we used at school, with a little slot for you cutlery and stuff (laughter and smiling)?

P2 Yes, they measure out your mash potato. You might get custard on your steak and kidney pudding (laughter and smiling)

*Pseudonym used to maintain anonymity.

The use or occurrence of an 'in' joke appears to bond the group together. The repetitive nature of the joke did not appear to lose its attraction or the level of reaction from the group throughout the three meetings. The level of humour, indicated from the level of loudness and duration of joint laughter, remained consistent during the three meetings. When a new member joined the third meeting and observed an 'in' joke for the first time, it was explained to them openly by the meeting Chair, and the joint laughter continued, this time including the new member. This kind occurrence demonstrates the potential bonding and inclusive influence of group humour and laughter. It also describes the long-term potential of sources of joint laughter to span more than one meeting. This occurrence may, perhaps, extend for the duration of a project (or even beyond that); thereby, keeping the group unified and cohesive, which in turn, may aid collaboration and foster openness to allow the sharing of ideas for integrative decision-making and problem-solving.

DISCUSSION

As previously noted, Greatbatch and Clark (2003) summarise the primary functions of laughter as collegiality, superiority, support from others, relief, and conflict. The data collected during the DTMs were analysed in relation to all five functions. Collegiality was observed to be the most dominant function of joint laughter, with the majority of the critical events linked to this function. The reasons for this are unclear and would require a more extended study, perhaps observing more than one project team. However, it could be suggested that, in line with the findings of Holmes (2000), the benefits of solidarity and good relationships with fellow participants may improve the group's performance, increase employee satisfaction, encourage creativity, and diffuse conflict.

It is interesting to note that there were no examples of joint laughter being linked to superiority, support from others, or relief. The reasons for this are unclear and will again require further investigation over a longer duration.

With regard to the work of Kangasharju and Nikko (2009), who identified joint laughter at the opening phase of a meeting, as a topic-closing device, and as a means of reducing tension in challenging situations, the data in this study support these

observations. The joint laughter that occurred during the opening phase of a meeting determined the general character and atmosphere of the encounter. Including the acceptable nature and discourse of formal or informal group interactions (Ashforth and Humphrey 1995). Although the Chair of the meetings did not always instigate the laughter, they did support it when another participant instigated it; therefore, helping to create and sustain group solidarity and 'fellow-feeling' and encouraging members of the project team to proceed in the same direction.

CONCLUSION AND RECOMMENDATIONS

The design of a construction project is critically important to its overall success and, therefore, needs to be managed effectively. Critical to the development of the design is both the task-related and inter-personal relationships between designers and constructors. Relationships which historically have been fragmented but have been identified as one of the critical elements necessary for successful teamwork.

Joint laughter appears to play an important role by contributing to a friendly and inclusive working environment. This is particularly crucial during DTMs when participants that represent different stakeholders are required to work together to develop the design of a project. The resulting improvement in collegiality and group dynamics may foster increased collaboration and the better integration of ideas.

The research has focused on the positive outcomes of creating a good working environment through solidarity to encourage collaboration. However, as noted earlier, the possibility of adverse consequences of humour and laughter must be recognised, though these were not observed during this study. These include the exercise of 'superiority' and the selective inclusion/exclusion of meeting participants that may lead to adversarial behaviour. Hence, the conscious promotion of joint laughter as a strategy should be undertaken with caution and with a thorough understanding of the potentially 'double-edged sword' effect recognised by Rogerson-Revell (2007).

Limitations and Areas of Future Study

The data used to underpin this study came from a small case study. To obtain more robust conclusions or to postulate recommendations that were generally applicable, a considerable volume of data will be required. Suggested areas for future research include:

- Investigation of the association between joint laughter and conflict resolution - a possibility that this study identified, but remained outside its scope.
- Investigation of the use of 360° panoramic video recording for data collection during team meetings to observe group dynamics and non-verbal behaviour.
- Investigation of the use of 360° panoramic video recording for data collection during team meetings to observe multi-modal examination of laughter that examines verbal, non-verbal behaviour and group dynamics.

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