The Social Bonding Effects of Shared Experiences and Their Multidimensional Mechanisms

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Abstract

Current research indicates that shared experiences facilitate social bonding, and that the bonding effects differ across emotional contexts. Existing theoretical accounts of the bonding effects of shared experiences include the shared attention theory, the amplification hypothesis, and sensorimotor theories, among others; however, a systematic theoretical explanation is still lacking. It is necessary to construct a multidimensional mechanism of shared experiences by taking their impact on social cognitive processes as a foundation, and integrating the roles of social affective and neurophysiological processes. Future research should further clarify the bonding effects of shared experiences under different moderating factors, and elucidate the multi-path joint mechanisms through which shared experiences produce bonding effects under varying conditions.

Full Text

The Social Bonding Effect of Co-experiences and its Multidimensional Mechanisms

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Abstract

Co-experience is crucial in the early stage of social relationship formation, as it not only helps individuals quickly adapt to new environmental changes but also facilitates the development of harmonious interpersonal relationships, which is of great significance for human survival and social development. Current research has demonstrated that co-experiences play a facilitative role in promoting social bonding, with the bonding effect varying across different emotional contexts.

At present, theoretical mechanisms proposed to explain the bonding effect of co-experiences include Shared Attention Theory, the Amplification Hypothesis, and Sensorimotor Theory, among others. However, a systematic theoretical account remains lacking. It is therefore necessary to integrate these perspectives to develop a multi-dimensional mechanism of co-experiences, which should be grounded in the impact of co-experiences on social cognitive processes and incorporate the roles of co-experiences in shaping social-emotional and neurophysiological processes. Future research should further clarify the bonding effect of co-experiences under different moderating factors and reveal the multi-pathway joint occurrence mechanism underlying this bonding effect across diverse conditions.

Key words: co-experience, social bonding, shared attention, neural synchrony, collective effervescence
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Humans are inherently social animals who cannot easily exist independently of groups. To establish and maintain long-term social relationships with multiple individuals simultaneously, people have developed various social interaction behaviors to promote large-scale social bonding. For example, since ancient times, humans have hunted and gathered food in groups; nowadays, modern people frequently gather to eat meals, attend concerts, or travel together. These social activities all depend on co-experiences. Co-experience is crucial in the early stages of social relationship formation, as it not only helps individuals quickly adapt to changes in new environments but also facilitates the development of harmonious interpersonal relationships, holding significant importance for human survival adaptation and social development.

Co-experience refers to two or more subjects participating in the same event simultaneously [**?**, **?**]. Existing research has primarily employed laboratory studies to examine the effects of co-experiences [**?**, **?**, **?**], while recent studies have utilized naturalistic experimental designs to explore the role of co-experiences [**?**, **?**], thereby increasing ecological validity [**?**, **?**, **?**]. Current research demonstrates that co-experiences have a facilitative effect on social bonding [**?**, **?**], though the bonding effect across different emotional contexts remains controversial. The core controversy centers on whether shared negative emotional experiences can buffer the weakening effect of negative emotions on social bonding and promote social bonding, whereas the facilitative effect of shared positive emotional experiences on social bonding has reached relative consensus [**?**, **?**, **?**, **?**, **?**, **?**]. Therefore, this study, based on a review of the social bonding effects of co-experiences, identifies current contradictions and attempts to provide deeper theoretical explanations for the relationship between co-experiences and social

bonding based on existing theoretical mechanisms. It further elaborates on future research directions, aiming to provide insights for the in-depth development of this field.

2.1 Co-experiences Promote Social Bonding

Co-experiences form the foundation of interpersonal relationship development. Research indicates that co-experiences have a stable facilitative effect on teacher-student relationships, and this effect occurs not only when recalling real situations but also remains effective in imagined scenarios [**?**, **?**]. Additionally, co-experiences help enhance relationship quality between married couples in conflict situations [**?**, **?**]. Recent studies have found that besides traditional offline face-to-face experiences, positive interactive experiences on social media also contribute to the development of teacher-student relationships [**?**, **?**]. To more objectively assess how co-experiences promote social bonding, Cheong et al. [**?**, **?**] employed a naturalistic observation paradigm in which two participants watched a 4-hour TV drama together. The results showed that compared with the solo-watching group, the co-experience group exhibited stronger synchronization of facial expressions and skin conductance during viewing, which correlated with tighter social bonding.

The social bonding effect of co-experiences is not only effective for adults but also plays a key role in children' s social-cognitive development and social relationship formation. Research has shown that in non-interactive environments, two-and-a-half-year-old children can establish social bonding with unfamiliar adults through co-experiences (watching videos together) [**?**, **?**]. This indicates that from early in human development, individuals show a tendency to feel closer to those with whom they share experiences. In subsequent research, scholars found that children in shared conditions established social closeness by creating common ground (i.e., both individuals being aware that they are attending to the same thing) during co-experiences, though Experiment 2 with great apes as subjects did not yield the same conclusion [**?**, **?**]. This may be because great apes do not possess the same ability as children to create common ground, suggesting that strengthening the impact of co-experiences on social intimacy through common ground is unique to humans.

Establishing connections through co-experiences is not limited to interpersonal contexts but also manifests between humans and animals, as well as among animals themselves. Animals may have evolved a psychological mechanism that enables them to establish social intimacy with others through co-experiences. For example, Wolf and Tomasello [**?**, **?**] found that co-experiences not only help establish social bonding among great apes and their conspecifics but also enhance social closeness between great apes and humans. Similarly, in a study examining the impact of shared stressful experiences on relational bonding in animals, Merino sheep showed enhanced social bonding after co-experiencing stress compared to a control group not exposed to stress [**?**, **?**]. Sheep use olfactory and visual cues to recognize conspecific faces [**?**, **?**]. Therefore, throughout

the experiment, sheep would remember the faces or scents of companions who experienced stress with them, consequently displaying affiliative behaviors toward co-experience partners.

Overall, the social bonding effect of co-experiences demonstrates stability and universality, directly strengthening individuals' intimacy experiences across multiple levels of social objects. Significant social bonding effects have emerged regardless of whether the experiencing groups are adults, children, or animals.

2.2 The Social Bonding Effect of Co-experiences Across Different Emotional Contexts

Notably, the social bonding effect of co-experiences is primarily moderated by emotional context, which yields different outcomes under its influence. Emotional context includes emotions such as positive, negative, fear, and anger [**?**, **?**]. Previous research has mainly examined the effects of two emotional contexts: positive and negative emotions [**?**, **?**], using external emotional cues like emotionally edited videos and pictures to elicit emotional contexts. The impact of emotional context and co-experiences on social bonding has not yielded consistent conclusions.

On one hand, some studies have found that shared positive emotional experiences promote social bonding, whereas shared negative emotional experiences do not produce facilitative or buffering effects on social bonding. For instance, research has shown that co-experiencing social acceptance (a positive emotional event) establishes stronger social bonding than co-experiencing social exclusion (a negative emotional event) [**?**, **?**]. Shared positive emotional experiences promote relationship quality between married couples, while shared negative emotional experiences lead to relationship deterioration [**?**, **?**]. Additionally, Dziura et al. [**?**, **?**] explored the effects of co-experiences and emotional context on social bonding, finding that compared with neutral or negative emotional states, the co-experience group enhanced social intimacy under positive emotional states.

On the other hand, Peng et al. [**?**, **?**] used EEG hyperscanning technology to assess neuronal activity during shared negative experiences. Dual-brain analysis revealed that shared negative emotional experiences lead to inter-brain synchronization of sensorimotor α-oscillation phases and mutual empathy among co-experiencers, thereby enhancing social bonding. In other words, shared negative emotional experiences enhance social intimacy among co-experiencers by eliciting inter-brain synchronization of neuronal α-oscillations in the sensorimotor cortex, which triggers empathy among them. Under high-arousal negative emotional conditions, the co-experience group generated higher levels of social cohesion than the solo-experience group [**?**, **?**]. Furthermore, recent research has found that compared with experiencing negative emotional events alone, co-experiencing the same negative emotional events promotes cooperation among individuals [**?**, **?**, **?**]. This suggests that when subjects experience negative emotions together with companions, the behavioral buffering of negative emotions

mitigates the weakening effect of negative emotions on group cohesion.

In summary, the impact of shared negative emotional experiences on social bonding remains controversial. Positive emotional contexts can enhance the facilitative effect of co-experiences on social bonding, while the role of co-experiences in mitigating the negative impact of negative emotions may be overestimated. Future empirical research is needed for further verification.

3 Multidimensional Mechanisms of the Social Bonding Effect of Co-experiences

Based on existing literature on co-experiences, the social bonding effect of co-experiences varies across different emotional contexts, and the effect of co-experiences on social bonding under negative emotional conditions shows inconsistent results. Therefore, it is necessary to systematically review and integrate previous theoretical explanations of how co-experiences influence social bonding, and on this basis seek to explain the controversies in the relationship between co-experiences and social bonding under different emotional contexts. Grounded in existing empirical research and theory, this study explores the bonding effect of co-experiences from three perspectives: social-cognitive processes, socio-emotional processes, and neurophysiological processes. The overall framework is illustrated in Figure 1 [Figure 1: see original paper].

3.1 Cognitive Mechanisms of Co-experiences Promoting Social Bonding Shared intentionality can be understood as a shared mental state in which two or more individuals participating in the same event are simultaneously aware of each other' s participation [**?**, **?**]. Humans possess a unique capacity to establish social bonding with others by creating shared intentionality during co-experiences [**?**, **?**]. From an evolutionary psychology perspective, this capacity enables humans to adapt to environmental changes and more efficiently establish and maintain large-scale social bonding than other primates (e.g., ape grooming) in a short time. During co-experiences, individuals form common awareness through shared experiences and mutually confirm this through verbal communication or eye contact [**?**, **?**]. In other words, shared intentionality is a social-cognitive skill that facilitates communication and bonding. For survival and social adaptation, humans have developed the ability and motivation to share intentional states with others (i.e., mental states directed at something/someone, such as attention, intention, emotion, or belief) during co-experiences, forming a shared meta-cognitive representation (e.g., we are aware that we are all attending to a particular event and each other' s intentions), thereby more easily predicting the group-oriented tendencies of sharing partners [**?**, **?**, **?**].

Shared attention theory explains the facilitative effect of co-experiences on social bonding from an information-processing perspective. Shared attention theory posits that objects simultaneously attended to by multiple people occupy more cognitive resources and receive deeper-level processing [**?**, **?**]. During co-experiences, when people' s attention forms a "common focus" state, relevant in-

formation is not simply received but undergoes deeper cognitive processing such as analysis, integration, and reflection, thereby strengthening the bond between individuals [?, ?]. For example, existing research has shown that shared attention toward stimuli enhances recall memory [?, ?], cognitive processing [?, ?], and behavioral learning [?, ?]. Co-participation behaviors are more likely to be internalized and adopted because individuals invest more cognitive resources in behaviors they observe with others than in those they observe alone [?, ?]. Shared attention amplifies the impact of co-experiences on affiliation, thereby strengthening bonds among experiencers [?, ?, ?]. This viewpoint has received empirical support in Haj-Mohamadi et al.' s [?, ?] study, which manipulated shared attention to explore how co-experiences strengthen social bonding.

The amplification hypothesis explains why co-experiences are more important than solo experiences in interpersonal relationships. This theory suggests that during co-experiences, individuals merely experience the same stimulus simultaneously with another person, which amplifies the experience even without any direct communication or interaction. To explore why co-experiences affect people' s subjective experiences, social psychological research has found that co-experiences make ongoing stimuli more psychologically salient by enhancing memory for stimuli [?, ?], strengthening goal pursuit [?, ?], and acquiring more cognitive resources [?, ?], producing a psychological "amplification effect." This amplification effect of co-experiences thus facilitates the establishment and long-term maintenance of good social relationships among unfamiliar groups. The amplification hypothesis has been validated in Boothby et al.' s [?, ?] study, which found that co-experiences without communication conditions enhanced participants' experiences, confirming the amplification effect of co-experiences. This also explains the lasting impact of co-experiences: even as time passes, memories of co-experiences can still bring happiness and strong cohesion to co-experiencers [?, ?].

Notably, co-experiences may have dual effects on cognitive processes across different emotional contexts. Co-experiences do not merely amplify cognitive processes but may also attenuate them, with social comparison playing an important role. For instance, research has found that co-experiencing unfairness does not amplify perceptions of unfairness but rather weakens them [?, ?]. The amplification hypothesis cannot reasonably explain this phenomenon. The more individuals focus on the gains of co-experiencers, the more they tend to compare their own gains with those of co-experiencers, resulting in lower perceptions of unfairness [?, ?]. This suggests that when co-experiencing negative emotional events, co-experiencers engage in parallel comparisons, where individuals conduct social comparisons between their own experiences and others in the same group who share the experience, thereby attenuating social-cognitive processes.

3.2 Physiological Mechanisms of Co-experiences Promoting Social Bonding Neural synchronization may be an important process mechanism affecting the relationship between co-experiences and social bonding across dif-

ferent emotional contexts. Research on co-experiences based on emotional context has focused on examining the role of neural synchrony in promoting social bonding, further explaining the neural basis for why shared positive experiences generate stronger bonding than shared negative experiences.

When people engage in activities together, their brain activity synchronizes, a phenomenon commonly known as inter-brain synchrony. This effect has received widespread attention in group co-experiences. For example, inter-brain synchrony occurs when solving a puzzle together [**?**, **?**], watching a movie together [**?**, **?**, **?**], or playing games together [**?**, **?**]. Inter-brain synchrony enhances social intimacy and empathy among group members and even improves team performance [**?**, **?**, **?**].

Inter-brain synchrony is closely related to behavioral coordination, which enhances common-mode (we-mode) processing and fosters a stronger sense of collective agency among participants [**?**, **?**]. Sensorimotor theory proposes that rhythm and beat experiences are associated with motor representations of the body; when maintaining the same beat with others, motor regions in the brain are activated [**?**, **?**]. In other words, when co-experiences occur, the perception of in-group movements activates brain regions related to making similar movements oneself [**?**, **?**], leading to the simultaneous activation of similar neural networks and consequently producing neural synchronization [**?**, **?**].

Existing research has identified the medial prefrontal cortex, amygdala, and superior temporal sulcus as the neural basis of co-experiences [**?**, **?**]. During co-experiences, co-watching movies produces higher brain-to-brain synchronization in bilateral frontal, temporal, and parietal regions than solo-watching [**?**, **?**]. When co-watching positive videos, the amygdala and superior temporal sulcus are activated and generate stronger neural synchrony than when watching alone, with cohesion levels increasing as neural synchrony increases. However, when co-watching negative videos, corresponding neural synchrony in the amygdala and superior temporal sulcus is lower, and participants' sense of solidarity does not change significantly [**?**, **?**]. These results indicate that during co-experiences, positive emotional stimuli activate brain regions and trigger high neural synchrony, thereby enhancing social bonding.

3.3 Affective Mechanisms of Co-experiences Promoting Social Bonding Another explanation for how shared negative emotional experiences promote social bonding is the emotional evolution mechanism. The social function theory of emotion posits that emotions evolved to help people adapt to changing social environments when facing collective threats [**?**, **?**]. Shared negative emotional experiences have a signal-conveying function: when collective interests are threatened and the group is in a dangerous situation, a strong need for belonging is triggered, which facilitates the establishment of intimate interpersonal relationships [**?**, **?**]. Close social bonding increases individuals' chances of success in high-risk environments and group conflicts, making co-experience an effective means of protecting collective interests in social dilemmas. Un-

der conditions of shared negative emotional experiences, individuals prioritize protecting collective interests, demonstrating more solidarity and cooperative behavior to balance self-other (collective) interests [?, ?].

Another explanatory mechanism for how co-experiences increase social bonding is that collective effervescence indirectly promotes social bonding through emotional processes such as emotional synchronization, affective intensification, and identity fusion. According to neo-Durkheimian theory, it is necessary to consider the role of collective effervescence in the development of co-experiences [?, ?, ?]. Collective effervescence refers to the process of personal emotional synchronization and intensification that occurs when individuals participate in collective gatherings, representing an intense shared emotional state [?, ?]. Co-experiences trigger emotional exchanges among participants, leading to an emotionally heightened state of collective effervescence that strengthens identity fusion and collective identity among individuals, thereby enhancing intimacy and cohesion [?, ?, ?, ?, ?]. Existing research has shown that co-experiencing collective rituals activates identity fusion through arousing collective effervescence, thereby stimulating extreme group-oriented tendencies [?, ?].

The evaluation-confirmation-amplification model proposed by Wang et al. [?, ?] provides a good explanation for the collective effervescence effect triggered by co-experiences. The mere presence of others is insufficient to trigger the amplification of shared emotions; rather, when individuals co-experience emotional events with others, their emotions are amplified. Co-experiencing the same emotional event context induces a common internal emotional state between individuals and others, which is confirmed by others' emotions, especially the emotions of multiple people in the group. This transforms ambiguous and uncertain individual emotions into stable and reliable "group-shared emotions" [?, ?], thereby facilitating collective effervescence. Thus, we can see that this complex social-psychological factor of co-experience can also influence social bonding by affecting individual/collective emotional experiences and subsequently influencing cognition.

3.4 Comparison of Social Bonding Mechanisms of Co-experiences

The above content reflects that the mechanisms underlying the bonding effect of co-experiences are multidimensional. However, existing research has not reached a unified conclusion regarding how co-experiences produce social bonding effects. Current research has focused on three primary pathways, which share certain commonalities while also exhibiting differences.

First, from a multidimensional perspective, the above mechanisms each address the social bonding effect of co-experiences from cognitive, physiological, or affective angles, with different emphases. Shared intentionality, shared attention theory, and the amplification hypothesis primarily focus on the social-cognitive pathway affecting social bonding, where shared intentionality emphasizes that groups build shared intentionality through shared experiences to establish close bonds; shared attention theory focuses on triggering a shared attention state

among individuals, enabling shared targets to receive deep-level cognitive processing to strengthen intra-group bonding; and the amplification hypothesis emphasizes that during co-experiences, people simultaneously receive the same stimuli, which intensifies physiological stimulation and deepens subjective psychological experiences, making group members' perception of "we are one entity" stronger and more profound. Sensorimotor theory focuses on the neurophysiological pathway affecting social bonding, where the perception of group members' mutual movements leads to simultaneous activation of movement-related neural networks, producing inter-brain synchrony to promote bonding effects. Neo-Durkheimian theory focuses on the affective pathway to promote bonding, where personal emotions are amplified and intensified through the group's shared experience, forming strong shared emotions within the group and making group members more identified with their group, thereby enhancing group intimacy.

Although the above pathways differ, they also exhibit overlapping intersections. First, whether shared intentionality, shared attention theory, or amplification hypothesis, they all address the relationship between co-experiences and social bonding from the perspective of social-cognitive processes. Second, when explaining the bonding effect of co-experiences, these theories are not mutually exclusive but can be three complementary mechanisms. During co-experiences, as group members engage in deep-level processing of simultaneously attended objects, interactions among group members lead to simultaneous activation of similar neural networks in motor regions, resulting in inter-brain neural synchrony, often accompanied by emotional sharing that awakens collective effervescence. These multiple pathways frequently intertwine in actual co-experience contexts. Finally, whether cognitive, affective, or physiological mechanisms, co-experiences ultimately exert positive effects on social bonding to some degree, showing convergent tendencies toward promoting social bonding.

3.5 Integration of Social Bonding Mechanisms of Co-experiences The above theoretical mechanisms can partially explain the relationship between co-experiences and social bonding from the perspective of social-cognitive processes, but their explanations are not stable. Particularly after incorporating emotional context as a moderating factor, the relationship between co-experiences and social bonding and its degree of influence change, as confirmed in previous discussions. Therefore, explaining the relationship using only dispersed theories from a cognitive perspective cannot make reasonable predictions; deeper mechanistic integration of existing theories is needed. Based on a review of relevant literature, we find that the social bonding effect of co-experiences and the differential effects under moderating factors all occur under the influence of cognition, emotion, and neurophysiology. It is therefore necessary to use cognitive mechanisms as a foundation while simultaneously considering the process mechanisms of emotion and neurophysiology to integrate the mechanisms through which co-experiences influence social bonding.

From the perspective of social-cognitive processes, as mentioned above, based

on shared intentionality, shared attention theory, and the amplification hypothesis, group members in co-experiences establish close bonds by triggering shared intentional states, shared attention, or intensifying subjective experiences. Whether shared intentionality, shared attention theory, or amplification hypothesis, all explain why co-experiences are more important than solo experiences in social bonding, but they lack reasonable explanations for why co-experiences have social bonding effects under positive emotional contexts but fail to promote social bonding under negative emotional contexts. Evidently, the above theoretical mechanisms all consider cognitive processing as the most fundamental factor influencing the effect of co-experiences on social bonding, but when emotional context is included as an influencing factor, the complex relationship between co-experiences and social bonding is not convincingly explained from a purely cognitive perspective.

Overall, a single-level cognitive perspective cannot reasonably explain the impact of co-experiences on social bonding under emotional contexts. Moreover, cognition is not only influenced by co-experiences but also affected by emotion, which in turn may influence intimacy in interpersonal interactions. According to neo-Durkheimian theory, co-experiences trigger emotional exchanges within groups, awaken collective effervescence, strengthen identity fusion and collective identity, and thereby enhance social bonding [**?**, **?**, **?**]. This viewpoint has received empirical support [**?**, **?**]. Thus, we can see that this complex social-psychological factor of co-experience can also influence social bonding by affecting individual/collective emotional experiences and subsequently influencing cognition.

For example, when co-watching positive videos, the amygdala and superior temporal sulcus are activated and generate high neural synchrony, thereby enhancing social bonding; whereas when co-watching negative videos, corresponding neural synchrony in the amygdala and superior temporal sulcus is lower, and participants' sense of solidarity does not change significantly [**?**, **?**]. However, Peng et al. [**?**, **?**] found that shared negative emotional experiences enhance social bonding among co-experiencers by triggering inter-brain synchrony in the sensorimotor cortex, which elicits mutual empathy. This shows that co-experiences under negative emotional contexts can also produce bonding effects by influencing individuals' neurophysiological changes and subsequently affecting their emotions. Evidently, explanations through neurophysiological and socio-emotional processes compensate for the inadequacies of explanations based solely on social-cognitive processes and can, to some extent, clarify the relationship between co-experiences and social bonding under both positive and negative emotional contexts.

In conclusion, whether shared intentionality, amplification hypothesis, or shared attention theory, each can only partially explain the bonding effect of co-experiences from the perspective of social-cognitive processes. To provide a comprehensive explanation, it is necessary to use social-cognitive processes as a foundation while simultaneously considering the roles of socio-emotional

processes and neurophysiological changes in the bonding effect of co-experiences. This approach seeks empirical evidence consistent with an integrated theory to provide a more comprehensive and universal mechanistic-level explanation of the relationship between the two.

4 Summary and Future Directions

[Figure 1: see original paper] Overall Framework

Although existing research has provided empirical evidence for the relationship between co-experiences and social bonding, numerous controversial issues and unexplored topics remain in this field that warrant further investigation:

First, it is necessary to reveal the occurrence mechanisms through which co-experiences influence social bonding under different conditions. Previous research has primarily proposed theoretical mechanisms such as shared attention theory and the amplification hypothesis from the perspective of social-cognitive processes to explain the effects of co-experiences. However, the complexity of co-experience effects under different factors cannot be simply explained from a cognitive perspective; the influences of socio-emotional and neurophysiological processes must also be considered. Therefore, when examining the bonding effect of co-experiences and the complex relationship between the two under different influencing factors, potential impacts from multidimensional mechanisms including cognitive, affective, and physiological aspects should be considered. These mechanisms may not be mutually exclusive but may be interrelated. For example, under the influence of negative emotions, the extreme altruistic tendencies resulting from co-experiences may involve three pathways: neural synchronization mechanisms [**?**, **?**], identity fusion mechanisms [**?**, **?**, **?**], and emotional evolution mechanisms [**?**, **?**]. Thus, future research could further investigate the joint occurrence mechanisms of co-experience effects based on an integrated examination of cognitive, affective, and physiological factors.

Second, cultural background may be an important influencing factor in the bonding effect of co-experiences. Generally, cultural background influences individuals' cognition and emotion, which in turn affects the relationship between co-experiences and social bonding. Co-experiences take two forms: first, experiencers co-experience as "individual identities" ; second, experiencers co-experience as "group identities"[**?**, **?**]. Under Western cultures, experiencers tend to emphasize individual freedom and co-experience as independent identities; under Eastern cultures, the emphasis is on collective action and co-experiencing as a common group identity. Therefore, under different forms of co-experiences, experiencers' processes and memories of experienced events will differ in emotional experience, cognitive processing style, and neural synchrony, ultimately affecting intimacy among experiencers. Existing research has shown that compared with collectivist cultures, experiencers under individualist cultures may exhibit more competitive behaviors and fewer prosocial tendencies [**?**, **?**]. Therefore, future research should examine the differences in bonding effects of co-experiences

across different cultural backgrounds.

Finally, it is necessary to examine other moderating factors of the bonding effect of co-experiences. A large body of previous research has investigated co-experiences primarily in non-interactive contexts, where participants have no verbal communication or physical contact throughout the co-experience process [**?**, **?**, **?**]. However, co-experience phenomena in real-world environments, such as walking and talking together or dancing in square dances, occur more frequently in dynamic interpersonal interaction settings. It is necessary to incorporate interactive factors such as verbal and physical contact into the relationship between co-experiences and social bonding to explore their differential effects. Additionally, current literature has paid limited attention to the moderating role of similarity. Generally, during co-experiences, people prefer those whose preferences and behaviors align with their own. For example, early research found that toy preference similarity enhanced prosocial preferences in 3-year-old children when sharing toys [**?**, **?**]. Similarly, sharing similar foods compared to different foods brings consumers closer, thereby enhancing trust and cooperation among unfamiliar consumers [**?**, **?**]. During co-experiences, especially among initially unfamiliar individuals, people tend to rely on similarity cues to blur self-other boundaries [**?**, **?**]. Therefore, future research should further explore the moderating mechanisms of co-experience effects, revealing the influences of various factors such as interpersonal interaction and similarity.

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