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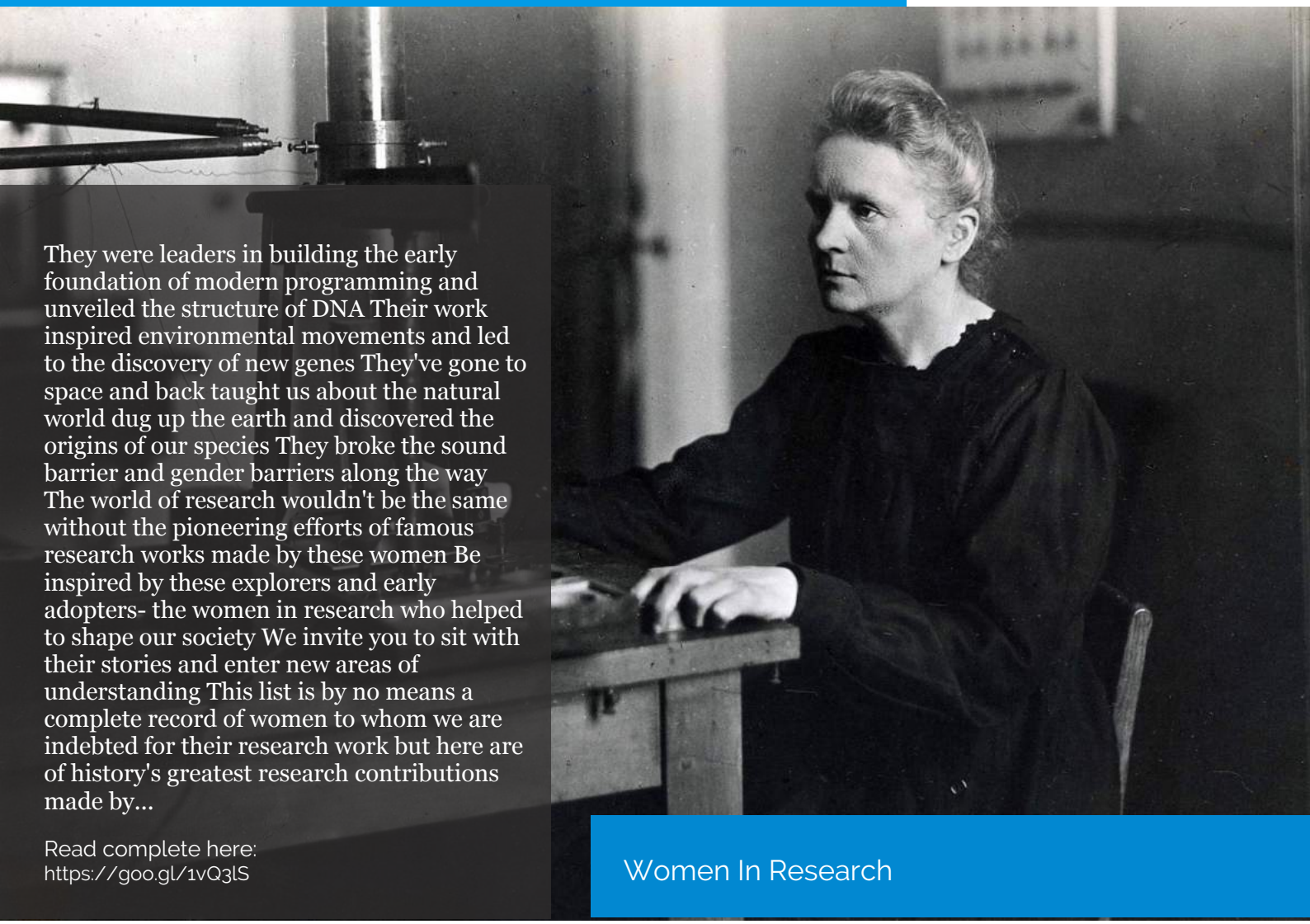

They were leaders in building the early foundation of modern programming and unveiled the structure of DNA Their work inspired environmental movements and led to the discovery of new genes They've gone to space and back taught us about the natural world dug up the earth and discovered the origins of our species They broke the sound barrier and gender barriers along the way The world of research wouldn't be the same without the pioneering efforts of famous research works made by these women Be inspired by these explorers and early adopters- the women in research who helped to shape our society We invite you to sit with their stories and enter new areas of understanding This list is by no means a complete record of women to whom we are indebted for their research work but here are of history's greatest research contributions made by...

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An Empirical Analysis of the Influence of Values, Worldview, and Culture on the Psychological Processes in Transformational Adaptation

Dr. Olasimbo Omolara

ABSTRACT

Conceptually, the literature highlights the interactions between three components i.e. social contracts, critical conscientiousness and leadership as vital in shaping adaptation outcomes and critical for transformational adaptation. Manifesting in these interactions are psychological processes like causal and responsibility attributions, and motivations that determine responses and effectiveness of adaptation activities and define adaptation as persistence, transition or transformation. These psychological processes are underpinned by intangibles like culture, values and worldview that influence decisions and prioritised activities but have received little empirical analysis on the mechanism of influence.

Keywords: adaptation pattern, transformation, value, worldview, culture, lagos.

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An Empirical Analysis of the Influence of Values, Worldview, and Culture on the Psychological Processes in Transformational Adaptation

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Conceptually, the literature highlights the interactions between three components i.e. social contracts, critical conscientiousness and leadership as vital in shaping adaptation outcomes and critical for transformational adaptation. Manifesting in these interactions are psychological processes like causal and responsibility attributions, and motivations that determine responses and effectiveness of adaptation activities and define adaptation as persistence, transition or transformation. These psychological processes are underpinned by intangibles like culture, values and worldview that influence decisions and prioritised activities but have received little empirical analysis on the mechanism of influence. Using a qualitative approach of interviews and document analysis and two low-income settlements affected by flooding in Lagos as context, this paper provides an empirical analysis of the influence of these intangibles on the psychological processes in and between the interactions of the three highlighted components of adaptation. It discusses how the adaptation to flooding process in Owode-Ajegunle community aided transformational adaptation through a shift from traditional worldview, value and cultural norms to a postmodern worldview. This shift was motivated by tipping point leaders that utilised invited spaces of negotiations to challenge the social contract and revert responsibility to state actors. These engagements resulted in transformative actions of formal granting of rights to land that enabled transformation beyond climate change. For Iwaya community, a lack of reprioritisation of values stationed the community in traditional worldview and limited their ability to challenge the social contract. Change was mollified further by the worldview and values of the leadership, aiding the complexities of 'learned helplessness' and 'resigned adaptation' in the community. This supported the maintenance of the status-quo and adaptation as persistence and incremental adjustments. Hence, the paper highlights, the what, who and how of transformation in the adaptation process and indicates that even in the face of tipping point events, cultural norms, worldview and its prioritised values influence psychological processes that shape adaptation outcomes. It therefore reiterates the need for greater cognisance to the psychological dimensions in assessing adaptation outcomes.

Keywords: adaptation pattern, transformation, value, worldview, culture, psychological processes, lagos.

I. INTRODUCTION

The literature highlights three components as essential in shaping adaptation outcomes; these are critical conscientiousness, social contract and leadership (Pelling et al. 2015; Adger et al. 2013; Kates et al. 2012; O'Brien et al. 2009; Olsson et al. 2006). The interaction of these components manifests in the psychological processes like sense-making, assignment of responsibility, motivations, appraisal of impacts that inform responses and effectiveness of adaptation activities (Swim et al. 2011; Ayal et al. 2021). The responses and effectiveness shape the pattern of adaptation as incremental adjustment, transitional or transformational (Pelling, 2011). However, underpinning these psychological processes are intangibles like culture, values and worldviews (Swim et al. 2011). These intangibles influence the decisions and activities considered

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necessary and prioritised and therefore influence the adaptation process (Thomalla et al. 2015; Graham et al. 2013; O'Brien and Wolf 2010; Schipper and Dekens 2009; Grothmann and Pratt, 2005). A lack of cognisance to the influence of these intangibles have implication for policy because they could foster maladaptation in the adaptation process (Graham et al. 2013; Schipper and Dekens 2009). Despite this importance, empirical analysis on how these intangibles influence the psychological processes and shape adaptation outcomes are few (O'Brien 2009; Grothmann and Pratt 2005). This paper addresses this gap through an analysis of the influence of values, worldview and culture on the psychological processes of attributions, responsibility reposition and motivation in raising critical conscientiousness, challenging social contracts, and prompting leadership in adaptation to flooding. The discussion is an empirical finding on one of the objectives of a broader research that examined the vulnerability and adaptation to flooding of two informal communities, Owode-Ajegunle and Iwaya in Lagos, Nigeria. First, the paper gives the theoretical underpinnings of the analysis; it highlights the conceptual understanding of culture, value and worldview and explains the adaptation patterns, with a detailed focus on transformational adaptation and the components of critical conscientiousness, social contract and leadership. Next, the research context and data collection method is provided. This is followed by an analysis of the influence of culture, values and worldview in aiding the attributions, reposition of responsibilities, and motivations that shaped the interaction between the raising of critical conscientiousness, facilitating social contract change, and prompting leadership activities. The conclusion highlight a summary of the analysis and the need for cognisance to the influence of the mentioned intangibles in shaping adaptation patterns.

II. THEORETICAL AND ANALYTICAL CONTEXT

2.1 The drivers of psychological processes in adaptation: culture, worldview and values

Culture, worldview and values are psychological drivers with inescapable linkages that influence people's action and decisions. Despite the linkages, the concepts are conceptually different and therefore needs defining. McEwan and Daya (2016) define culture as "systems of shared meaning that people who belong to the same community, group or nation use to help them interpret and make sense of the world and reproduce themselves" (p. 262). It is contextual and socially embedded because of its dependence on custom, belief, identity of place, person and language. Culture is vital in adaptation analysis because it determines risk identification, offers alternative rational explanation for inhabiting risk prone areas, explains differences in response by groups exposed to similar risks (Adger et al. 2012; Gaillard and Textier 2010; Thomalls et al. 2015), and could manifest in organisational and institutional responses based on the development vision and prevailing worldview (Pelling 2011). Hence, culture is intrinsically linked with worldview and value. Worldview describes the basic assumptions and beliefs that influence people's behaviour, decisions and perceptions of the world (O'Brien 2009). In the context of the environment, it constitutes inescapable meaning making that define people's interpretation, enactment and co-creation of reality (Hedlund-de-Witt 2013), the resulting perceptions on the human-environment relationship then determine decisions/choices and action pathways on responsibilities and solutions (Hedlund-de-Witt 2012). In analysing worldview, the Integrated Worldview Framework identifies four overviews i.e. traditional, modern, postmodern and integrative and five aspects for operationalising it. These operational aspects are ontology, epistemology, axiology, anthropology and societal vision (Hedlund-de-Witt 2014), with a subgrouping of ontology, epistemology, and axiology as primary aspects, and anthropology and societal vision as secondary aspects (Hedlund-de-Witt 2013). These aspects in

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worldview inform human behaviour in relationships and social interactions because of a strong influence on shared and individual desires, perceptions, motivation and values (Schlitz et al. 2010). Embedded within worldview are values and attitudes (Hedlund-de-Witt 2012; Schlitz et al. 2010). Values underlay the four overview of worldview, i.e. traditional, modern, post-modern and integrative. Despite the disciplinary difference (i.e. sociological, anthropological and political) in the definition of value, there is a general concordance on its importance as a predictor of behaviour and attitude, its context specificity and intergenerational transmission (O'Brien 2009). Values are structured important life goals (Hedlund-de-Witt 2013), influenced by its cultural, social and environmental context. They are dynamic psychological investments that could change and be reprioritised andtherefore exert subjective influence on adaptation (O'Brien 2009).

Although values are context dependent, Schwartz (1994), identifies ten values that are universal to all culture but distinguishable by their motivational goals. The first three are security, tradition, and conformity embedded in traditional worldview with a motivational goal of conservation. The next three values are power, achievement, and hedonism, embedded in modern worldview, with motivational goals of self- enhancement. Stimulation and self-direction are integrative values that bridge modern and post-modern worldviews, with motivational goals of openness to change. The last two values are universalism and benevolence embedded in post-modern worldview with motivational goals of self-transcendence. As highlighted earlier values are dynamic and subject to prioritisation. Prioritising specific values facilitates adaptation activities attuned to such prioritisation. For instance, prioritising postmodern worlview values with motivational goal of self-transcendence promotes adaptation activities focused on well-being, equity and cognisance to the poor. Therefore, values as standards could rationalise the selection of actions, could aid attribution for causality, could offer psychological defence for choices, and could facilitate claims and the invocation of social sanctions (O'Brien 2009). This indicates the interconnectedness of values, worldview and culture because whether expressed at the personal or societal levels, they underpin, sense making, attribution for causality, appraisal and motivational processes that shape risk management and determine adaptation responses to climate change (Adger et al. 2013; Swim et al. 2011). The risk management and adaptation responses result in different adaptation pattern of persistence, transition, and transformation to climate change that could occur concurrently and in combination within a given context (Béné et al. 2014, Pelling 2011). However, differences in assumptions and worldview on risk and the people affected by risk underpin the different adaptation pattern as subsequently examined.

2.2 Adaptation patterns

In the literature, the conceptual distinction of adaptation as persistence or system maintenance, transition or system adjustment, and transformation or fundamental change to the system (Pelling 2011, Béné et al. 2014) emanates from the biases in disaster reduction, vulnerability and resilience perspective respectively. The fundamental differences between these multiple perspective centres on the positioning of risk based on assumptions on people's actions and decisions, which exhibit different aspects of worldview. Notably, the evaluative belief on people in relation to hazard that aids attribution and the assignment of responsibility, displays the primary aspect of worldview, while the proscriptive belief on modality for addressing risk displays the secondary aspects as further expounded. In the disaster reduction perspective, there is an assumption that people take rational decisions to occupy areas exposed to natural disaster, hence, responsibility for hazards is reposed on the people and its management can be achieved with the right technology (Basset and Fogelman 2013). The overplay of agency in this worldview prioritises risk and promotes interventions that support coping with the impacts of hazards resulting in technical and infrastructural supports that aid absorptive capacity and enhance societal resistance while maintaining existing status-quo (Bulkeley and

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Tuts 2013, Canon and Müller-Mahn 2010). Moreover, the focus on the 'who' of vulnerability facilitates welfare support, that de-emphasises socio-political influences on vulnerability (Friend and Moench 2013). Thus, activities under adaptation as system maintenance envision a continual system functioning that facilitate the maintenance of unsustainable or socially unjust societal activities within society (Pelling 2011). The vulnerability perspective underpins adaptation as transition or system adjustment, it argues vulnerability as a social construct beyond specific risk, mediated by rights and entitlements in social and institutional relations, and tied to the socio-economic and historical conditions that support risk (Heinrich et al. 2013; Basset and Fogelman 2013). In this perspective, the close attention to the socio-political and economic production of marginality facilitates a deeper insight to the multiple causes and 'why' of vulnerability for targeted actions (Ribot 2011). The reposition of responsibility for risk is on societal relations with a portrayal of the people as passive victims that underplays agency (Ribot 2014). However, opportunities for building adaptive capacities beyond a technocratic top-down intervention to a more inclusive approach for structural change is fostered (Bulkeley and Tuts 2013). The spaces for inclusion and participation provided permit activities that enable incremental changes to the socio-economic, political and cultural relations and is therefore described as transitional (Pelling 2011).

However, frames of inclusion weaken the ability to question the assumptions, values, discourses, and interest that created the structure of social vulnerability in the first instance (Basset and Fogelman 2013). Furthermore, because spaces of inclusions are social products (Brock et al 2001), an emphasis on inclusion can constrict spaces for alternative socio-political changes. This fixate adaptation activities as intermediary ensuring an increase in the usual activities but maintaining the prevailing socio- economic and political relations (Khan and Roberts 2013). The resilience perspective in adaptation as transition gives cognisance to the social relations of power, existing inequalities and injustice that underlay causes of risk and shapes the ability to adapt (Friend and Moench 2013). Unlike the vulnerability perspective that centres analysis on vulnerability reduction, the resilience perspective centres analysis on vulnerability prevention (Pelling 2011). Moreover, its focus on the system's adaptive capacity aids attention to lived experiences and contextual production of marginality, which gives an active view of agency, and rejects any deterministic interpretations (Basset and Fogelman 2013). Furthermore, a focus on the development of resources required for the system's flexibility rather than only actor's flexibility to respond to change provides a platform for analysis of a shift in the balance of political and cultural power. The approach therefore prioritises power argued as central to the development/adaptation nexus (Canon and Müller-Mahn 2010) and to adaptation that is transformational (Pelling 2011). The prioritisation of power politicises adaptation (Eriksen et al. 2015) and unveils the embedded ideas/assumptions that entrench power relations and circumscribe structural changes (Gillard et al. 2016). Hence, the premise of adaptation as transformation is the interrelatedness of climate risks that necessitates a radical challenge to existing social and economic structures (Pelling 2011, O'Brien 2012), either through deliberate action (Nelson et al. 2007) or the occurrence of tipping points (Pelling and Dill 2010). Although there is a consensus in literature that complexities of systems with ruptures and thresholds in its cycles and structural changes characterize transformation (Feola 2015), debates exist on features that make a change transformational, its forms, and the process involved (Feola 2015; Tschakert et al. 2013). In view of which there are calls to give conceptual and ideological clarity on the meaning of transformation and its outcomes i.e. what transforms, and who benefits, when the concept is utilized (Feola 2015, Fazey et al. 2018). This necessitates clarification on the conceptualization of transformation in the research.

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2.3 Transformation

Few et al (2017) explain that transformation in the adaptation literature has different connotations that challenges its utilisation in practice, and therefore framed a set of typologies to assist researchers and practitioners assess the extent to which adaptation actions are constitutive of transformation. The typologies include mechanism of change, target outcomes, and the object of change, and they were framed based on questions around the type of envisioned or occurring change process; the relationship of the change to the drivers of risk; and the effect of the change beyond climate change adaptation respectively. The primary question on the existence of an inherent fundamental change in adaptation activities underpin the typologies and they can exist as independent dimensions, or intersect and interact (Few et al. 2017). Mechanism of change include four categories, 'innovation', 'expansion', 'reorganisation' and 'reorientation'. Target outcome include 'instrumental' changes that address climate risk as an environmental problem, 'progressive' change focused on reducing social vulnerability and empowerment, and 'radical' change that addresses the social structures and power relations that facilitate vulnerability. In terms of the object of change typology, two non- exclusive categories identified include transformational adaptation i.e. when adaptation practices are transformed and transformative adaptation that enables the adaptation activity to bring about transformation in broader aspects of development beyond climate change. Few et al. (2017) explained that though the use of the terms transformational and transformative overlaps in the literature, the subtle difference manifests by highlighting the object of change. Key linkages could exist between these typologies, for instance, innovation and expansion adaptation activities often link with instrumental, sometimes progressive changes and are usually transformational. Reorganisation and reorientation associates with progressive and radical categories are often transformative in outcome. Notably, the categorisation of instrumental, progressive and radical changes align with the conceptualisation of adaptation as stability, incremental adjustment and transformation based on three dimensions of absorptive, adaptive and transformative capacities (Béné et al. 2014) that inform the conceptual separation of adaptation as persistence, transitional and transformational (Pelling, 2011). These conceptual separation of adaptation highlights the interaction between adaptation and development and is useful for indicating a more desirable pattern, necessary for a successful adaptation to climate change and for a more equitable and sustainable development (Gillard et al. 2016).

Although the discussion acknowledges the highlighted differences in transformational and transformative adaptation it situates transformation as a process that uses tipping points to challenge power relations through forced, deliberate or progressive actions. It therefore conceptualises transformation as both transformational and transformative and straddles the dual usage of transformation in development as an analytical concept to highlight the adaptation pattern and as a process for challenging power relations and maldistribution (Godfrey-Wood and Naess 2015). Underpinning this conceptualisation of transformation is the concept of resilience. Defined as the "ability of a system and its component parts to anticipate, absorb, accommodate, or recover from the effects of a hazardous event in a timely and efficient manner" (IPCC 2012 p5), resilience highlights capability and cognisance to agency. This capability could be innate, developed or ruptured during systems disruptions (Béné et al. 2014). It also enables an analysis of the effects of actors' actions, decisions and negotiations i.e. individual shifts on other components of the system e.g. social structures, and an understanding of the uptake or resistance to change in the adaptation process (Pelling 2011) that could disrupt the power relations as canvassed in transformative adaptation (Few et al. 2017; Pelling 2011). However, shifts in individual values and capabilities or critical consciousness is a critical component for a shift in social structures of power and therefore important for adaptation that is transformative (Bahadur and Tanner 2014:

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O'Brien 2012; Pelling, 2011). Furthermore, because shifts in individual values act as catalyst for tipping points and for weakening hysteresis in public attitude towards a problem, it shape societal response to environmental problems (Scheffer et al. 2003) expressed through the social contract. In addition, because individual variation and social pressure influence shifts in individual values, it is power imbued. Social pressure could result in collaborative action, mobilise people for change, and foster change in an individual's value and attitude (Scheffer et al. 2003), thus, social pressure exerts 'power with', a form of power in the power cube that refers to synergistic relationships through collective action and alliance (Gaventa 2006). Influenced by the seriousness/complexity of the problems and effectiveness of pushing for regulation, individual variation indicates agency and aligns with 'power within' and 'power to' in the power cube. However, leaders that are able to precipitate opinion shift and mobilise people for change can facilitate shifts in individual values (Kates et al. 2012; Scheffer et al. 2003) and enhance 'power within' and 'power to'. An indication of the criticality of leadership. Consequently, social contract, critical conscientiousness and leadership resonate in the literature as underlying transformational adaptation (Pelling et al. 2015; Adger et al. 2013; Kates et al. 2012; O'Brien et ai.2009; Olsson et al. 2006). These components as further expounded in the next section provide the platform for addressing the questions of what and who transforms in the adaptation process and for analysisng the occurrence of change beyond climate change adpatation.

2.4 Analytical platform- Social contract, Critical Conscientiousness, and Leadership

Access to resources, a supportive context, and local leadership are important for initiating and sustaining transformational adaptation (Kates et al. 2012). However, a supportive context and access to resources are contingent on the social contract that embodies entitlements and obligations and defines the spaces of inclusion (O'Brien et al 2009). Two issues are dominant in the multiple conceptualisation on social contract, first is an awareness of involvement in an association and its terms through a pact. Second is the embodiment of tension between individual and collective freedom in associations, usually between citizens and sovereign states. However, Blackburn and Pelling (2018) argue that such positioning limits the ability of the concept to capture the diversity and multiple sites of interdependent relationships that embody association. This is because an assumption of a single hold and unidirectional flow of authority in such positioning ignorse other asymmetric power relations like non-state actors and sub-social level relationships like family, community etc. that are governance players. Besides, situating social contract as solely between government and the citizens promotes a focus on the shape rather than the mechanism of production of social contract i.e. its resistance, rejection, reproduction and evolution. This veils an understanding of the juncture of crises of state legitimacy and the utilisation of the moment by actors (political and social) for socio- institutional change important in the development/adaptation nexus for transformation. In view of which they propose the concept as 'social contracts' to engage with the multiple sites of its component relationships, to make visible its analytical prowess, and to politicise adaptation by problematizing development issues of empowerment, risk perceptions, leverage, representation and people's agency. Blackburn and Pelling (2018) defined "social contracts as fluid, multiple, and fundamentally political constructs, that are shaped concurrently by the expectations and aspirations of the citizenry, the degree and means of fulfilment of those expectations, and the conditions for the legitimacy of formal security provisions."(p.6).

Consequent on this definition, Blackburn and Pelling propose three analytical lens for social contracts for interrogating the political dimension of adaptation i.e. Legal-Institutional Social Contract (LSC), Imagined Social Contract (ISC), and Practical Social Contract (PSC). The LSC are products of constructed but entrenched values, culture, rights and social relations that shapes right and obligation distribution between actors in a context based on legally and constitutionally

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defined frameworks. The ISC, are subjective (perceptions, expectations or hoped) visions of the social order, underpinned by beliefs and values that facilitate a differentiation between individuals and groups within a society. The PSC are the prevailing realities of the distribution of rights and responsibilities claimed and performed between actors in everyday relations. It is underpinned by culture, value, beliefs and assumptions because it is a product of the interaction between the multiple ISC and LSC within a society. An analysis of the interactions between these contracts enables an understanding of the assignment of responsibilities and rights; illuminate on the evolving adaptation pathway as transitional or transformational and the evolved social contracts; and the ability of actors at different levels to promote local adaptation priorities. For instance, the ability of ISCs to describe perceived entitlements, boundaries of social acceptance and expectations, facilitates an understanding of the influence of risk in rationalising resistance and rights claim towards specific adaptive strategies. Equally, differences between LSC and ISCs can show the complacency of citizens emanating from invisibility of rights, political suppression/apathy or passive dependency that debilitate right claims (Blackburn and Pelling 2018). However, the expressed behavioural response i.e. complacency, activism or in-betweens are outcomes of the interaction between attributions, affective, and motivational processes (Gifford et al 2011) and these responses are dependent on people's evolution or mollification of critical conscientiousness.

Pelling (2011) describes critical conscientiousness as an alteration of consciousness. It is a critical factor in response to change and for the initiation of action towards environmental change (Pelling et al. 2015; Scheffer et al. 2003). Critical conscientiousness is contingent on shift in value at the individual level (Pelling, 2011) but fostered at the community level through information sharing and education (Bahadur and Tanner 2014). However, it differs between individuals because of differences in values, worldview, and socio-cultural contexts. Values are dynamic and argued to influence policy acceptance, personal norms and intentions (Steg et al. 2011; Stern et al. 1999) and to influence attributions for causality and responsibilities that informs people's threat appraisal and motivational response (Gifford et al, 2011; Stern et al. 1999). Hedlund-de-Witt (2014) argues the profound effect of worldview on attributions and assignment of responsibility, since values belie worldviews and can be reprioritised, a shift in worldview indicates a reprioritisation of values that occurs in relation to the stages in Maslow's hierarchy of need (O'Brien 2009). Furthermore, because value change depend on psychological needs and societal demand, individual shifts in value differs because of the differences in defining, tolerating and accepting risk (Dow et al. 2013). This observed differences result from an appraisal of individual capabilities and constraints (Gifford et al 2011); akin to the concept of 'power to' and 'power within' in the power cube (Gaventa 2006). These are related because power within shapes self-awareness, identity, and confidence, and 'power to', an individual's capacity to act, is the necessary precondition for value change (Brock et al. 2001).

Brock et al (2001) describe power within as invisible power and most insidious among the three dimensions of power (i.e. power to, power within and power with) because it defines psychological and ideological boundaries that shape participation and determine the acceptance or rejection of existing social and political situations. Furthermore, power within define the boundaries of inclusion and exclusion that result in social differentiation because socialisation, ideology, and culture determine risk acceptance as normal and safe within a context (Brock et al 2001). An indication of a vital linkage between power and social differentiation captured in social theory as subjectivity that links the process in individuals' lives to the societal process in their context. This linkage or relationship is expressed in the resistance or internalisation of dominant discourses, societal disciplinary practices and cultural code (Eriksen et al. 2015). Supporting the assertion that cultural traditions imprint on and interact with change or shift in value

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((Hedlund-de-Witt 2014). Similarly, because socialisation, ideology, and culture define the rules of engagement, responsibility, and expectations between the individual and the collective, they underpin social contracts. Hence, congruency between prioritises personal value and social values legitimizes social contracts at different level of association, i.e. an alignment of LSC, ISC and PSC (Blackburn and Pelling 2018), and facilitates support by individuals for associations or movement with similar prioritised values and threats (Steg et al 2011; Stern et al. 1999). However, where the values conflict, for instance, where there are difference in values between legal-institutional social contract and imagined social contract, it could facilitate self-conscientiousness to query existing societal structures and facilitate change. However, such mobilisation for change needs leaders that are able to precipitate opinions for change (Scheffer et al. 2003).

Leadership is argued as necessary for the occurrence of transformation in adaptation to climate change (Carmin et al. 2013; Kates et al. 2012). In particular, local leadership and shadow networks are significant for the initiation and sustenance of transformational adaptation (Kates et al. 2012; Olsson, et al. 2006). Although, in the adaptation literature, leadership roles are often presented as positive, a negative effect of mollifying the transformation process is possible and the ability to mollify or foster transformational change is dependent on leadership vision as shown by Olsson et al. (2006). Transformational leadership has been shown to aid opinion shift towards change by mobilising and crystallizing shadow networks (Scheffer et al. 2003) through 'tipping point leaders' who are able to transverse cognitive, political, resources, motivational and social barriers that prevents change (Kim and Mauborgne, 2003). These 'tipping point leaders' or 'champions' are argued to appear during crisis, and to foster changes in institutional arrangements, norms and priorities through shadow networks (Leck and Roberts, 2015; Pelling et al. 2015; Pelling et al. 2008; Olsson et al. 2006). These leaders foster hysteresis[1] weakening, which bridges the gap between problem and solution (Scheffer et al. 2003). Moreover, as Olsson et al. (2006) argue alternative means for socio-ecological management could lie within shadow networks and they can occur in both formal and informal spaces. Dodman and Satterthwaite (2008) explain that the usefulness of such networks, e.g. community based organisations, as channels for information transfer between governments, could assist with the implementation of adaptation and relief actions during extreme events. Through these activities, leaders within shadow networks could facilitate the examination of PSC, inspire self-conscientiousness i.e. people's shifts in value at institutional, community, and individual levels, for an alignment between LSC and ISC or mollify changes through values prioritised. This reiterates the position that changes in the environment affects rules of engagement, responsibility and expectation of actors (Adger et al, 2013a). The ability of leaders to entrench values or promote value shift and influence adaptation outcome is attributable to social learning and creative thinking on solutions to emerging problems (Pelling et al. 2008), depending on extent of freedom from the scrutiny of formal agencies (Olsson et al. 2006) and social structures like cultural codes. Hence, the effects of broader socio-economic and political structures mediate leader and leadership in a given context (Leck and Roberts 2015). In the development/adaptation nexus, the conceptual interaction between the three adaptation components of social contract, critical conscientiousness and leadership provides a viable platform for utilising transformation as an analytical tool in the adaptation process and as a means for challenging unequal power relations (Feola 2015; Godfrey-Wood and Naess 2015). Through these components, societal change, and what, how and who transforms in the adaptation process is made visible (Fazey et al. 2018). First, a brief description of the context of the adaptation analysis is given.

[1] Tendency to remain passive in spite of environmental changes (Scheffer et al. 2003)

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III. RESEARCH CONTEXT AND DATA COLLECTION METHOD

3.1 Context

Lagos, a coastal city-state located in the southwest region of Nigeria is its commercial and economic hub vulnerable to storms, surges and flooding (UNIDO 2010; Mehrotra et al. 2009). Fostered by the conjecture of rapid urbanisation, economic positioning and close proximity to water bodies, and wetlands that make up 40% of the state (Ogunleye and Alo 2011), the vulnerability of Lagos to flooding events is further heightened by its infrastructural deficit (Ajibade and McBean 2014). For instance, of its huge population of about 24.7 million inhabitants in the metropolis (Olorunnimbe et al. 2022), a greater proportion live in places deemed informal and lacking in basic infrastructure (Olajide et al. 2018). Many of these areas are mostly swamps and silts in tidewaters vulnerable to storms and sea level rise (Adelekan 2010; Kelly and Adger 2000). This characterisation describes Owode-Ajegunle and Iwaya, the sites of the research that are domicile under Kosofe and Lagos Mainland local government areas (LGA) at the national level and Yaba and Agboyi-Ketu local council development authority (LCDA) respectively. Iwaya is a swamp within the city in close proximity with the Lagos lagoon, while Owode-Ajegunle is a wetland, located on the fringe of the city along the discharge channel of River Ogun into the Lagoon. However, the lack of basic infrastructure and close proximity to water bodies expose the mostly low-income residents of the communities to the tidal effects of the lagoon and risks of extreme water levels. They thus provide a viable context for examining the adaptation activities and analysing the psychological dimension that shape the adaptation processes and outcomes.

IV. DATA COLLECTION METHODS AND ANALYSIS

The research was qualitatively driven and utilised various qualitative data collection tools of semi-structured interviews with elites/key informants and individual/households, focus groups discussions, and review of documents. The review of documents in the public and private domains served the multiple purposes of context, evidence and comparison with on-ground reality. Semi-structured interviews gave insight into social reality and everyday experiences of flooding from the perspective of the people involved. The interview with key-informants/elites at the bureaucratic and community levels totalled twenty-seven (27) and their influence and role in policy and the community respectively informed selection. At the community and household levels, interviews conducted totalled thirty–seven (37) with significant attention to residents of more vulnerable areas. The eleven (11) focus group discussions conducted include discussions with community leaders, women, children, the elderly, and mixed groups in both communities. The discussion with different groups provided a collective response and co-creation of meaning that aided triangulation with other methods and facilitated a deeper insight on adaptation to flooding. Collected data were transcribed, reflexively read, triangulated and first manually coded. The ascribed codes were subsequently validated using a computer assisted analytical software, Nvivo, to identify themes, structural meanings and explanations relevant to the research interest, theory and the literature. The next section gives an analysis of the findings relevant to the objective of the paper.

V. FINDINGS AND DISCUSSION

5.1 Analysing the adaptation process- the what, who and how of transformation

The analytical platform of social contract, critical conscientiousness and leadership are used to examine the influence of values, worldview and culture on psychological processes of sense-making, attributions for causality, assignment of responsibility, appraisals of impacts, and motivational processes that inform responses to and effectiveness of adaptation activities and the outcome of adaptation. In using these components, the paper first give a discussion on the components in relation to the context before highlighting the influence of values, worldview

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and culture on the psychological process and implication on the outcome.

5.2 Social contract

The promotion of social rights, reciprocity and facilitation of citizen's capacity are the ethos of social pact, which in a society is contingent on engendered trust and trustworthiness between the states, state actors and citizens (Levi 1998). Expectation i.e. an act reliant on trust that expresses believe or faith in an action or intention underpins social pact (Möllering 2001). A social contract is favourable when expectation is met, when unmet, trust is destroyed and the social contract is undermined (Levi 1998). In relation to risk, expectations are among the web of conditions in which lived experiences of risk occur (Hewitt 2013), i.e. expectations, whether favourable or unfavourable, shape people's experience of risk. In Iwaya and Owode-Ajegunle communities, the people indicated a lack of trust in the state and state actors, and highlighted a breach of contract through unmet expectations of reciprocity, promise, and recognition that exacerbate their vulnerability to flooding events. Reciprocity, a key tenet of social contract, is a mutual and contingent consent by different parties to play the game by the rule and depends on the moral and social ethics of entitlements and citizenship (Sparke 2004). Hence, when the stability and support provided by the state and state actors is absent or limited, trust and social contract is undermined, and reciprocal citizenship is circumscribed (Ellis 2006). Breaches in social contract on reciprocity manifested on two fronts, first in terms of their financial obligations and secondly, in terms of their political obligation, through which there were expectations of reciprocal development of infrastructures, critical for building resilience to climate extremes (Yengoh et al. 2016; Satterthwaite 2013). The statement of Mary, a resident of Owode-Ajegunle is typical.

The land use charge is every year, despite my being a widow, I pay it every year, what is the benefit of paying land use when we are paying tenement rate we expect that they will use same to develop our neighbourhood, but what did they do? [Mary, Owode-Ajegunle]

Mary's statement highlights issues of 'contingent consent' on the part of the citizen that is being eroded by a lack of 'credible commitment' from state actors, which undermined trust, necessary for credible governance (Levi, 1998). The second basis for expectation of reciprocity emanates from the people's participation in voting and a perception of insensitivity and exploitative relations on the part of the state actors, exemplified in the narrative of Anjola, a Chief of Owode-Ajegunle and Debo, an Iwaya resident.

Everybody is sitting down in his office taking air-condition, it (flooding) does not concern them, when it is time for election now they will start coming and say vote for me. Take your permanent voters card, it is after the elections are over, they enter, finish until another four or five years...[Anjola, Owode-Ajegunle]

Yes, once they are elected and are sworn in that is the end, we will no longer hear from them. When you go to the council to see the chairman, you will be told to fill forms to see him. You might even be there for hours and still end up not seeing him because they will keep telling you he is busy, he is busy, but when he came, he said he would do this and do that before being elected [Debo, Iwaya]

A perception of exploitation, insensitivity and lack of concern displayed in these statements recurred in the discussions of many residents in the two communities, as were the issues of unfulfilled promises, gated access and distancing. While 'gated-access' and 'distancing' were prominent in the discussions of participants from Iwaya, distancing rather than 'gated access' was more of an issue for Owode-Ajegunle residents. The inability and limited access to state actors hampered an effective communication of flooding problems to the state actors and hindered the people's capacity to negotiate, a key tenet of citizen's capacity (Ellis 2006). A sense of exclusion resulted from the distancing circumscribed the people's social rights and positions their existence as subjects rather than citizens (Rebotier 2012). Furthermore, unmet

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expectation of recognition recurred in the people's narrative in both communities. The people complained of state actors' lack of recognition, a key component of association as member of a society (Fraser 2001; Ribot 2007), which excludes them from accessing infrastructure, and when provided, excludes them from project planning and implementation. The extract below of the group discussion with community development association (CDA) chairpersons at Iwaya is indicative.

Cornelius: in addition, and in line with what he has said, I am sick and tired of the governance system, before becoming a CDA chairman, I had no experience with governance and often believe that the people were the problem, but now I know better. Take for instance where we are now, as big as it is, when they want to bring in their contractor no one will be informed or aware, you will just wake up to find someone in the community doing something.

Facilitator: Are you saying that they do not consult with the people on projects assigned for their community?

Cornelius: Nothing, nothing

Anthony: Except we challenge the contractor.

Biyi: You will just wake up one morning to find something happening within your community.

Cornelius: They do not regard us or take us to be anything, if you want to execute a project within a community that is inhabited by people you need to inform the community and let us be involved so that you will execute the project to our taste. When carrying out such projects, they connect with neither the CDC nor the CDA so that people will be aware.

Biyi: They will not even involve the Baales (traditional chiefs) within the community; it is only when the Baales challenge the contractor about their presence in the community that explanations are now offered.

Cornelius: This is the reason why most of their projects have a short life span.

[Focus Group Discussion with CDA Chairmen, Iwaya]

As with Iwaya, residents of Owode-Ajegunle indicated that the government's refusal to listen to their advice exacerbated their flooding experience. They claimed that a lack of recognition and exclusion resulted in the poor management of the Oyan dam on the river Ogun, which aided flooding experiences in the community. The perception of a lack of recognition aiding the people's exclusion has implication for the people's participation parity and citizenship status (Fraser 2001). A hindered participation parity debilitates the people's 'citizen capacity' through an estrangement from political negotiations and truncated reciprocal citizenship, thus the perception of a breach in social contract by the people emanates from a gap between the ISC and PSC. Underlying the people's ISC is a traditional worldview that emphasises values of security, social order, and where actors paly by the rule of the game, a dissonance with which aided an attribution of the responsibility for a hampered adaptive capacity on the state actors. In the context of adaptation, the people exhibited a prioritisation of adaptation strategy that emphasises the need for belonging, identity and the acknowledgement of local knowledge (O'Brien 2009). However, the people's worldview differed significantly from state actor's modernist worldview; typified by the explanation of a Lagos State policy maker that:

Let me say one thing, like I said, without serious encroachment on some of these channels, Lagos has no problem with flooding,...people are just building without any control, without any institutional approval, without permit, ...these things just go on and you have the concrete jungle that we are having. Not only is it affecting flood control, or flood management, it's affecting our transportation system, traffic system, everything, economic activities, so it's an issue and as a matter of fact, if we really have to limit them, we need to have to be looking at the way of planning of Lagos [*Rasaq, State Policy Maker*].

Encased in this statement is a modernist worldview that primes values associated with city

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development and aesthetics, and economic growth. Such tropes endure in policies and publications as shown below in the publication on the seventy-two hours demolition notice issued by the Lagos state government to neighbouring settlement to Iwaya.

The state government noted that the shanties violated the designs of its megacity project and that the residents have continued to….develop these unwholesome structures… without authority, thereby constituting environmental nuisance, security risks and impediments to the economic/gainful utilisation of the waterfront… The Governor noted that pilling sawdust in the lagoon, discharging waste in it and blocking the discharge points for storm water had contributed to the flooding in places like Bariga, Shomolu, Ebute-Metta, Ogudu, Owode-Ajegunle and Ikorodu. Therefore, the demolition of the houses and cleaning up of the lagoon would allow the free flow of the water during heavy downpour. [Thistle Praxis Consulting 2012].

In these statements based on a modernist worldview that sees the communities as problematic to the values of city modernisation and economic growth, encroachment provides a causal explanation for the vulnerability of the communities to flooding and reposes responsibility on the people (Fayombo 2021). In the climate change/development nexus, specifically, in the context of southern urbanism and adaptation, a worldview that sees urbanization and informality as intrinsically linked and problematic permeates (McGranahan et al. 2016; Satterthwaite 2016). An ontological positioning and assumptions on urban informal residents as rural migrants and encroachers that places informal areas in a logos worldview[2] (Wisner 1998) operationalises this worldview. It also aids attribution for causality and reposition of responsibilities, for climate change and for development challenges. The epistemic understanding of the issue hinges on this constructed reality because of the linkage between the validation of our source of knowledge and our construction of reality (Buehl and Alexander 2001). Furthermore, the ethical/aesthetic evaluative belief that aids societal judgement on responsibility reflects the axiological aspects. The primary aspects that attribute responsibility for hazard experience and development challenges on informal areas reinforce and influence the secondary aspects. The anthropological aspect centred on the people's role reiterates the ontological positioning of informal areas and aids a societal vision of a closed city that views non-conformity as a challenge to the set order (Sennett 2018). The consequence of which is the reinforcement of growth regimentation and a support for incremental adaptation. Besides, constructions on residents as encroachers emanating from assumptions on residents as rural migrants raises questions on their statues as city citizens and their ability to be as par with others in the society (Fayombo 2021). This is because perception of responsibility and attribution for causality ascribed to vulnerability to climate change impacts has implication for the social contract in a given context (Adger et al. 2013), and judgment on responsibility influences political attitudes, decisions and actions (Sahar 2014; Weiner et al. 2011). Hence, the characterisation of the people as encroachers affects motivation for action because it provides a moral evaluation of responsibility on deservedness (i.e. the judgement to assist or punish) (Weiner et al. 2011), which underlines victim blaming as enabling attributional justification/legitimisation and acceptance of existing social structures (Weiner et al. 2011). As with the worldview on adaptation as persistence, frames of encroachment facilitate policy responses of technical enforcement and coping as the national policy guideline on flooding indicates, *"Urban growth including drainages shall be enforced"* (*FME 2005, p. 28)*. Similarly, a Lagos state document on flood management indicates *"pre-rain maintenance dredging of primary channels… and (II) mid-rain maintenance of secondary collector drains as well as tertiary/road drains" (LASG-MoE 2012, p. 133)* as strategies to manage flooding. This sets the political attitudes, decisions and actions on damage limitation and incremental adjustment focused on drainage clearance and urban

[2] An order in which humans play a distinctive role, in the evolution and effects.

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development control in conformity with the findings of others on actions used by the government to addresss flooding (Nkwunonwo et al. 2015; Soneye 2014). Undertaken occasionally are transitional activities of humanitarian support, typified below by the statement of the head of a government agency

...when the flood disaster occurred, '...' we camp them, in a camp, at Agbowa relief camp ...we try to cushion the effect both physically, psychologically and socially. These are the things that we put in place. (*Head, Government Agency*)

Similar to the observation of Oshodi (2013), the statement highlights a welfare stance of provision of safety net, indicating inclusion. However, such inclusion limits a focus on the structural factors and weakens a focus on the assumptions, values and worldviews underpinnings of risk generation, and exclusion (O'Brien 2012), aiding a maintenance of the status quo in resources distribution. Besides, inclusion could become 'immunological' by aiding patterns that enable people and the environment to absorb future increases in doses of inequality and environmental degradation (Kaika 2017). Hence, attention to the underpinning values and worldview highlight the difference in the attribution for causality and responsibility and motivation for action that informed the divergence in the perception on the social contract in the adaptation process. The findings reiterate the position that attribution for causality and responsibility, appraisal of impacts, and motivational processes inform decisions and adaptation activities undertaken by different actors to address climate change impacts (Swim et al. 2011). However, such dissonance in perception of social contract between actors could aid a crisis of legitimacy with the social contract, facilitate a shift in value among marginalised groups, and aid the development of counter hegemonic accounts and social pressure towards transformation (O'Brien et al. 2009). This underlines the role of social contract in the development of critical conscientiousness, a significant factor in response to change and for the initiation of action (Pelling et al. 2015; Scheffer et al. 2003).

5.3 Critical Conscientiousness

Critical conscientiousness results from the ability to develop self-authoring minds based on reflections on prior assumptions that influence views on structure and social relations and define actions (Pelling 2011). Self-authoring minds emanate from the transformation of ideological beliefs and the rejection of prescribed identities or reinforcement of projected identities (Pelling et al. 2015). In facilitating a shift in consciousness, both communities utilise such simultaneous identity rejection and reinforcement to challenge the adaptation process. In both communities at the individual and household level, people mobilised powerful symbols that rest on cultural and historical key sites of social values and meanings, for instance, the use of autochthony to claim spaces and to reassert self. Notably, autochthony, a claim of belonging is a principal trope for asserting citizenship in Nigeria because of the prominence of indigeneity and ties to specific groups and locations and a decimated national identity (Adebanwi 2009; Kraxberger 2005).

Autochthony was utilised in two ways; to reject ascribed identities as 'encroachers', and positioning as outsiders. First, some assert they are 'sons of the soil', while others claimed they are the first settlers in the area. Although tropes of autochthony in the face of uncertainty could offer a sense of primal security and certainty (Dunn 2009), a lack of substance within formal rights and recognition in citizenship discourse makes such offers unstable and transient (Dunn 2009; Geschiere and Jackson 2006). The use of autochthony tropes project a traditional worldview with intersecting values of security, social order and identity through which the people developed their interpretive frames and attributed causality that shaped action. Attribution as a causal explanation for a behaviour or event facilitates overcoming the challenges of environmental changes (Harvey and Martinko 2009) depending on the conception of the frustration as justified or unjustified (Dill and Anderson 1995), and can possibly affect reactions to a thwarting of goals/frustration resulting in restraining or instigating processes (Berkowitz 1998). In this context, for Iwaya community,

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residents linked flooding events to 'natural' ocean surges, hence, accepted it as a tolerable risk with the resulting frustration considered justified. The situation differed for Owode-Ajegunle community, where based on values of social justice flooding was attributed to the conspiracy between nature i.e. River Ogun and the poor management of the Oyan dam, resulting in a consideration of the frustration as unjustified. The different worldviews that informed the appraisal and interpretative frames determine the choice of an intra-psychic strategy of stress reduction as observed for Iwaya or a collective action toward activism to alter condition that aided vulnerability to flooding, displayed in the establishment of the Lagos Wetland Community Stakeholder's Forum (LWCSF) at Owode-Ajegunle. However, despite the interpretative frame of a natural phenomenon and justified frustration, residents of Ago-Egun and Isale-Iwaya areas of Iwaya community were instigated to act after state actors shot one of the local chiefs dead during a move to evict the community, reiterating that even in situations of perceived justified frustration overt aggression is possible (Dill and Anderson 1995).

Tolerable limits in flooding experience provided the tipping points for reflecting on the dissonance in the perception of social contract arising from the difference in the values and worldviews of actors at the state and community levels. It enabled engagements with the spaces of citizenship through formal and informal politics that define the formal limits and informal practices of citizenship as it exists in law or in practice i.e. *de jure* or *de facto* (Painter and Jeffery 2009). These forms of citizenship are dependent on people's entitlements to civil, political and social right regardless of identity and interest (Ribot et al. 2008), they are social and political objects through which struggles are pursued (Painter and Jeffery 2009). In this context, flooding and modernisation induced threats of eviction became the means to shape the polity and adaptation pattern through shifts in existing values. Achieved by challenging the dichotomy between *de-jure* citizenship i.e. through residency in the areas but positioned as outsider and de-facto citizenship i.e. recognised citizen, an insider that actively benefits from civil, political and social rights. Although the shifts in value resulted in activism for the two communities, the spaces of engagements i.e. invited or invented utilised in challenging the dichotomy differed for the two communities and resulted in different adaptation pathways. Invited spaces of engagement involve the use of official meetings, lobbying etc. to challenge the social barriers to entitlements, while invented spaces involve the use of insurgent actions (Cornwall 2002). However, underlying the engagements were shifts in values and reflective thoughts that aided motivation and social cohesion towards action to addressing impacts. In Owode-Ajegunle, the residents' narratives highlight a questioning of the prevailing social contract (PSC) against their expectations i.e. ISC and LSC, i.e. an alteration of consciousness that facilitated the mobilisation of action towards activism. Mary's statement above highlights such questioning; however, Jibola's narrative in the excerpt below captures the extent to which this serves as a means of political struggle.

Jibola: ...the government comes in with the interest of picking income, revenue, we have so many businesses, shops, all these artisans here and there, but when government comes in here, their primary interest is income generation that is to charge them for various licence, permit for this, permit of that.

Interviewer: Who charges them?

Jibola: The local government, it starts from the local government, all the schools the local government comes in and gives permit, all the tailors, carpenter workshops, the local government comes in they want to take income, people believe it's the government's right, they hardly oppose. They [state actors] even use force to bulldoze them [residents] to collect this money, but we, we [people] expect the same government that comes and collects this money to now turn back and return some of the money collected as revenue back to the community no matter how low the percentages, but these do not happen. Government takes it back to the centre, from the local to the state to the federal; I do not know

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how they share their formula. Now the only thing we gain as taxpayers now is like if your child now has to go to a public school in that same community if there is one, then the state government, local government are in charge…So that is where you can say we have gotten a little bit back… The little bit that streams back to the community, people might not even know that it is part of the money we let out…we've been paying so much that so little come back to the community. We now have what they call the associations the Landlord Association, the CDAs those are the one that now agitate back to the council and say come and do our road for us, so once in a while, out of our 70-80 loaded options they can push in one or two. In the whole term of a chairman that is in the whole three years of a tenure, maybe he will do two streets, may be put two lampposts, maybe two small health care centre that might not even accommodate a fraction of the community. That's what we've been getting, but because thereis no state laws that binds the community and the government it is even hard to fight, and most pe ople don't even know what rights they have. That is still why we [LWCSF] have to come into existence to make things better because the government keeps taking their [residents] money and give nothing back. [Interview with Jibola, Owode-Ajegunle community leader].

As Jibola's narrative indicates, most residents of Owode-Ajegunle community's questioning of the prevailing social contract enabled a shift in their value. The unmet expectation of reciprocity for the provision of infrastructure that would facilitate adaptation to flooding event resulted in a critical evaluation and a shift in value. The bolded portion in the statement is indicative of a shift in values from conformity and obedience embedded in a traditional worldview to values of social justice and universalism embedded in a postmodernism worldview (Schwartz 1994). Hence, the conjecture of identity, the social contract, and unmet expectations through community cohesion facilitated a collective consciousness towards activism but differences in embedded values and worldviews resulted in differences in motivation and adaptive preferences between the two communities. In Owode-Ajegunle, based on values of social justice a 'heightened motivation of aggression' was used to access government institutions and relevant authorities to challenge the status-quo, to gain recognition, and to access entitlements that resulted in the formal granting of tenure rights to their space, published and gazetted in one of the national newspapers. Thus, through transformative activities, the adaptation process facilitated change in wider societal issues. However, for Iwaya, the lack of shift from traditional values of conformity and security, limited challenges to the social contract. Aided further by the attribution of flooding events to nature, putting the control of an undesirable situation beyond the community's reach (Teschl and Comim 2005). Furthermore, external barriers to success, e.g. gated access for Iwaya, promoted internal and frequently stable attribution for failure, while attribution to any success achieved is externalised (Harvey and Martinko 2009). A case in point is exhibited in accounts on the part provision and non-completion of infrastructure for Iwaya under a World Bank sponsored slum upgrade programme through a now defunct government agency Lagos Metropolitan Governance and Development Programme (LMGDP). The residents' accounts were corroborated in a handbook publication by the succeeding agency to LMGDP, Lagos State Urban Renewal Authority (LASURA 2013). The narrative of Akogun, an 80 years old community leader at Iwaya is exemplary .

"They [Government] often establish corporations or so to carry out this responsibility….It was the World Bank that assigned them [government] to do this job while the ministry was dealing with local something; those international bodies channel things through these corporations to get things done. For the last one it was LMGDP that was assigned with the works for Iwaya, perhaps here in Iwaya we are unfortunate, or I don't know how else to say it, all the school buildings that they were given to do for us, they did not do them well. … The structures are there for you to see if you care, you will see that they have been told to stop work, and in fact am doing a write

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up to the governor that is this the way we will be quite and keep looking. … It was through this project that boreholes were dug in the community, unfortunately of the seven boreholes that were sunk in Iwaya, I understand that only one is still working, some never took off at all because of the shoddy job that did. Finally, on record we were told that fifteen roads were assigned to be rehabilitated or constructed for Iwaya under the World Bank projects, unfortunately none of the roads were touched up to this moment as I speak. (Akogun, community Leader Iwaya).

The narrative echoes a perception among residents of Iwaya community as having 'poor fortune' or 'bad luck', a display of uncontrollability that hampers any initial motivation towards addressing the unsatisfactory problem of flooding. This mollified the 'power within' and 'power to' for the residents and limited the weakening of hysteresis in people's attitude to action and highlights individual variation as resulting from the level of effectiveness of pushing for regulation (Gaventa 2006). Furthermore, perception of uncontrollability creates a contradictory motivation that leads to a 'cognitive dissonance', an attempt to ease this results in doing away with any motivation to address the unsatisfactory situations, a 'resigned adaptation' where people's aspirations are lost and incentives to take action are lacking, which facilitate an acceptance of the status-quo (Teschl and Comim 2005, p.238). The diminished motivation suggests a state of 'learned helplessness', i.e. situation in which individuals come to believe in the futility of effort due to the inevitability of failure (Harvey and Martinko 2009). For Iwaya, issues as this, even when tipping points occurred limited the ability to challenge the status-quo and prevailing social contract, thus enabling adaptation as persistence. Furthermore, citizens aspirations and mollified 'power within' necessary for shifts in value can be (de)motivated through leadership as subsequently discussed.

5.4 Leadership

The finding of the research echoes the position that leadership is critical for initiating and sustaining a transformative adaptation process (Kates et al. 2012) and that the influence of leadership in the adaptation process may not necessarily be positive (Olsson et al. 2006). Leadership influence in both communities occurred informally, through sub-social levels of shadow networks and social and cultural institutions i.e. chiefs, and formally, through government instituted community structure like the community development associations (CDA). In Owode-Ajegunle, the 2010 flooding event provided a platform for the emergence of tipping point leaders or champions, who established and utilised the shadow network of LWCSF to effect changes to institutional arrangements, priorities and norms, as Jibola highlights in the excerpt below.

Interviewer: Are you saying it was flooding incidence that led to the development of the LWCSF?

BS: That is correct, the issue of flooding is what pulled us together here, we now realise we are going nowhere, in fact, if we leave the flood to take over, we cannot afford to take a land in Lekki, or take a land in Ibafo, so we better stay here and fight it here.[Interview with Jibola]

These leaders, using the LWCSF as a platform, inspired a shift in worldview at the community and institutional and community levels. At the community level, through a querying of the prevailing social contract (PSC), the leaders facilitated a change in the people's norm and culturally influenced values of conformity, obedience and humility that position the collection of levies as rights without reciprocal entitlements, to values that call for fairness and equity. The leaders facilitated a coalescing of individual and social shifts in worldview and overcame initial resistance and reluctance to activism based on this prevailing traditional worldview as highlighted in the excerpt of the discussion with Jibola, a community leader below.

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Interviewer: Okay for the faith based for instance, they help with health care as you said what about in relation to flooding.

Jibola: They don't because you see if it is community matter they will not do anything that has to do with government, their complaint can't be that people are dying, no, that is where we come in, it is us [LWCSF] that will now mobilise the faith based the ethnic based, the sector based to fuse them together.

Interviewer: What is their response?

Jibola: Well, we are just starting. It has been a slow coming that is why we put education to work, because our model is not local and we model ourselves as if we are international. We told other groups outside this community to be involve the way we want it to be, so we have to enlighten them make them aware of what we can do, the power we hold, we have to let them know and that is why it has been slow. The first two years they did not even want to hear about us, not to accept we even exist but now they see us as a saviour and a messiah to the community.

The activities of the network highlighted in the discussion gives credence to the explanation that tipping point leaders are able to transvers cognitive, resource, motivational and political barriers that prevent change (Kim and Mauborgne 2003). The weakening of hysteresis and bridging the gap between problem and solution was fostered through trust and confidence in the leadership as highlighted by a resident Teniola.

"...if they can give the stakeholders a chance our leaders even two of them so that the people who know about this area very well, especially our chairman [name]. He is very good, we trust him very well and other leaders, if the government can join him and these people, they want to use for this area, so that we will monitor what they [government] are doing, we will know maybe they are doing the right thing for us." (Teniola-Owode-Ajegunle)

Beyond trust at the community level, at the institutional level, the leaders used the 2010 flooding and the events emanating from it (e.g. school relocation from the community) as tipping point to open room for positive change. The leaders reclaimed rights through a contestation of the attribution for causality that emanates from the worldview of the state actors as shown in the account of Olamosu, a 73-year-old leader of the LWCSF, during a meeting with state actors at the state secretariat on the proposed eviction of the community after the 2011 floods.

We went to Ikeja to meet the governor to discuss our issue but on that day of our meeting the governor was not around, but he delegated his commissioner and secretary to discuss the issue. So that day we told them that we cannot relocate, they should leave us, instead of relocation they should come and assist us so they started asking questions from individuals. I now raised up my hand, I said I want to talk. They said Baba what do you want to say, I said well Fashola [the governor] may be telling us to relocate now, but he is not saying the right thing because I referred to the history of this area, say the early 60s, when this place was swamp. There were four tributaries that lead to the Lagoon, I told those commissioners, but you people, you blocked it at Ikeja, you blocked it and you have now forced the source from four to only two, and that is why we are having too much water in this Ajegunle. [Olamosu Owode-Ajegunle].

The narrative underlines the fact that environmental changes affects rules of engagement, and indicate the use of invited spaces of engagement i.e. meetings to contest the existing values and worldview of state actors that shaped the social contract. Furthermore, the activities of the leaders show that disasters and shocks can open political spaces through power contestation or constrict political spaces through power concentration for the redistribution of rights in the social contract (Pelling and Dill 2010). For Iwaya, although there was similar activities of contestation of the social contract by local leader as Adesanmi, a former CDA Chairman explains.

Speaking about Iwaya, a lot of times we hold meetings with officials from the local, state and federal governments, however, despite all these

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meetings where we intimate them about the challenges in the community and which they often promise to address are never addressed till they leave office. [Adesanmi Iwaya].

However, the ineffectiveness of the use of the invited spaces resulted in the use of invented spaces of insurgency through a protest march to the seat of the state government secretariat to assert and reclaim their citizen rights. Although, the use of insurgent citizenship, "a concept of citizenship that involves claiming rights through direct action, where the divide between legal and illegal is put off and replaced with the discourse of social justice and human rights" (Painter and Jeffery 2009, p.86) gave temporary respite by stalling the planned eviction. The status-quo remained for the community in terms of access to land and the social contract on risk management due to a resigned adaptation, enhanced further by the influence of leadership structure, and the cultural values of the leadership. The leadership structure for addressing flooding and other developmental issue in Iwaya are government instituted i.e. the community development association (CDA). Although, other community development committee exist, they seem to be limited in pushing for transformative change because of the reliance on the leadership of the CDAs as shown below in the quote from Mesawa, a traditional ruler at Iwaya.

Secondly, on the issue, if not that we have a society such that when the flood happens we discuss, that is our CDA chairman over there, and others are around as well. When the flood happens we sensitise our people, the people themselves cry out to us as their leaders and we in turn inquire form our CDA chairmen about what the government is doing in respect of the problem. We talk and talk but we do not see anybody… [Mesawa, community Chief, Iwaya]

The quote shows the reliance of the local community leaders on the CDAs that are regarded in the governance structure of the country as the fourth level of government because they are an appendage of the local government. An indication of a lack of freedom from the scrutiny of formal agencies that limit the ability of the leaderships of the CDAs to think creatively as proposed by Olsson et al. (2006) with implication for sense making. An awareness of which perhaps facilitated the support for the shadow network in Owode-Ajegunle, highlighted below in the quote of Kareem, a traditional ruler at Owode-Ajegunle.

Well, we have the CDAs, the CDAs on the one hand work with political parties, there is a limit to the offices they can enter they can hardly go beyond the local government to Alausa. It is the Lagos Wetlands Stakeholders that takes our case to the federal level.

The awareness exhibited through this quote highlights the difference and change in values between the leaders in Owode-Ajegunle and Iwaya, and the influence on sense making. Owode-Ajegunle was able to move beyond the conservative and cultural values of conformity and obedience to values of equity and social justice through leadership, while the reinforcement of cultural values and traditional worldview of leaders in Iwaya appears to mollify transformative change and positioned the adaptation activity mostly as persistence. Such mollification is exemplified in the statement of Akogun on seeking redress with the World Bank on the circumscribed infrastructure provision by the LMGDP. He said.

It is never done, we do not do that as I discussed with him [another leader], this is a country and we are within the country there are areas of cooperation, we do not wash our dirty linens in public, rightly or wrongly. Even if you get information from the LMGDP, it is not for you to release this information to the World Bank. To me it counts as a form of espionage… [Akogun, community leader]

Exhibited here is the influence of cultural norms and expectations on sense making, based on a worldview of conservation and societal disciplinary practices that define what is normal and acceptable in a context. It highlights influence of subjectivities that manifest in the internalisation of cultural codes, which weakens societal pressure and promotes hysteresis towards environmental problems. It reiterates the position

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that leadership influence in the adaptation process may not necessarily be positive (Olsson et al. 2006). Furthermore, based on a conservative worldview, the insurgent activism undertaken to protest government eviction, was ethnocentric, involving fisher folks with specific identity rather than the entire community. The key issue highlighted here is that while environmental changes can open up political spaces for challenging the rules of engagement, responsibilities and expectations of actors the ability to contest or concentrate power is aided by the values and worldviews of the leaders at multiple levels. Indicating the criticality of the values and worldview of leaders in defining the social contracts and inspiring critical conscientiousness necessary for enabling transformative activities and facilitating a transformational adaptation agenda.

VI. CONCLUSION

This paper discussed the influence of values, worldview and culture on the psychological issues of attribution for causality, assignment of responsibility and sense making in aiding a transformational adaptation process. It explored this influence through social contract, critical conscientiousness and leadership, indicated as critical for transformational adaptation. The paper highlights the influence of the modernist worldview of state actors in assigning responsibility for risk and hazards to both communities, which shaped the activities in the prevailing social contract and constricted spaces of engagements. The constricted engagement impeded the 'power with' necessary for a synergistic relation for adapting to flooding and other climate change issues. Furthermore, based on the modernist worldview, adaptation activities were positioned in the approach of disaster risk reduction that sets the adaptation pattern as mostly persistence but sometimes-transitional adaptation pattern as was the case with Iwaya.

The conservative values of conformity, acceptance of situation, obedience and social order aided the naturalisation of flooding events and its risk as tolerable, which limited the ability to develop critical conscientiousness to challenge the social contract. The values and worldview of the leaders further enhanced this limitation through a priming of conformity and upholding the social order that facilitated an acceptance of the status-quo and situated the adaptation pattern as maintaining stability. However, residents of Owode-Ajegunle were able to, through tipping point leaders, utilise the platform of flooding to develop a shadow network, the LWCSF. The leadership of the LWCSF, facilitated sensemaking through value shifts, and a change to the worldview from a traditional to a postmodern worldview that aided a review of the attribution for causality, and responsibility. The raised self and community consciousness was coalesced by the leadership, who through invited spaces of engagement queried the worldview of the state actors and reversed the attributions and reposition of responsibilities from the people to the state actors. These transformative activities enabled the adaptation activity to bring about transformation in broader aspects of development beyond climate change by transforming the land ownership status in the social contract. Hence, in terms of who is transformed, the affected residents of the community and state actors had shifts in worldviews. The changes to social relations and social contract that facilitate adaptation indicate what is transformed, the critical reflection on existing situation and contestation of the social contract facilitated by tipping points leaders exhibit how transformation occurred. This indicates that the cultural norms, values and worldview of leaders influence sense making, and facilitate a shift in the attributions and assignment of responsibilities that shape adaptation outcome. A knowledge of these issues underlines the position that adaptation outcomes are not predetermined biophysical issues but are political struggles dependent on individual, collective actions, leaders and institutions (O'Brien et al. 2009). However, these are underpinned by values, worldview and culture within the context, reiterating the need for an overt acknowledge- ment and greater cognisance to the psychological dimensions of adaptation because they exert as much or even more influence as the objective factors in the

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assessment of climate change adaptation outcomes (O'Brien, 2009).

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Egoists: Their Future and Modern Role in the Life of Society

A.V. Makrushin

ABSTRACT

In order to increase the reliability of its existence and not be swept off the face of the Earth by the global environmental crisis that has begun, each society needs to unite. To unite means to stop the internal struggle of people among themselves for resources. The engine of this struggle is human egoism. It reduces the reliability of the existence of societies. Natural selection, the units of which society, leads to the elimination of those of them in which the proportion of egoists is greater than in others.

Keywords: human evolution, interdisciplinary approach.

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Egoists: Their Future and Modern Role in the Life of Society

Эгоисты: Их Будущее И Современная Роль В Жизни Общества

A.V. Makrushin

ANNOTATION

In order to increase the reliability of its existence and not be swept off the face of the Earth by the global environmental crisis that has begun, each society needs to unite. To unite means to stop the internal struggle of people among themselves for resources. The engine of this struggle is human egoism. It reduces the reliability of the existence of societies. Natural selection, the units of which society, leads to the elimination of those of them in which the proportion of egoists is greater than in others. This will lead in the distant geological future to the extinction of egoists.

Keywords: human evolution, interdisciplinary approach.

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АННОТАЦИЯ

Чтобы повысить надежность своего существования и не быть сметенными с лица Земли начавшимся глобальным экологическим кризисом, каждому обществу нужно сплотиться. Сплотиться – значит прекратить борьбу людей между собой за ресурсы. Двигатель этой борьбы – эгоизм человека. Он снижает надежность существования обществ. Естественный отбор, единицы которого общества, ведет к отсеву тех из них, в которых доля эгоистов больше, чем в других. Это приведет в далеком геологическом будущем к вымиранию эгоистов.

Ключевые слова: эволюция человека, междисциплинарный подход.

"В природе человека заложено много звериного». [3, с. 48].
«….в наследственной природе человека заложено нечто такое, что влечет его к справедливости, к подвигам, к самоотвержению»[2, с. 194].

Эукариотическая клетка, многоклеточный организм и сообщества муравьев и термитов эволюцию по пути укрепления надежности своего существования давно уже завершили. Это позволило им выдержать последствия глобальных экологических кризисов, происходивших во время прошедшей геологической истории. Существованию человечества грозит очередной глобальный экологический кризис. Эволюционирует ли оно по пути укрепления надежности своего существования? Обсуждению этого вопроса посвящена статья.

I. КАК УКРЕПИЛИ НАДЕЖНОСТЬ СВОЕГО СУЩЕСТВОВАНИЯ ЭУКАРИОТИЧЕСКАЯ КЛЕТКА, МНОГОКЛЕТОЧНЫЙ ОРГАНИЗМ И СООБЩЕСТВА МУРАВЬЕВ И ТЕРМИТОВ

Эукариотическая клетка, многоклеточный организм и сообщества муравьев и термитов заняли прочное положение в составе биосферы, став ее необходимой составной частью. Как они этого достигли? Rainey [5] дает ответ на вопрос, как этого достиг многоклеточный организм. Предки многоклеточного организма – одноклеточные организмы. Они друг с другом за ресурсы среды между собой внутри популяций боролись. Когда возник многоклеточный организм, то в самом начале его эволюции в

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его состав, по предположению Rainey, входили клетки, которые с клетками многоклеточного организма, частью которого они стали, за ресурсы среды бороться продолжали. Получая от многоклеточного организма необходимые им для существования ресурсы и пользуясь благами пребывания в его составе, они вели себя так, как будто они все еще свободно живущие особи популяции. Они боролись за ресурсы с другими клетками многоклеточного организма. Rainey назвал их клетками-обманщиками. Освободившись от них, многоклеточный организм резко укрепил надежность своего существования [5].

Предположение Rainey о существовании на ранних этапах эволюции многоклеточного организма элементов-обманщиков логически распространить на другие процветающие в наше время системы – на эукариотическую клетку и на сообщества муравьев и термитов. Предполагается, что эукариотическая клетка возникла путем объединения в единый организм разных живших по одиночке прокариотических клеток. Органеллы эукариотической клетки (митохондрии, реснички, фотосинтезирующие пластиды) первоначально были самостоятельными прокариотическими клетками [6]. Прокариотические клетки до объединения их в эукариотическую клетку внутри популяций друг с другом за ресурсы среды между собой боролись. Когда возникла эукариотическая клетка, то в самом начале ее эволюции в ее состав входили, вероятно, прокариотические клетки, которые с другими прокариотическими клетками, уже интегрировавшимися в состав эукариотической клетки, за ресурсы среды боролись. Они вели себя как будто они все еще свободно живущие особи популяции, а не элементы эукариотической клетки. Это были прокариотические клетки-обманщики.

Предки муравьев и термитов жили по одиночке и сообществ не создавали[1]. Внутри популяций они друг с другом за ресурсы среды между собой боролись. Когда возникли сообщества, то в самом начале их эволюции в их состав входили, вероятно, особи, которые с другими особями, уже в сообщество интегрировавшимися, за ресурсы среды бороться продолжали. Они вели себя как будто они все еще свободно живущие особи популяции. Это были особи-обманщики.

Элементы-обманщики названных систем добываемые ими ресурсы тратили только на себя в отличие от элементов, интегрированных в системы, которые их тратили и для пользы систем. Они размножались быстрее элементов, интегрировавшихся в систему. Естественный отбор, единицами которого были элементы, способствовал росту численности элементов-обманщиков. Это снижало надежность существования названных систем. Но работал естественный отбор, единицами которого были не элементы, а системы. Он отсеивал те из них, в которых элементов-обманщиков было больше, чем в других. Отбор, единицы которого системы, эффективнее отбора, единицы которого элементы, так как при нем одновременно отсеивается больше элементов, чем при отборе, единицы которого элементы. В результате отбора, единицы которого системы, доля элементов-обманщиков в системах снижалась, а потом они из систем исчезали совсем. Внутрисистемная борьба за ресурсы между элементами вследствие этого сперва ослаблялась, а затем прекращалась. Энергия, ранее затрачиваемая системами на борьбу внутри себя элементов, теперь могла быть использована для противодействия внешним угрозам и для приспособления к изменениям среды. Прекратив в себе борьбу элементов между собой за ресурсы, названные системы приобрели высокую надежность существования. Освобождение от элементов-обманщиков заняло время, измеряемое геологическими мерками. Завершилось оно в далеком геологическом прошлом. Глобальные экологические кризисы давно прошедших времен не стерли эти системы с лица Земли, а закалили их.

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II. КАК УКРЕПЛЯЕТ НАДЕЖНОСТЬ СВОЕГО СУЩЕСТВОВАНИЯ ЧЕЛОВЕЧЕСТВО

Человечество едино, но разделено на общества. Надежность его существования зависит от надежности существования обществ. Обсудим, как они эволюционируют. Жившие по одиночке на деревьях обезьяноподобные существа – наши далекие предки. Они между собой за ресурсы в популяциях боролись. Их переход к стадному образу жизни стал возможен благодаря возникновению у них инстинкта альтруизма. Но в состав стад этих существ наряду с альтруистами входили особи, сохранившие инстинкт эгоизма живших по одиночке предков. Эгоисты тратили добываемые ресурсы только на себя и с другими особями, уже в стадо интегрировавшимися, не делились, а боролись с ними за них. Вели себя они как будто они элементы не стада, а популяции по одиночке живущих особей. Это были особи-обманщики. Альтруисты же тратили ресурсы не только на себя, но и для пользы стада.

Благодаря такому поведению эгоисты оставляли больше потомства, чем альтруисты. Их доля в стаде росла, а доля альтруистов падала. Рост в стаде доли эгоистов снижал надежность его существования. Но включался естественный отбор, единицами которого были стада. Он отсеивал те стада, в которых эгоистов было больше, чем в других.

Отбор, единицы которого стада, эффективнее отбора, единицы которого особи, так как при отсеве стад сразу отсеивается большее число особей. Отбор, единицы которого стада, долю эгоистов в популяции снижал и надежность существования стад повышал.

Считается, что стада наших обезьяноподобных предков превратились в человеческие общества примерно 200 тыс. лет назад [7]. Это по геологическим меркам совсем недавно. Обществами я называю племена охотников-собирателей и государства Древнего мира, Античности, Средневековья и Современности.

В обществах борьба людей между собой за ресурсы продолжается. Она надежность существования обществ уменьшает. Двигатель этой борьбы – эгоизм. Он проявляется в жестокости, собственнических и хищнических устремлениях, в жадности, похотливости, лживости, агрессивности, демонстративности, навязчивости, проявлениях коварства и предательства, в стремлении к господству и к властолюбию [3]. Этот инстинкт унаследован, как сказано выше, от живших по одиночке на деревьях обезьяноподобных предков. Люди между собой сильно различаются по силе воздействия этого инстинкта на их поведение. Существует множество промежуточных состояний между людьми, у которых эгоизм почти полностью подавляет проявления альтруизма, и людьми, у которых проявления альтруизма почти полностью подавляет проявления эгоизма.

Люди, у которых только эгоизм руководит их поведением, – это люди-обманщики. Инстинкт эгоизма выживанию обществ вредит. Причина многих несчастий, происходивших с обществами, – нарушение нравственных принципов эгоистами [4].

Два разнонаправленных естественных отбора, шедшие в стадах наших обезьяноподобных предков, продолжаются и теперь. Только единицы естественного отбора теперь общества. Отбор, единицы которого общества, ведет к ослаблению у людей инстинкта эгоизма.Для его полного искоренения потребуется время, изменяемое геологическими мерками. О принципиальной возможности его полного искоренения свидетельствует полное его искоренение в сообществах общественных насекомых. Освобождение от эгоистов приведет к прекращению внутри обществ борьбы людей между собой за ресурсы. Сплоченные общества преодолеют последствия очередного глобального экологического кризиса и всех последующих за ним глобальных экологических кризисов, как их преодолели в ходе своей эволюции эукариотическая клетка, многоклеточные организмы и сообщества муравьев и термитов.

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New Ethical Challenges for the Educational One

Alejandro Ponce-Mariscal & Lenny Cecilia Mariscal-San Martin

ABSTRACT

The current, denominated time was Digital, like virtual space, in its double digitalization slope and digital manipulation, allows the emergence of a space informacional open to all that that has access and digital interfaces and it is characterized by the speed of the communications that there is transforming the social environment in which live, and until our interactuar form. The danger is not the digitalización in yes, but assuming as given the digital thing before diverse actions. It is recognized that the educational work, is an ethical act since it is exercised responsibly, to avoid damage to educandos and colleagues that he/she is carried out sometimes unconsciously, to be linked to the own development and ends. The objective of this work is to meditate around the relationship it was digital, and new ethical challenges for the educational one.

Keywords: it was digital, digitalización, ethical, new technologies of the information.

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New Ethical Challenges for the Educational One

Nuevos Desafíos Éticos 'Para el Docente

Alejandro Ponce-Mariscal[α] & Lenny Cecilia Mariscal-San Martin[σ]

ABSTRACT

The current, denominated time was Digital, like virtual space, in its double digitalization slope and digital manipulation, allows the emergence of a space informacional open to all that that has access and digital interfaces and it is characterized by the speed of the communications that there is transforming the social environment in which live, and until our interactuar form. The danger is not the digitalización in yes, but assuming as given the digital thing before diverse actions. It is recognized that the educational work, is an ethical act since it is exercised responsibly, to avoid damage to educandos and colleagues that he/she is carried out sometimes unconsciously, to be linked to the own development and ends. The objective of this work is to meditate around the relationship it was digital, and new ethical challenges for the educational one.

Keywords: it was digital, digitalización, ethical, new technologies of the information.

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RESUMEN

La época actual, denominada Era Digital, como espacio virtual, en su doble vertiente de digitalización y manipulación digital, permite el surgimiento de un espacio informacional abierto a todo aquel que tenga acceso e interfaces digitales y se caracteriza por la velocidad de las comunicaciones que han transformando el entorno social en el que vivimos, y hasta nuestra forma de interactuar. El peligro no es la digitalización en sí, sino el asumir como dado lo digital ante diversas acciones. Se reconoce que la labor docente, es un acto ético por cuanto se ejerce responsablemente, para evitar perjuicio a educandos y colegas, que a veces se realiza inconscientemente, por estar vinculado al propio desarrollo y fines. El objetivo de este trabajo es reflexionar en torno a la relación era digital, y nuevos desafíos éticos para el docente.

Palabras clave: era digital, digitalización, éticas, nuevas tecnologías de la información.

I. INTRODUCCIÓN

Las Tecnologías de la Información y la Comunicación, constituyen un conjunto de procesos y productos (derivados de las herramientas de hardware y software), soportes de la información y canales de comunicación, relacionados con el almacenamiento, procesamiento y transmisión digitalizados de la información (González, Gisbert, Guillen, Jiménez, Llado y Rallo, 1996). Ahora bien, no son las tecnologías las que modifican los procesos formativos, sino la manera de utilizarlas y las metodologías empleadas, las cuales deberán ser más flexibles, centradas en enseñar a los estudiantes a aprender.

La revolución en las tecnologías de la información y la comunicación (TIC) se ha proyectado con transformaciones en todos los campos del saber, y las cuestiones éticas ligadas a ella abarcan una gran cantidad de temas como la brecha digital, el delito cibernético y la transparencia, entre otros, están presentes en la labor de los docentes y abren nuevas posibilidades, que exigen una pedagogía diferente a la habitual, preocupada no sólo por la transmisión pasiva y/o la destreza.

Precisamente, el desarrollo y la utilización de las tecnologías de la información y la comunicación (TIC) es un reto a la ética, de la misma forma que lo fue cualquier avance tecnológico en cualquier

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otra época. Ello permite que el docente abandone su actividad de transmisor de conocimientos y oriente sus esfuerzos en desencadenar procesos de aprendizaje para orientar al estudiante a la creación de sus conocimientos a partir de los recursos disponibles.

Por tanto, la era digital actual, se caracteriza por la primacía del valor de la información sobre el valor de las materias primas, el trabajo y el esfuerzo físico, de ahí que, el eje de atención económico, político y social se traslada de la gestión de las materias primas a la gestión de la información; téngase en cuenta que el acceso al conocimiento es relativamente fácil, inmediato, ubicuo y económico, al poder acceder en la red a la información. Situación que, en el ámbito de la diversidad plantea reflexiones y cuestiones éticas a los docentes que pueden ser difícil responder, al ser parte de cada acto individual que incluye un conflicto entre el efecto intencionado y el efecto conseguido.

Vale destacar que, las nuevas formas de aprender pueden constituir una amenaza a los patrones tradicionales en la docencia. En este escenario, las cuestiones éticas en el docente tienen gran importancia y se erige como uno de los problemas más complejos que en la actualidad enfrenta la sociedad, por los cambios que pueda generar en la labor docente educativa, que afectan las relaciones humanas y principios morales básicos, lo cual se debe a la significación que se ha de enfrentar con independencia y sentido de responsabilidad las diversas tareas. Los autores reflexionan acerca de esta relación.

II. MATERIALES Y MÉTODOS

El estudio se desarrolló a partir de la recopilación de información en artículos, publicados en revistas científicas y materiales aparecidos en páginas web, es, por tanto, un estudio bibliográfico sustentado en técnicas como el análisis documental y análisis – síntesis.

En la revisión se tuvo en cuenta, fundamentalmente, las categorías declaradas en las palabras clave. Se utilizaron artículos en inglés y español, a partir del 2000, necesarias por sus puntos de vista, utilizando diferentes buscadores y bases de datos como: Scielo, Dialnet, InDIDEs-CSIC, DOAJ, LATINDEX, Google Académico, entre otros; lo que le da pertinencia a la información obtenida.

III. RESULTADOS

El panorama que se representa el mundo de hoy, está permeado por el gran impacto de las tecnologías de la información, descritos en varios textos, pero solo se harán algunas reflexiones de diversos autores, a juicio de los autores, pertinente a los fines propuestos.

Con la apropiación de las llamadas Tecnologías de la Información y la Comunicación (TIC), se desarrolla la sociedad de la información y la sociedad del conocimiento, debido a la presencia masiva de los medios de comunicación los cuales ayudan y constituye una oportunidad para conseguir la autonomía personal, además:

> permite la conexión por intermedio de weblogs, webmails, chats, mensajería instantánea para interconectarse reduciendo las distancias y las temporalidades, por ello esta sociedad se define por la información, ya que las posibilidades de esta nueva noción de la sensibilidad propicia formas novedosas de relaciones y de intercambios, principalmente comerciales (Murolo, 2010, p. 4).

Sin embargo, no está carente de riesgos, por lo que es necesario recurrir al uso de códigos éticos en la labor del docente.

Así, en las condiciones del mundo de hoy, la digitalización es entendida como “un proceso que impone una separación, una discretización, una codificación, para construir un mundo computacional e informacionalmente manipulable” (Barandiaran, 2003, p. 2), por tanto, los estudiantes requieren aprendizajes que desarrollen hábitos intelectuales que los prepare para un futuro donde todo es posible, complejo, global, flexible y variable.

Para crear algo realmente extraordinario hay que vivir la incertidumbre y el riesgo de perderse en el proceso, en estas condiciones, las cuestiones éticas asociadas a la Tecnologías de la

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información y la comunicación (TIC) son incuestionables.

Las cuestiones éticas, en el presente estudio, es vista en términos de relaciones interpersonales, conformadas por reglas y normas de conducta, deberes hacia los sujetos, sistema de opiniones, representaciones, evaluaciones reguladoras de la conducta, el conjunto de principios, criterios y valores que dirigen el comportamiento sobre la base de las particularidades grupales e individuales; precisamente, un aspecto importante en lo ético lo es el proceso educativo, máxime que en la época actual la relación ética-Tic ha permitido una revolución en cuanto a conocimientos e interpretación de la realidad.

Acerca de la relación era digital y cuestiones éticas, se han revisado estudios de Bernal (2003), Jiménez (2008), Galán (2010), Montuschi (2010), Rodríguez y Gil (2014), Olcott Carrera, Gallardo y González (2015), Carrera, González y Coiduras (2016). Todos coinciden en mostrar que el desarrollo y la utilización de las tecnologías de la información y la comunicación (TIC) representan un desafío a la ética, respetando los principios de respeto por las personas, justicia y beneficencia.

Montuschi (2010), por ejemplo, es del criterio que en condiciones de desarrollo de las TIC, las características de la ética están asociadas a su carácter global e intercultural, mientras que Bernal (2003) valora las nuevas tecnologías de la información a partir de la identificación de los principales problemas que, desde el punto de vista ético, afectan a la comunidad de usuarios, se destacan en este sentido, problemas como:

a. Acceso desigual a la información.
b. Amenazas a la privacidad.
c. Propiedad de los programas informáticos.
d. Decisiones tomadas por computadoras.
e. Realidad virtual e inteligencia artificial.
f. Violación del respeto interpersonal.
g. Comunidades virtuales y ciberaislamiento.
h. Ciberalfabetización.

Ante estos problemas, la ética en las nuevas tecnologías de la información representa una tarea práctica que debe asumir cada persona, las instituciones educativas y la sociedad en general.

El panorama educativo ante este escenario, crea oportunidades y desafíos donde los valores, las actitudes y las percepciones éticas acostumbradas se enfrentan a un reto y favorecen el cuestionamiento de los valores y creencias en educación, es por ello que, el papel de las TIC en el ámbito educativo implica desafíos éticos, preguntas y nuevos temas.

Un gran desafío se impone a la educación y está en acceder a nuevas formas y estrategias de trabajo, tanto dentro como fuera de la escuela, que induzca al espíritu emprendedor y trabajo en equipo; el respeto a la diversidad; la búsqueda de la excelencia y preservación de las diferencias en las perspectivas; competencia y cooperación, lógica de mercado y cohesión social (Montuschi, 2010).

Ante el nuevo escenario impuesto por las tecnologías, las instituciones de educación, particularmente las de educación superior, no están ajenas y la incorporan a sus procesos formativos, por constituir instrumentos indispensables para toda la sociedad, de manera que den respuestas apropiadas a los diversos entornos sociales donde se desenvuelven.

IV. DISCUSIÓN

Corresponde a las Instituciones de Educación Superior, responsables de la formación de los profesionales, la necesidad de asumir las Tecnologías de la Información y la Comunicación en los procesos que en estas se desarrollan. Las nuevas preocupaciones éticas que las TIC han despertado en el sentir de los docentes, se centran en su uso.

Este nuevo escenario de conocimientos que se ha gestado a nivel mundial, reevalúa el papel de las Instituciones de Educación Superior y de sus docentes ante los procesos de pertinencia e impacto en relación a la calidad de su actividad científica y tecnológica. Las Instituciones de Educación Superior para ajustar al ritmo y avance establecido, enfrentan estos desafíos condicionadas por sus peculiaridades, donde existe una multiculturalidad e interculturalidad en los docentes, en tal sentido, las Instituciones de Educación Superior deben potenciar “la constante

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elevación del nivel científico y académico de sus profesores como una tarea inaplazable, específicamente el fortalecimiento de la formación científica" (Fuentes, 2008, p. 95).

En la docencia de la educación superior, el flujo de información desde el profesor a los estudiantes, resulta insuficiente y no está acorde con lo que demanda la sociedad actual.

Autores como Gisbert (2001), Borrell, Feixas, Marques, Tomas (2000), entre otros, han reflexionado acerca de las funciones, tareas, cambio de actitudes y la superación de los docentes en contextos tecnológicos; coinciden en que son necesarias algunas transformaciones. Las causas de dichas transformaciones, están condicionadas por:

- Universalización de la información.
- Nuevas metodologías para el autoaprendizaje.
- Reajuste a los programas.
- Trabajo colaborativo.
- Construcción de aprendizajes significativos.
- Utilización por los docentes de los entornos tecnológicos, como espacios de desarrollo de una cultura basada en la colaboración y el intercambio.

De Rodríguez y Gil (2014) se asumen las debilidades, oportunidades, amenazas fortalezas las cuales son resumidas en:

Debilidades:

- Ansiedad ante la complejidad de la tecnología (falta de control, temor de estropearlos dispositivos, produce rechazo).
- Estigmatización por el uso de dispositivos de localización.
- Intrusión. Sentimiento de pérdida de control sobre la propia vida.
- Limitación de las decisiones individuales.
- Precio de los productos de apoyo.

Fortalezas:

- Proporciona autonomía personal
- Prolongación de la vida independiente
- Calidad de vida. Tranquilidad de dependientes y familiares.
- Contacto social (tele)comunicación con familiares y amigos.
- Comunicación aumentativa.
- Integración social.
- Normas y códigos éticos.
- Reducción de costos de atención/ sostenibilidad del sistema.

Amenazas:

- Exclusión social de los no iniciados.
- Paternalismo tecnológico.
- Limitaciones de la intimidad.
- Aislamiento/falta de contacto personal/limitación de la socialización.
- Vulneralización de derechos fundamentales.

Oportunidades:

- Diseño para todos. Evitar los diseños especiales.
- Empoderamiento de los beneficiarios de productos y servicios.
- Participación de la sociedad civil.
- Diseño centrado en el usuario.
- Atención centrada en la persona.

A partir del reconocimiento de estas debilidades, fortalezas, amenazas y oportunidades, se considera necesario que el docente se prepare constantemente, ante la búsqueda de novedosas técnicas de manera que le permita comunicarse con sus estudiantes de forma novedosa, contextualizada y actualizada. No se trata solo que permita mejorar la comunicación docente-estudiante, sino ponderar el rol que los estudiantes reciben al participar del medio de comunicación digital adecuadamente, crítica y respetuosamente.

Desafíos éticos del docente de educación superior:

a. Elevar calidad en los diversos procesos, así como en los productos del trabajo profesional, de manera que pueda brindar el conocimiento de las técnicas, los recursos, los materiales y su organización, así como la posibilidad de expresarse y comunicarse apoyados en el papel de las TIC.
b. Mantener elevados patrones de competencia profesional, conducta y práctica ética en la docencia con el uso de medios audiovisuales a

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través de acciones que posibiliten el disfrute de las clases.

c. Conocer y respetar las reglas relacionadas con medios audiovisuales. Conocer y aprender los distintos lenguajes alternativos.
d. Realizar evaluaciones integrales con el uso de los sistemas informáticos y sus impactos.
e. Promover la conciencia ciudadana sobre redes informáticas, las tecnologías relacionadas y sus consecuencias.
f. Defender, promover y respetar los principios del código de informática.
g. Potenciar el uso de los entornos virtuales de aprendizaje en red y las aulas virtuales en las instituciones educativas; fomentar investigaciones, sitios temáticos de educación y otros que facilitan el intercambio y proveen de información científica y actualizada sobre diversos temas.
h. Ir a la búsqueda de la verdad y la honestidad en el trabajo con las TIC, considerando principios como respeto, honestidad, responsabilidad, integridad, imparcialidad, transparencia, confidencialidad, entre otros.
i. Evitar el acoso virtual dentro y fuera de la institución educativa propiciada por las tecnologías a partir de ataques virtuales que trasciende el espacio de dicha institución y facilita la infracción permanente en la privacidad del estudiante.
j. Evitar la tecnoadicción, o el uso y abuso de las TIC en los diversos contextos formativos. Así como el plagio en contextos de formación no utilizando ideas, palabras y obras de otros como si fueran propios.
k. Capacitación frecuente con un nivel de competencia digital óptima a los profesionales de la educación hacia el buen uso de las tecnologías digitales, partir de considerar la dimensión ética de esta competencia teniendo en cuenta las funciones y las responsabilidades década profesional.

V. CONCLUSIONES

a. Los viejos patrones morales y éticos frente a las nuevas realidades tecnológicas varían. En tal sentido, la ética ante las nuevas tecnologías de la información representa una tarea práctica que debe asumir cada docente, las instituciones y la sociedad en general.
b. Los desafíos tecnológicos establecidos ofrecen significativos beneficios y oportunidades a los docentes, pero al mismo tiempo conllevan a múltiples riesgos, destacándose la falta de ética en su uso.
c. Los docentes deben buscar el modo de perfeccionar la ética e impulsar la responsabilidad ante el uso de estas tecnologías; de forma tal que se respeten los elementos necesarios para no dañar la integridad, confiabilidad y el acceso seguro de la información de los docentes e instituciones.
d. Se deben aprovechar al máximo las oportunidades que ofrecen las TIC para aumentar la eficiencia del proceso docente educativo.

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The Role of a Mentor in Students' Personal Growth, Academic Success, and Professional Development

Saranya, C., Raju Dhuli & Rajakumar Guduru

ABSTRACT

Mentorship is one of the many factors that affect the students' all round learning and development for creating a sustainable education. There are numerous benefits of mentorship – building confidence to creating employability, for mentees; teaching values to practicing self-reflection, for mentors; and improving organizational effectiveness to evolving a strategy for stress management, for organizations. However, the prevailing conditions in India's government education system reflect that there is hardly any orientation to practicing mentorship in schools, colleges, and universities. Hence, the present study aims at understanding the need and importance of mentorship in the institutions of national importance such as NITs, IIITs, IITs in India. For this purpose, 334 students (202 male and 132 female) studying UG, PG, and research programmes of Humanities, Economics, Bio- Medical, Manufacturing Science, Mathematics, Ocean Engineering, Industrial and System, Chemical Engineering, Petroleum Engineering, Architecture in reputed institutions like IITs, NITs and Engineering Colleges in India participated in the study.

Keywords: mentorship, mentor–mentee, personal growth, academic success, professional development.

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The Role of a Mentor in Students' Personal Growth, Academic Success, and Professional Development

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ABSTRACT

Mentorship is one of the many factors that affect the students' all round learning and development for creating a sustainable education. There are numerous benefits of mentorship – building confidence to creating employability, for mentees; teaching values to practicing self-reflection, for mentors; and improving organizational effectiveness to evolving a strategy for stress management, for organizations. However, the prevailing conditions in India's government education system reflect that there is hardly any orientation to practicing mentorship in schools, colleges, and universities. Hence, the present study aims at understanding the need and importance of mentorship in the institutions of national importance such as NITs, IIITs, IITs in India. For this purpose, 334 students (202 male and 132 female) studying UG, PG, and research programmes of Humanities, Economics, Bio-Medical, Manufacturing Science, Mathematics, Ocean Engineering, Industrial and System, Chemical Engineering, Petroleum Engineering, Architecture in reputed institutions like IITs, NITs and Engineering Colleges in India participated in the study. Data were collected by administering the questionnaire related to mentor-mentee relationship through a Google form. The data were analyzed and interpreted both qualitatively and quantitatively. It was found that there is no significant co-relationship between students seeking advice for their personal growth and students seeking advice for their academic success, and students seeking advice for their professional development. The study recommends that mentorship at every level of formal education should be practiced for teachers as well as students' personal development, academic success, and professional growth.

Keywords: mentorship, mentor–mentee, personal growth, academic success, professional development.

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I. INTRODUCTION

In the growing modern society, education has expanded its place and role and had an immense impact on all aspects of people's lives. In this connection, quality education entails not only the provision of educational materials such as learning materials, instructional aids, and pedagogical instructions, but also mentorship in all respects of academic career ranging from elementary school to university level of education.

Undoubtedly, we agree on the fact that mentoring is associated with all aspects of life where people aspire to grow and socialize. Several studies have shown that mentoring assists beginner instructors improving their knowledge, developing their personalities, and promoting their careers. A mentor can be a parent, a friend, a family member, a teacher, or a neighbor who helps mentees with career counseling, behavior management, social relationships development, self-esteem enhancement, and independence qualities. This emphasizes that a mentor is always open to interacting with mentees effectively to facilitate proper guidance and feel free to be approachable in-person to provide adequate information and expertise required for individuals who need to develop certain aspects in various domains of knowledge.

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II. BACKGROUND OF STUDY

Although there are numerous benefits of mentorship, in the government education system, in India, mentorship for students is still not a reality even at present. It was observed that government schools and colleges do not seem to practice mentorship for the benefit of students.

Surprisingly, even at the Ph.D. level, scholars tend not to maintain rapport with their supervisors to gather academic information and personal advice or suggestions. Thus, this provides the impression that students should have a mentor at every level of formal education starting from primary and secondary schools to private and public colleges and universities.

Therefore, these circumstances have motivated us to undertake this study to ascertain how mentorship and mentoring can benefit students in their personal, academic, and professional fields.

2.1 Significance of Study

Mentoring is an essential aspect of preparing individuals to reach their full potential. A mentor has a tremendous significance in developing and growing an individual's life skills and career-related competencies, personal adjustments, and improvement of job prospects. A mentor helps improve positive relationships among mentees, which strengthen self- awareness, interactive capabilities, and decision making.

Klasen and Clutterbuck (2002) documented the benefits of mentoring for mentors, mentees and organizations in the table below.

Table 1: Benefits of mentoring for mentors, mentees and organizations

For mentors	For mentees	For organizations
• Value • Learning experience • Credit • Own reflection •	• Competence • Goal setting • Motivationand satisfaction • Psychological support • Creativity • Communication skills • Organizational change • Personal change • Time effectiveness • Employability	• Organizational effectiveness • Motivation and job satisfaction • Organizational change • Recruitment • Retention • High-flyer • Organizational culture • Cost-effectiveness • Time- efficiency • Development • Strategy stress planning

2.2 Aim and Objectives of Study

The aim of the study was to understand the role and importance of mentorship in the personal growth, academic success, and professional development of students studying at the institutions of higher education in India.

The objectives of the study are:

- To help ESL students become aware of the need and importance of mentorship
- To foster a sense of self-responsibility for their own learning
- To improve students' personal growth, academic success, and professional knowledge
- To inculcate a sense of direction for future academic endeavours

III. LITERATURE REVIEW

Mentoring is recognized broadly as a process of providing or imparting skills to professionals. Savage et al. (2015) referred to teachers as "mentors" and further he suggested that teaching is mentoring. On the other hand, Tollefson-Hall (2015) measured a mentor to be "a wise elder who provides guidance to a younger person" (p.30). A mentor is someone who has garnered experience in mentees' desired path and can help lead them in the right direction. Mentorship basically fosters

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growth and accomplishment of an individual, offers various forms of support, and develops personal and reciprocal relationships (Crisp & Cruz, 2009). A definition of mentorship is given by Wright-Harp and Cole (2008) who described it as "a process in which one monitors, leads, supports, imparts, and challenges other persons to assist their personal, educational, and professional growth and development through mutual respect and trust" (p. 8). Moreover a mentor can enrich their mentees' potential, skills, and help them to improve their performances. To mentor someone has been defined by Parsloe (2009) as: "To support and encourage individuals to manage their own learning in order that they may maximize their potential, develop their skills, improve their performance and become the person they want to be" (p.224).

According to Carmin ((1998); cited in Goyena, R., & Fallis, A. 2019), "Mentoring is a complex, interactive process, occurring between individuals of differing levels of experience and expertise which incorporates interpersonal or psychological development, career and/or educational development, and socialization" (p.4). Mentors give psychosocial support such as counselling and role modelling, as well as professional development chances such as coaching, providing tough tasks, supporting progress, and boosting the mentee's visibility (Meyer and Maboso, 2007; cited in Yirci & Kocabas, 2010). Casey & Clark (2011) observed that mentoring remains a professional partnership with clear boundaries that differentiate the role from that of a friend, to enable the mentor to balance the need to provide both supportive guidance with the requirement to make objective, unbiased assessment and decisions on their progress. On the other hand, Fullan (1991) observed that "the role of mentor is new and clashes with some of the individualistic traditions of teaching" (p. 308).

There are numerous benefits of mentoring. Hobson et al. (2009) underlined the benefits of mentoring for the mentees and the mentors. As for the mentees, the benefits include self-respect, self-identity, and problem solving skills, self-reliance, classroom administration, and professional growth. Regarding the mentors, the benefits include fulfillment, enhanced recognition in the professional group, and increased self-esteem. (Hobson et al., 2009). As individuals, each student has a different need. Different students require varied amounts of attention, motivation, guidance and advice. Some students feel comfortable and confident in approaching the mentors, wherein some may be shy and hesitant to seek out help. A good mentor is the one who can understand the individual needs of a student. Therefore, a good mentor is a trusted counselor who is available at all times to provide support to their mentee. By their holistic approach mentors act as wise elders to enhance students' knowledge, innovation and imagination. Moreover, it is the role of the mentors to groom the amateur to a competent professional.

IV. METHODOLOGY

4.1 Participants

All the 334 participants - 202 (60.5%) male and 132 (39.5%) female were doing professional courses in various reputed institutions in India like IITs, NITs and Engineering Colleges in India. Among them 304 (91%) students were doing UG, 10 (3%) were pursuing PG and 20 (6%) were the research scholars. These students belong to the age group between 18- 27. In particular, out of 334 students, 292 (87.4%) belong to the 18-20 age group, 20 (6%) fit the 21-22 age group and 26 (6.6%) belong to the 23-27 age group. Their major subjects are Humanities, Economics, Bio-Medical, Manufacturing science, Mathematics, Ocean Engineering, Industrial and system, Chemical Engineering, Petroleum Engineering, Architecture etc.

4.2 Tools

Data for this study were retrospectively collected from professional course students (UG, PG and Research Scholars). The select questionnaire is given related to mentor-mentee relationship through Google form. The 5 point Likert scale (Very Frequently, Frequently, Sometimes, Rarely, Never) is used to measure the students' responses. In addition, some of the faculty members were interviewed and their views and insights about mentoring were added.

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V. DATA ANALYSIS AND INTERPRETATION

The data were analyzed both qualitatively and quantitatively. Qualitative method offers an effective way of data analysis by thick description of findings, and quantitative analysis describes the findings in terms of numbers and percentage.

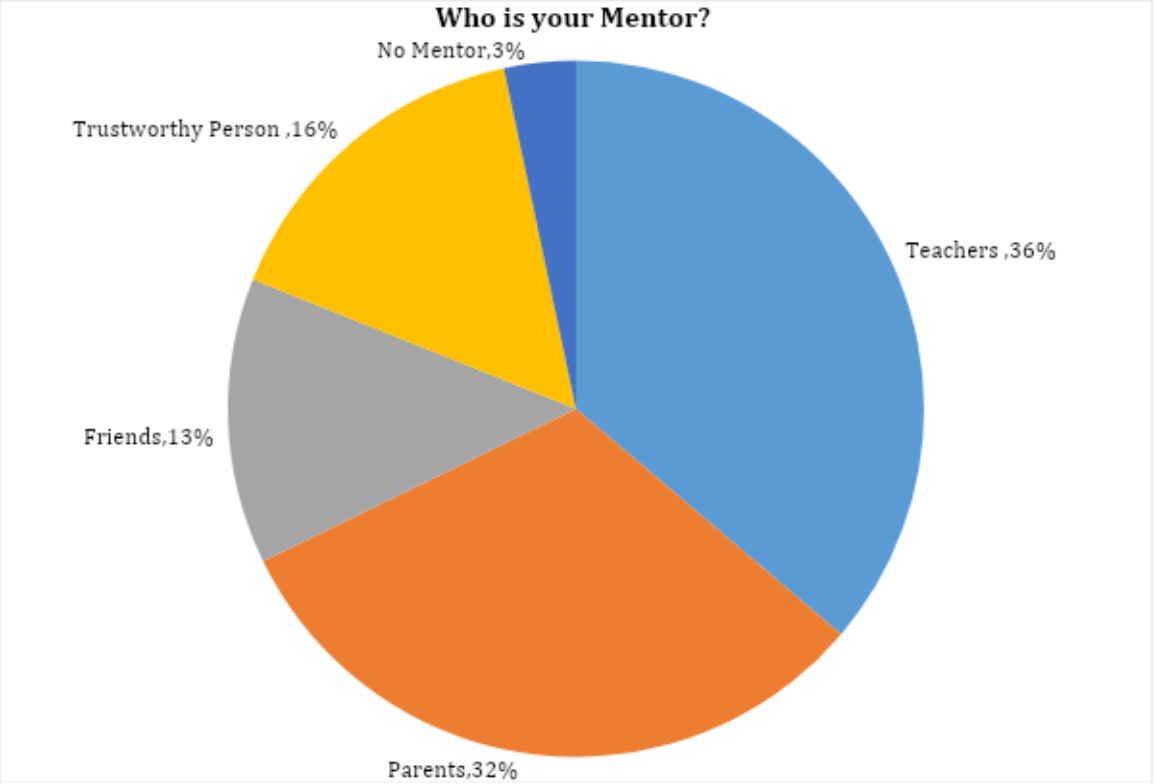

Figure 1: Students' Mentorship in Percentages

The above pie chart shows the percentages of the respondents' personal mentors. According to the survey, 36% of the students have teachers as their mentors, 32% have parents as their mentors, 13% have friends as their mentors, 16% have trustworthy persons as their mentors, and 3% have no mentors.

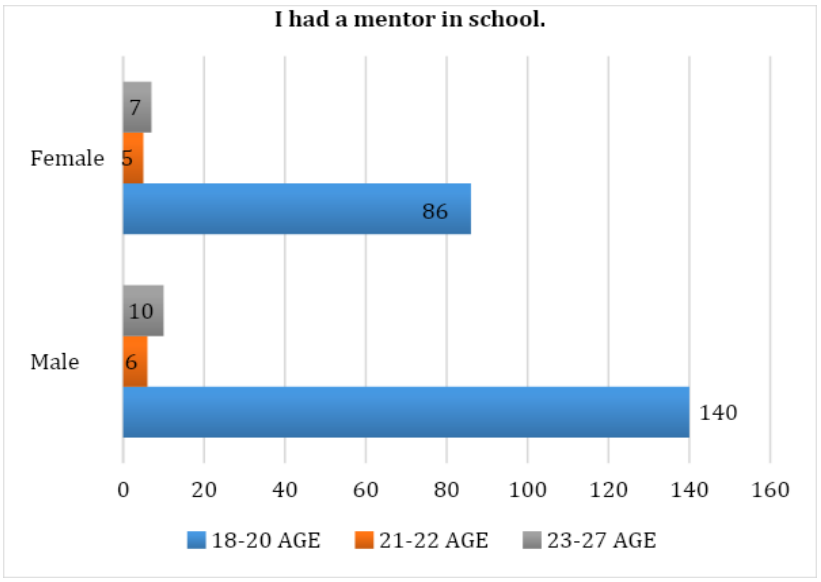

Figure 2: Students' mentorship in school as per the age group

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The bar diagram above represents the number of respondents who had mentors in their schooling. As many as 140 male students (69.3%), between the age group 18-20 years, had mentors during their school study. Only 6 male students (2.97%), between the age group 21-22 years, had mentors during their school study. And 10 students (4.95%), between the age group 23-27 years, had mentors during their school study. On the other hand, 86 female students (65.15%), between the age group 18-20 years had mentors during their school study. Further, only 5 female students (3.79%), between the age group 21-22 years, and 7 female students (5.3%) between the age group 23-27 years had mentors in schooling.

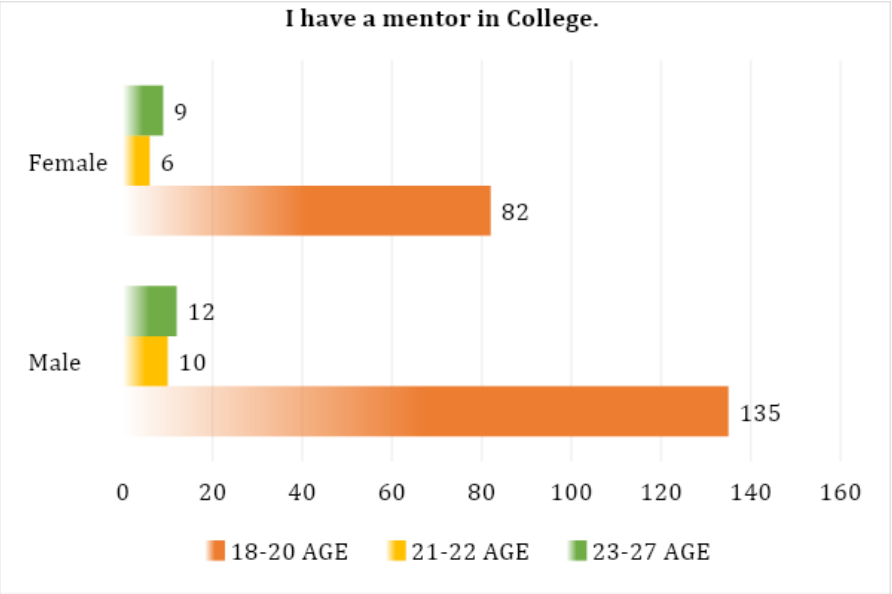

Figure 3: Students' mentorship in college as per the age group

The bar diagram above shows the number of respondents who had mentors in college. 135 male students (66.83%), between the age group 18-20 years, had mentors in college. Only 10 male students (4.57%), between the age group 21-22 years, had mentors in college. And 12 male students (5.94%), between the age group 23-27 years, had mentors in college. On the other hand, 82 female students (62.12%), between the age group 18-20 years, had mentors in college. Further, only 6 female students (4.54%), between the age group 21-22 years, and 9 female students (6.82%), between the age group 23-27 years had mentors in college.

Table 2: Students' responses to questionnaire in percentages (No of Students - 334)

S. No	Survey Measure	Very Frequently (1)	Frequently (2)	Sometimes (3)	Rarely (4)	Never (5)
1	How frequently you meet and discuss with your mentor?	25.14%	30.53%	25.75%	8.98%	9.58%
2	I seek advice from my mentor for my personal development.	19.76%	28.74%	29.04%	9.88%	12.58 %
3	I seek advice from my mentor for my academic success.	25.75%	31.74%	23.35%	8.98%	10.18 %

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4	I seek advice from my mentor for my professional growth.	20.36%	27.54%	27.54%	10.48%	14.07 %

Table 2 above indicates the students' overall responses about students-mentor relationship in terms of percentage. 25.14% of the students stated that they had frequent meetings and discussions with mentors. On the other hand, 30.53% of the respondents said that they frequently visit their mentor. 25.75% of them meet their mentors sometimes and 8.98% were meeting their mentors rarely and 9.58% never visit their mentors. Furthermore, the questionnaire expands how frequently they seek advice from their mentors in three aspects: for their personal development, academic success and professional growth. The survey states that among all the respondents only 19.76% meet their mentors for their personal development very frequently. 28.74% of them have a frequent visit and 29.04% meet their mentors sometimes, 9.88% meet rarely and 12.58% never meet their mentors for seeking advice for their personal development. Similarly, 25.75% of them seek advice very frequently from their mentors for their academic success. Consequently, 31.74% seek advice frequently, 23.35% sometimes, 8.98% rarely and 10.18% never seek advice from their mentors for their academic success. 20.36% of respondents seek advice very frequently from their mentors for their professional growth. 27.54%, 27.54%, 10.48% and 14.07% seek mentoring for professional growth frequently, sometimes, rarely and never respectively.

Table 3: Frequency of students meeting and discussing with mentors in percentages

Survey Measure (No of Students – 334)		Very Frequently (1)	Frequently (2)	Sometimes (3)	Rarely (4)	Never (5)
Age Group	18-20 (N- 292)	23.97%	31.85%	24.66%	9.25%	10.27%
	21-22 (N - 20)	15%	20%	40%	15%	10%
	23-27 (N - 22)	50%	22.73%	27.27%	0	0
Gender	Male (N - 202)	25.74%	32.18%	23.27%	10.40 %	8.42%
	Female (N - 132)	24.24%	28.03%	29.54%	6.82%	11.36%
Degree	UG (N - 304)	22.37%	31.58%	25.66%	9.87%	10.53%
	PG (N - 10)	50%	10%	40%	0	0
	Research Scholar (N - 20)	20%	20%	35%	15%	10%

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Table 2 explains how frequently the respondents meet and discuss with their mentors in respect of age, gender and degree wise. Comparatively, 50% of the respondents belonging to the age group of 23-27 meet their mentors very frequently, 22.73% meet frequently and 27.27% meet sometimes. For 21-22 age group limits, 15% of the respondents meet their mentors very frequently, 20% frequently, 40% sometimes, 15% rarely and 10% never meet their mentors. And, 23.97% of the respondents belonging to the 18-20 age group meet their mentors very frequently. 31.85% of them have frequent discussions with their mentors. 24.66%, 9.25% and 10.27% of them have a discussion sometimes, rarely and never respectively.

In gender wise calculation, 25.74% of male respondents meet their mentor very frequently whereas 32.18% meet them frequently, 23.27% meet sometimes, 10.40% meet their mentors rarely and 8.42% of them reported that they never meet their mentors. On the other hand, 24.24% of females stated that they have met their mentors very frequently and 28.03% have met them frequently. And 29.54% and 6.82% met their mentors sometimes and rarely correspondingly. 11.36% of them never met their mentors.

The survey further specified that 22.37% of respondents who are doing UG meet their mentors very frequently and 31.58% of them have a frequent meeting with their mentors. 25.66% were sometimes meeting their mentors and 9.87% were rarely meeting their mentors and 10.53% were never meeting their mentors. Furthermore, 50% of PG respondents have very frequent meeting with their mentors, 10% frequent and 40% sometimes meeting and discussion takes place among students and mentors. 20% of the Research scholars respondent of this survey reported that they have met and discuss with their mentors very frequently and 25% of them have frequent discussion and 35% have sometimes discussion and 15% have rare discussion and 10% were never had discussion.

Table 4: Summary of students seeking mentor's advice for personal growth

Survey Measure (No of Students – 334)		Very Frequently (1)	Frequently (2)	Sometimes (3)	Rarely (4)	Never (5)
Age Group	18-20 (N-292)	18.84%	27.40%	29.11%	10.96%	13.7%
	21-22 (N - 20)	15%	40%	35%	0	10%
	23-27 (N - 22)	36.36%	36.36%	22.73%	4.55%	0
Gender	Male (N - 202)	17.82%	31.19%	30.69%	9.9%	10.4%
	Female (N - 132)	22.73%	25%	26.52%	9.84%	15.9%
	UG (N - 304)	17.76%	27.96%	29.93%	10.53%	13.81%
Degree	PG (N - 10)	20%	50%	30%	0	0
	Research Scholar(N - 20)	50%	30%	15%	5%	0

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Table 3 elucidates the percentage of respondents who seek advice from their mentors for their personal growth. This data indicates that 36.36% of the respondents belonging to the age group of 23-27 seek their mentor's advice very frequently and frequently for their personal development. 22.73% of them sometimes meet their mentors whereas 4.55% of them reported that rarely they meet their mentors. For 21-22 age group limits, 15% of the respondents meet their mentors very frequently, 20% frequently, 40% sometimes, and 10% never meet their mentors. And, 18.84% of the respondents belonging to the 18-20 age group meet their mentors very frequently. 27.40% of them have frequent discussions with their mentors. 29.11%, 10.96% and 13.7% of them have a discussion sometimes, rarely and never respectively.

In gender wise calculation, 17.82% of male respondents meet their mentor very frequently whereas 31.19% meet them frequently, 30.6% meet sometimes, 9.9% meet their mentors rarely and 10.4% of them reported that they never meet their mentors. On the other hand, 22.73% of females stated that they have met their mentors very frequently and 25% have met them frequently. And 26.52% and 9.84% met their mentors sometimes and rarely correspondingly. 15.9% of them never met their mentors.

The survey further specified that 17.76% of respondents who are doing UG meet their mentors very frequently and 27.96% of them have a frequent meeting with their mentors. 29.93% were sometimes meeting their mentors and 10.53% were rarely meeting their mentors and 13.81% were never meeting their mentors. Furthermore, 20% of PG respondents have very frequent meeting with their mentors, 50% frequent and 30% sometimes meeting and discussion takes place among students and mentors. 50% of the Research scholars reported that they have met and discuss with their mentors very frequently and 30% of them have frequent discussion and 15% have sometimes discussion and 5% have rare discussion.

Table 5: Summary of students seeking mentor's advice for academic success

Survey Measure (No of Students – 334)		Very Frequently (1)	Frequently (2)	Sometimes (3)	Rarely (4)	Never (5)
Age Group	18-20 (N- 292)	25%	31.51%	22.95%	9.59%	10.96%
	21-22 (N - 20)	20%	30%	30%	10%	10%
	23-27 (N - 22)	40.9%	36.36%	22.73%	0	0
Gender	Male (N - 202)	23.27%	34.16%	24.75%	8.91%	8.91%
	Female (N - 132)	29.55%	28.03%	21.21%	9.09%	12.12%
	UG (N - 304)	23.36%	31.91%	23.68%	9.87%	11.18%
Degree	PG (N - 10)	40%	30%	30%	0	0
	Research Scholar (N - 20)	55%	30%	15%	0	0

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Table 4 interprets the percentage of respondents who seek advice from their mentors for their Academic success. Relatively, 40.9% of the respondents belonging to the age group of 23-27 meet their mentors very frequently, 36.36% meet frequently and 22.73% meet sometimes. For 21-22 age group limits, 20% of the respondents meet their mentors very frequently, 30% frequently, 30% sometimes, 10% rarely and 10% never meet their mentors. And, 25% of the respondents belonging to the 18-20 age group meet their mentors very frequently. 31.51% of them have frequent discussions with their mentors. 22.95%, 9.59% and 10.96% of them have a discussion sometimes, rarely and never respectively.

In gender wise calculation, 23.27% of male respondents meet their mentor very frequently whereas 34.16% meet them frequently, 24.75% meet sometimes, 8.91% meet their mentors rarely and 8.91% of them reported that they never meet their mentors. On the other hand, 29.55% of females stated that they have met their mentors very frequently and 28.03% have met them frequently. And 21.21% and 9.09% e met their mentors sometimes and rarely correspondingly. 12.12% of them never met their mentors.

The survey further specified that 23.36% of respondents who are doing UG meet their mentors very frequently and 31.91% of them have a frequent meeting with their mentors. 23.68% were sometimes meeting their mentors and 9.87% were rarely meeting their mentors and 11.18% were never meeting their mentors. Furthermore, 40% of PG respondents have very frequent meeting with their mentors, 30% frequent and 30% sometimes meeting and discussion takes place among students and mentors. 55% of the research scholars respondent of this survey reported that they have met and discuss with their mentors very frequently and 30% of them have frequent discussion and 15% have sometimes discussion.

Table 6: Summary of students seeking mentor's advice for professional development

Survey Measure (No of Students – 334)		Very Frequently (1)	Frequently (2)	Sometimes (3)	Rarely (4)	Never (5)
Age Group	18-20 (N- 292)	20.21%	26.03%	28.08%	10.27 %	15.41 %
	21-22 (N - 20)	10%	35%	30%	15%	10%
	23-27 (N - 22)	31.82%	40.91%	18.18%	9.09%	0
Gender	Male (N - 202)	21.29%	29.21%	26.73%	10.4%	12.38 %
	Female (N - 132)	18.94%	25%	28.79%	10.61 %	16.67 %
	UG (N - 304)	18.42%	27.3%	28.29%	10.53 %	15.46 %
Degree	PG (N - 10)	20%	30%	30%	20%	0
	Research Scholar(N - 20)	50%	30%	15%	5%	0

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Table 5 above explains the percentage of respondents who seek advice from their mentors for their professional growth. It shows how frequently the respondents meet and discuss with their mentors in respect of age, gender and degree wise. Comparatively, 31.82% of the respondents belonging to the age group of 23-27 meet their mentors very frequently, 40.91% meet frequently and 18.18% meet sometimes and 9.09% meet rarely. For 21-22 age group limits, 10% of the respondents meet their mentors very frequently, 35% frequently, 30% sometimes, 15% rarely and 10% never meet their mentors. And, 20.21% of the respondents belonging to the 18-20 age group meet their mentors very frequently. 26.03% of them have frequent discussions with their mentors. 28.08%, 10.27% and 15.41% of them have a discussion sometimes, rarely and never respectively.

In gender wise calculation, 21.29% of male respondents meet their mentor very frequently whereas 29.21% meet them frequently, 26.73% meet sometimes, 10.4% meet their mentors rarely and 12.38% of them reported that they never meet their mentors. On the other hand, 18.94% of females stated that they have met their mentors very frequently and 25% have met them frequently. And 28.79% and 10.61% met their mentors sometimes and rarely correspondingly. 16.67% of them never met their mentors.

The survey further specified that 18.42% of respondents who are doing UG meet their mentors very frequently and 27.3% of them have a frequent meeting with their mentors. 28.29% were sometimes meeting their mentors and 10.53% were rarely meeting their mentors and 15.46% were never meeting their mentors. Furthermore, 20% of PG respondents have very frequent meeting with their mentors, 30% frequent and 30% sometimes meeting and 20% having rare discussion takes place among students and mentors. 50% of the research scholars respondent of this survey reported that they have met and discuss with their mentors very frequently and 30% of them have frequent discussions and 15% have sometimes discussion and 5% have rare discussion.

VI. DISCUSSION

The main purpose of this study is to know the impact of mentorship on the ESL students' personal growth, academic success, and professional development. Research shows that mentorship relations between the mentor and the students has been linked to improved academic performance, professional development, positive self-image, psychological well-being, and emotional adjustment (Crisp et.al. 2009; Eby et.al 2007); cited in Douglass R. (2016) Majority of the students also stated their opinion that a mentor is someone who takes special interests in helping students to develop into successful professionals. However, it is interesting to note that there is no significant co-relationship between students seeking advice for their personal growth and students seeking advice for their academic success, and students seeking advice for their professional development. This is because students' socio-cultural beliefs and education background, other factors influence their way of thinking and planning at every stage of education.

In connection with the overall results of the data gathered, it showed that students are greatly influenced by the mentorship which has a great impact on their personal, academic, and professional development. First, from the analysis we can understand that students seem to believe that a mentor could be anyone from a close friend to a person who is a role model for them. However, students seem to have a strong belief that teachers who have good teaching skills and who are approachable can be good mentors and can positively impact students' academic success. Hence, to the question who is your mentor, the majority of the students i.e., 36% of them have mentioned teachers as their mentors. Students ascribe their academic success related benefits to teachers as they strongly believe that teaches can discuss new ideas with students to help them learning new things; help students understand how the concepts they learn in the classroom will translate to the workplace; advise students to attend events, conferences, and excursions related to their subject of interest; guide students in setting personal targets and developing

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strategies to achieve academic success; help students work through day-to-day struggles and encourage them to perform better in academics; and listen to students' needs, be flexible, and can identify solutions to problems.

Second, the analysis also showed that the next majority i.e., 32% of the students have mentioned parents as their mentors from which we can infer that it is because parents generally guide their children in various aspects of personal life and education. Further, students have positively attribute these benefits to parents for they believe that parents help students set clear goals in life; encourage personal reflection and inquiry into students' situations, hopes, and ambitions; help students to solve problems and become creative thinkers; build students' personal confidence and competency; can help students become independent; and enhance students' self-awareness, self-evaluation, interpersonal skills and supports an improvement in their performance.

Third, a majority of students are in strong agreement in saying that a mentor can advise in the professional development aspects such as participating in professional activities outside of the institution. The students also believe that a mentor connects students to other senior professionals who could fill in the gaps by imparting skills; motivates students become better leaders by enabling them to relate to different kinds of people; connects students to relevant internship opportunities or part-time work that will help advance their career; acts as career counselors by helping students to brainstorm career possibilities, and define career goals and establish action plans to reach professional goals; and shares his success and failure stories and personal experience to motivate students. However, in reality, these students seek advice for professional development from experts or trustworthy persons.

These results of this study imply that the mentor can help individuals develop assertiveness, independence, self-actualization, and problem-solving skills, which creates a significant impact on the holistic development of an individual. Finally, we can say that the results of this study are in synchronous with the findings of Crisp, G., & Cruz, I. (2009); cited in Douglass R. (2016) that mentorship relations encourage individual's development and accomplishments, support career development aid, and motivate students' personal and reciprocal interactions.

VII. CONCLUSION AND RECOMMENDATIONS

Mentorship is the need of every teacher as well as students at every level of formal education. Effective mentoring supports students' growth and holistic development. However, students are unaware of the need and importance of mentorship for their personal, academic, and professional development. Therefore, this study has sensitized the students that mentoring is an art which enables the mentees to recognize their self-identity, hidden abilities and talents. In addition, it made them realize that mentorship helps teachers to gain a good experience in relevant fields. It may directly help in their own professional development, students and organizations (as shown in table 1). In other words, mentorship helps teachers as well as students to gain deep knowledge of various fields which in turn is useful for themselves as well as their students for planning their future academic endeavours. Furthermore, mentors provide a supportive relationship focused on students' professional and academic growth and accomplishments, and that this relationship can foster many positive academic, career, and psychological outcomes.

The study recommends the following to both the teachers as well as students.

- Teachers should not see mentorships as an additional responsibility and feel it as a burden.
- Every teacher should volunteer himself/ herself to be a mentor.
- Teachers who worked and students who studied abroad should be role models to other teachers in practicing mentorship.

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- Another study may be conducted to assess the ground reality of mentorship in government schools and colleges.
- Students should frequently meet their mentors seeking help in all aspects related to personal, academic and professional development.
- There is a need for effective mentorship for the benefits of the students.
- Students should take self-responsibility for their own learning and growth with the help of a good mentor.

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Tacit Knowledge Management System Practices in Higher Education Institutions (HEIs) in Developing Economies: A Systematic Literature Review

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ABSTRACT

This study sought to investigate the factors that influenced tacit knowledge retention and management in higher education institutions in developing economies as well as the extant tacit knowledge management systems applied/used in higher education institutions in developing economies. The penultimate aim of this research was to serve as an affirmative study whose findings shall serve as input to developing a model for tacit knowledge management in HEIs. Papers were searched from Elsevier, Emerald Insight, and ProQuest databases. The systematic protocol combined ideas presented by Jesson, Matheson and Lacey; as well as ideas by Nunes, McPherson, Annansingh, Bashir and Patterson. The latter suggested the following steps: 1. Identification of keywords; 2. Production of search queries; 3. Definition of inclusion and exclusion criteria 4. Identification of relevant databases; 5. Query of databases and selection of relevant documents; 6. Analysis of the dataset selected. The term 'tacit knowledge' generated 41,810 articles. 23 articles fitted the inclusion criteria. Causes for tacit knowledge loss from HEIs in low-developed economies included: death, burnout, uncertainty, mistrust in the institution, early retirement, and flaws in extant tacit knowledge management systems and processes. Various TKM frameworks in various contexts have been tried.

Keywords: tacit knowledge, tacit knowledge management systems, higher education institutions, low-income-countries, lower- middle-income-countries,upper-middle-income- countries.

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Tacit Knowledge Management System Practices in Higher Education Institutions (HEIs) in Developing Economies: A Systematic Literature Review

Luyimbazi Godfrey[α] & Annabella Habinka Ejiri[σ]

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ABSTRACT

This study sought to investigate the factors that influenced tacit knowledge retention and management in higher education institutions in developing economies as well as the extant tacit knowledge management systems applied/used in higher education institutions in developing economies. The penultimate aim of this research was to serve as an affirmative study whose findings shall serve as input to developing a model for tacit knowledge management in HEIs. Papers were searched from Elsevier, Emerald Insight, and ProQuest databases. The systematic protocol combined ideas presented by Jesson, Matheson and Lacey; as well as ideas by Nunes, McPherson, Annansingh, Bashir and Patterson. The latter suggested the following steps: 1. Identification of keywords; 2. Production of search queries; 3. Definition of inclusion and exclusion criteria 4. Identification of relevant databases; 5. Query of databases and selection of relevant documents; 6. Analysis of the dataset selected. The term 'tacit knowledge' generated 41,810 articles. 23 articles fitted the inclusion criteria. Causes for tacit knowledge loss from HEIs in low-developed economies included: death, burnout, uncertainty, mistrust in the institution, early retirement, and flaws in extant tacit knowledge management systems and processes. Various TKM frameworks in various contexts have been tried. Few were found to specifically address TKM in HEIs. Essential factors were: individual/personal factors, institutional environment factors, institutional management practice factors; and factors relating to institutional culture. Systems that were employed to manage tacit knowledge in HEIs were found to be piecemeal. The study thus highlights the status of TKM in HEIs in developing economies.

Keywords: tacit knowledge, tacit knowledge management systems, higher education institutions, low- income-countries, lower-middle-income-countries,upper-middle-income-countries.

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I. INTRODUCTION/BACKGROUND

Considerable literature is available relating to knowledge management in higher education institutions. This literature indicates that knowledge management is still a problem in developing economies (Chen, Nunes, & Ragsdell, 2018). This review specifically focuses on tacit knowledge management in HEIs of developing economies. For this particular study, developing economies were taken to be those countries not listed in the high-income bracket by the World Bank in the 2022 financial year. In this financial year, the World Bank placed 80 countries in the high-income category (World Bank, 2022). Notably Taiwan, Macau, and Hong Kong in China are listed under the high-income bracket; whereas China Mainland is listed in the high middle-income bracket. It is worth noting that none of the African countries in 2022 was listed in the high-income bracket.

According to Suknunan and Maharaj (2019), there are inadequate knowledge management practices in African higher education institutions. Whereas in developed economies knowledge management efforts are significant, HEIs in developing economies are apparently not investing enough to manage knowledge-based strategic assets (Nunes, Kanwal & Arif, 2017). Consequently, not enough is being invested in managing their tacit knowledge.

Available literature indicates that tacit knowledge is increasingly walking out of higher education institutions -especially if such knowledge is undocumented (Umpierrez, 2021; Mezghani, Exposito, and Drira, 2016). Unfortunately, when academics leave, the institution loses that knowledge. Based on the ideas of Hadjimichael and Tsoukas (2019), tacit knowledge resides in the head of the academic and is relatively difficult to document.

Higher education institutions (HEIs) are knowledge organisations charged with the creation and distribution of large amounts of knowledge processes. Therefore, the business and process of knowledge management is a fair and realistic assessment of an HEI's core activities (Natek and Lesjak, 2013).

Tacit knowledge is the knowledge that is complex, ambiguous, and subjective; since it exists in people's heads (Hadjimichael and Tsoukas, 2019). This knowledge basically corresponds to know-how (Malamed, 2017; Mezghani, Exposito and Drira, 2016). Cunliffe & Scaratti (2017), note that tacit knowledge is at the core of research impact within higher education institutions.

According to Veer- Ramjeawon and Rowley (2019), knowledge lies at the heart of the university. Whereas in the developed economies knowledge management efforts may be far much better, according to (Nunes, Kanwal & Arif, 2017), HEIs in developing economies are comparably not investing enough to manage knowledge-based strategic assets. Consequently, not enough is being invested in managing their tacit knowledge.

One of the documented causes for knowledge departure from HEIs is staff turnover. In Kenya for example, job-hopping and high staff turnover rates are reported (Murumba, Kwanya, Maina and Wangamathi, 2020). The issue of staff turnover is not unique to developing economies alone. In developed economies, there is also increasing staff turnover in public HEIs (Universities and Colleges Employers Association, 2019).

For example, 42% of UK academics are considering greener pastures due to Brexit (Study International, 2017). These academics are the main source of knowledge generation in higher education institutions.

Staff turnover in both developed and developing economies is exacerbated by the fact that (HEIs) are competing in terms of ranking (Nunes, Kanwal & Arif, 2017). In Nigeria for instance, staff turnover is much more pronounced in private HEIs than in public HEIs (Alo & Dada, 2020).

Other causes of staff turnover include death, disparities in salaries and wages of HEI academic staff (Eno, 2021; Mushemeza, 2016); remuneration which did not fulfill the financial and material desires of academic staff (Kyaligonza & Kamagara, 2017); burnout (Umpierrez, 2021; da Silva, 2020; Valbrun, 2020); as well as uncertainty and mistrust that

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may prevail in the institution thus getting in the way of good employer/employee relationships and consequently injuring talent retention (Munns, 2021); as well as top management in HEIs failing to appoint appropriate line and middle managers who do administrative work (Seeletse & Thabane, 2016).

Several studies indicate undesirable effects staff turnover has in higher education institutions within developing economies. In the developing world, particularly in sub-Saharan African (SSA) countries, there is an exodus of highly trained, qualified, and competent human resources to mainly developed economies (Gurmessa, Ferreira & Wissink, 2017).

Oliinyk, Bilan, Mishchuk, Akimov & Vasa (2021), note that the immigration of workers with higher education has a significant impact on the competitiveness and economic development of countries. Barkhuizen, Lesenyeho and Schutte (2020), also point to additional costs for induction and training of new staff, loss of research output, and organisational productivity. In addition, staff departure may reduce the quality of teaching due to mid-semester replacements of lecturers. According to Mushemeza (2016), the institution from which members of staff depart may as well experience undesirable student-to-staff ratios. (Umpierrez, 2021; da Silva, 2020; Valbrun, 2020; Coetzer, Inma, Poisat, Redmond, and Standing, 2018), also note that innovation plays a key role in the competitive advantage of the institution. Therefore, when members of staff leave the institution, innovation capacity in the institution is injured since members of staff have departed with their knowledge; yet innovation behaviour in an academic institution is chiefly enabled by the academic employees of that institution. According to (Veer- Ramjeawon and Rowley, 2019), knowledge retention in HEIs is important because knowledge lies at the heart of the role of universities.

The main aim of this review therefore, was to base on existing literature published in relation to tacit knowledge management in HEIs of developing economies, to understand the current state-of-the-art in these economies in relation to factors that influence tacit knowledge management and the various information systems applied to manage tacit knowledge (in other words, how much are HEIs in developing economies putting in to harness and manage tacit knowledge resident in the brain power of their academic staff).

According to Nunes, Kanwal & Arif (2017), countries in the developed world comprehend the importance of organizational knowledge and are applying innovative technology-based systems to manage that knowledge as a strategic asset.

However, according to (Suknunan and Maharaj, 2019), in African countries (all of which are listed in the developing bracket), there is reportedly a lack of powerful knowledge management systems in their higher education institutions.

Based on the aim stated above, this review, therefore, wished to achieve the following two specific objectives: 1. Understand factors (enablers and barriers) that influence tacit knowledge management in higher education institutions of developing economies. 2. Understand extant tacit knowledge management systems and efforts in place in HEIs of developing economies to harness tacit knowledge held by their academic staff.

The Rest of the paper covers the following: Section 2 handles the systematic literature review, section 3 describes the methodology that was applied, section 4 presents the findings, section 5 provides the analysis and discussion, section 6 looks at the implications of the study, section 7 notes the limitations, section 8 provides the conclusion and section 9 gives the recommendations and future research.

II. THE SYSTEMATIC LITERATURE REVIEW

This systematic literature review evaluates the factors worth considering to inspire tacit knowledge management in HEIs. It also looks at the extant tacit knowledge efforts by HEIs in developing economies.

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Factors that influenced tacit knowledge management were majorly grouped into four superordinate categories as inspired by Horban, Babenko, Lomachinska, Hura and Martych (2021), namely: institutional management practices/behaviour factors; institutional environment factors, factors relating to institutional culture, and individual/personal factors. Specifically, these factors included the following: recognition, attitude to tacit knowledge sharing, management styles (applied in various higher education institutions), staff remuneration, staff turnover (in form of resignation, mandatory retirement, termination of service, secondment), recognition, uncertainty, and mistrust as well as burnout. These factors basically influenced the tacit knowledge management in HEIs.

2.1 Procedure for Conducting the Study

The first steps of the systematic review involved a search for credible publishers of academic literature on knowledge management. We considered the credible publishers of academic literature as those who were not listed in Beall's list of predatory journals and publishers found at http://beallslist.net, and had a reputation spanning a considerably long period of time in scholarly publishing. The scholars identified credible academic journals and selected relevant articles published therein under a blind peer review policy.

2.2 Sources of Credible Academic Knowledge Management Literature

The searches were, therefore, conducted through Emerald Insight, Elsevier, and ProQuest academic research journal publishers. These publishers were chosen because they were known to be credible on the basis that they were not listed in Beall's list of predatory publishers; and in addition, were known to publish double-blind peer-reviewed journal articles and had a reputation in scholarly journal publishing spanning a considerably long period of time. They were also well known to have an edge in publishing academic literature relating to knowledge management.

Academic research articles were selected for those articles published between 2012 and 2022. Much of the review was based on research articles in these journals; save two dissertations, one on 'succession planning in HEIs' by Richards (2016), found to be quite relevant for this study, and another on 'retention of tacit knowledge in higher learning administration' by Muniz (2013).

2.3 Identification of Keywords and Production of Search Queries

The focus of this review was to identify TKM research in HEIs. The following keywords were found necessary: tacit knowledge (TK); tacit knowledge management (TKM); knowledge management systems (KMSs); higher education institutions (HEIs); developing countries; and other keywords as elaborated in 2.4.

2.4 Search Terms and Keywords

The Boolean equations applied combinations of keywords with the operators "AND" and "OR." The keywords associated with the subject or the search terms used in this study for the subject included the following: "tacit knowledge"; "knowledge management" and "higher education"; "tacit knowledge"; "higher education institutions"; "tacit knowledge AND higher education institutions"; "knowledge management". However, the overriding search term was "tacit knowledge", followed by "knowledge management". The overarching keyword the authors applied in all the searches was "tacit knowledge".

The keywords associated with the geographical location included: "LDCs"; "developing countries" "developing economies"; "medium-income countries". The geographical location searches were modified with: "low-income countries"; "lower-medium-income countries"; "low-income countries"; "low developed countries"; "developing countries"; "lower-middle-income countries" and "high-middle-income countries".

This process identified 41,810 preliminary academic journal papers and two dissertations. The inclusion and exclusion criteria were then considered.

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We then filtered all the studies through the following inclusion/exclusion rules:-

Rule #1: The document reports evidence of knowledge management.

Rule #2: The document reports evidence of a higher education institution.

Rule #3: The document was based in a country that qualified as a developing economy.

A total of twenty-three (23) articles from three key publishers of academic literature were finally isolated after satisfying the inclusion criteria.

Papers/articles were gathered if they were related to the following keywords: "Tacit knowledge (TK)"; "Knowledge management (KM)"; "Higher education institutions (HEIs)" in their title, abstract, and/or in the text. We decided to restrict the study to a few keywords because of the restricted focus of the paper. The paper strictly focussed on "higher education institutions", "tacit knowledge", "knowledge management", and 'developing countries'

2.5 Study Period

This review was conducted between January 2022 and August 2022.

2.6 Time Period for Articles Published

A time period of ten years was deemed sufficient enough to inform us of issues affecting 'tacit knowledge management in higher education institutions in developing economies'; and efforts made by HEIs to harness tacit knowledge management.

2.7 Studies Selection Procedure

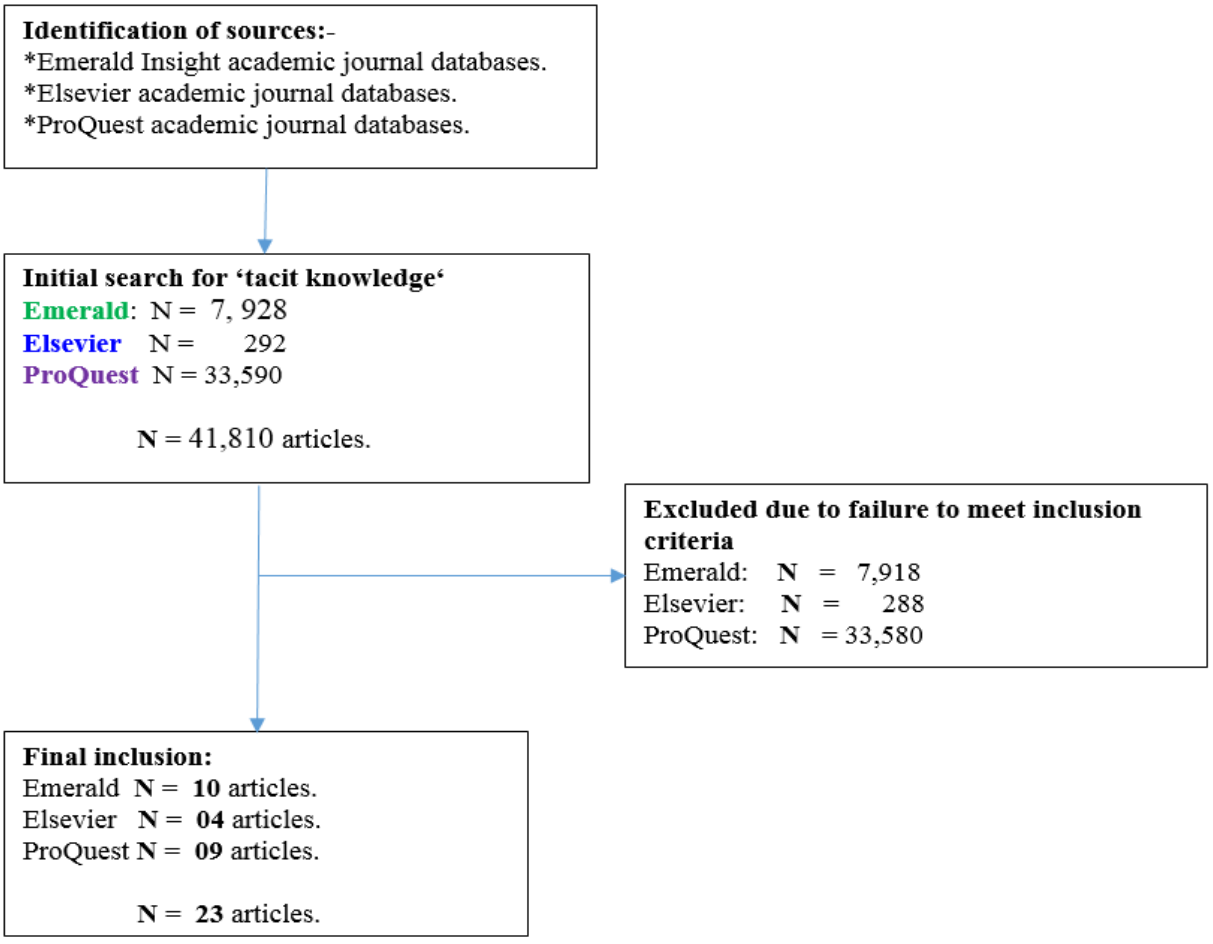

Figure 1: Flow diagram of the studies selection procedure

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2.8 Inclusion Criteria

The study focused on literature between January 2012 and August 2022. Studies included qualitative, quantitative, and mixed-method studies. Only studies subjected to a blind peer review policy were considered. The inclusion criteria included a mention of the geographical location of the study (e.g. the country where the study was conducted or from where data was collected). The number of studies that met the inclusion criteria (23 articles) is illustrated in Figure 1.

2.9 Exclusion Criteria

The exclusion criteria included studies not related to 'knowledge management' in HEIs; studies that were published before 2012; studies in languages other than English and German; studies in high-income countries; studies not guided by a blind peer review policy.

2.10 Data Extraction Format

Data were extracted from the selected articles by the authors following the inclusion criteria checklist. The authors drafted the checklist and a data extraction form was developed.

2.11 Data Extraction Form

The data extraction form involved the author; the year of publication; the title, keywords, the purpose (and gap), the methodology (research design and data collection; where under 'data collection' the sample size where given and the country or countries from where data were collected, were noted); and the findings.

2.12 Managing Results

The results of the search outputs were managed using the reference manager software Mendeley. Mendeley supported the identification and removal of duplicates. This was necessary in order to keep accurate records of the review process. The two authors initially reviewed all titles and abstracts of the studies identified. This was done following the earlier specified search strategy. All published articles were reviewed by the authors independently.

This helped in ensuring consistency. Both authors unanimously shared their findings. Findings were shared after each author independently reviewed the articles. This was important to ensure that requirements were addressed. The rigor used in the selection and analysis of the articles helped to eliminate bias.

2.13 Data Review and Synthesis

Independent selections were merged and compared. A number of studies noted to be duplicates were removed. The authors independently reviewed the abstracts (and where necessary the full text) of the shortlisted articles. Articles were reviewed against the stated inclusion criteria.

III. METHODOLOGY

The study was conducted following a combination of ideas suggested by Jesson, Matheson and Lacey (2011); as well as ideas by Nunes, McPherson, Annansingh, Bashir and Patterson (2009). The latter suggested a methodology that has the following steps: 1. Identification of keywords; 2. Production of search queries; 3. Definition of inclusion and exclusion criteria; 4. Identification of relevant databases; 5. Query of databases and selection of relevant documents; 6. Analysis of the dataset selected.

In this study, the researchers added in aspects like the 'research gap' which the author(s) of the research article had sought to bridge, under 'methodology', the 'study design' and 'data collection'; involving aspects relating to population, 'sample size' and 'country' where the study was conducted, in case these elements were mentioned in the article.

3.1 Methodology Phases

This systematic literature review involved three phases namely: planning the review; conducting the review and reporting the review.

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Table 1: Methodology Phases

Background	Tacit knowledge continues to flow out of higher education and institutions when academic staff members leave for one reason or another leading to undesirable effects.
Research question	What factors influenced and were essential for tacit knowledge management in HEIs of developing economies?
Literature selection strategy	Credible academic research journal articles related to tacit knowledge management in HEIs in developing economies. Sources included the following: Emerald Insight; Elsevier and ProQuest journal article databases of academic literature.
Literature selection criteria	Academic journal articles related to tacit knowledge management published from 2012 to 2022. Search types involved the following rules:- *Rule #1:* The study reports evidence of knowledge management. *Rule #2:* The study reports evidence of higher education institutions. *Rule #3:* The study was based in a country that qualifies as a developing economy.
Literature selection procedure	Journal articles that contained any kind of review, evaluation or assessment about knowledge management in HEIs with special focus on tacit knowledge management.
Data extraction strategy	Data were extracted from each journal paper as follows:- *Author, Year of publication, Source, Title, Keywords, country (economy) Purpose, Gap, Methodology (Research design, Data collection and Country where the study was conducted); and Findings.

3.2 Planning the Review

The planning started with deciding on the review protocol. The review protocol was examined to ensure that it aligned with the purpose of the study and the research objectives. The protocol was then modified to our satisfaction and scrutinised to ensure that the selected keywords were resulting from the research objectives of the study relating to factors that influence tacit knowledge management in HEIs of developing economies, and the various efforts applied in HEIs in developing economies to manage tacit knowledge. The protocol was checked to ensure that the data extracted and the data analysis would address the research objectives.

3.3 Conducting the Review

This research used a systematic review of specialized literature to achieve its objectives. It searched and evaluated primary studies from primary information sources - specifically academic journal articles - collected evidence, summarized the results, and finally drew further conclusions. The search with the keywords was run for each criterion in the search field.

The results for a particular search were reduced according to the following inclusion criterion:-

- The journal paper must have been published between 2012 and 2022. A period of 10 years was considered adequate time to examine the factors that influence tacit knowledge management in these institutions; as well as the information systems applied to manage tacit knowledge in these institutions.
- The focus of the journal paper was factors affecting tacit knowledge management in HEIs.
- The HEI onto which the study was based had to be largely in a developing economy.
- The journal paper had to have been published in an authoritative journal not listed in Beall's list of predatory journals.
- The data collected had to be largely from countries considered to be having a developing economy.

The first step of the review research process involved carrying out preliminary searches relating to credible academic journal publishers. Then a search was carried out for publishers of knowledge management literature. Various relevant journals were then identified per

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publisher. The relevant research articles within each journal worth reviewing were identified. The preliminary searches were aimed at establishing research articles found to be relevant. Several sets of keywords were used to combine the concepts; for example, "tacit knowledge", and "higher education".

3.4 Reporting the Review

A general search for articles containing "tacit knowledge" in Emerald Publishers, yielded 7, 928 journal articles spanning a period of 10 years. The same search in Elsevier yielded 292 journal articles spanning a period of 10 years. The same search in ProQuest yielded 33, 590 journal articles spanning a period of 10 years.

IV. FINDINGS

In the following sections, we present the results relating to the objectives set out which included investigating the factors that influenced tacit knowledge retention and management in HEIs of developing economies; as well as the extant tacit knowledge management systems applied/used in HEIs of developing economies. The study established that the majority of the research studies were generic to knowledge management in HEIs and not particularly specific to tacit knowledge management. These findings, therefore, include research studies focusing on knowledge management in general, in addition to titles that were specific to tacit knowledge management in HEIs of developing economies. Consequently, few studies were found to specifically handle tacit knowledge management in HEIs of countries in developing economies.

4.1 Methodologies Applied in Various Studies Reviewed

The studies reviewed were noted to have applied a variety of study research designs. These included: qualitative; quantitative and mixed designs.

4.2 Sample Sizes in Various Studies Reviewed

Studies were of various sizes and used between 60 and 370 participants. The largest sample size so far was from a research study in Pakistan done by Zreen and Khalid, (2020), with 370 participants. Each article was then analysed and summarized as shown in Tables 2, 3, and 4.

4.3 Search Results from Emerald Academic Journal Databases

The generic search term "tacit knowledge" in Emerald Insight academic journal databases for 'scholarly journals' for the 'last ten years', 'full text' and 'peer reviewed' at the following site: (https://www.emerald.com/insight/search?q=tacit+knowledge&advanced=true&fromYear=2012&toYear=2022), yielded 7, 928 articles. Following elimination by the exclusion criteria, ten (10) articles were found to fit the inclusion criteria. A summary of the results is given in Table 2.

Table 2: Summary of the reviewed articles from Emerald academic journal databases

Author / Year	Title	Purpose	Methodology	Findings
Chen, Y., Xu, Y. & Zhai, Q. (2022).	Networking of corporate universities in knowledge management. Keywords: China, Corporate university, Evolution,	To investigate the evolution of knowledge activities of a corporate university and their relationship, particularly the role of networking in the knowledge management system (KMS).	Study design: Case study design using grounded theory for data analysis. Data collection: Interviews and documentary analysis of Haier's Corporate University in China.	First: Corporate universities were engaged in three kinds of activities: - *Enterprise operational knowledge transfer.

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	Knowledge activities, Networking.	A corporate university is a knowledge management institution established within an enterprise. Gap: Knowledge gap on the role of networking in a KMS.		*Networking activities. *Scientific and technological activities. <u>Second</u>: Networking activities play a key role in the development of corporate universities into knowledge management centres.
Author / Year	Title	Purpose	Methodology	Findings
Fayda-Kinik, S. F. (2022).	The role of organisational commitment in knowledge sharing amongst academics: an insight into the critical perspectives for higher education. Keywords: Academics; Knowledge sharing; Higher education.	To establish whether there were interrelationships between the components of perceived organisational commitment and KS in higher education institutions (HEIs). Gap: Knowledge gap on an empirical examination relating to the interrelationships between components of perceived organisational commitment and KS behaviours in HEIs.	Study design: Quantitative case study design using correlational path analysis. Data collection: Data was collected from employees in a state university in Turkey.	There were significant correlations between organisational commitment components and TKS.

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Nanjundeswaraswamy, T.S. & Swamy, D.R. (2022).	Knowledge management processes and organizational culture in the higher educational technical institutions. Keywords: Knowledge; management; Organisational culture; Higher educational technical Institutions.	To evaluate the relationship between knowledge management and organizational culture. The rationale of the study was to explore the stages of knowledge management, types of organizational culture and their relationship in higher Gap: Knowledge gap on the relationship between KM and organisational culture.	Study design: A cross-sectional quantitative survey using structural equation modelling. Data collection: Data was collected from 233 faculty from the eight educational technical institutions (HETIs) Bangalore, India.	A positive relationship existed between the knowledge management process and organisational culture in HETIs.
Author / Year	**Title**	**Purpose**	**Methodology**	**Findings**
Mona, A.M. (2021).	Persuasion of tacit knowledge in teaching information technology and information systems. Keywords: Externalization; Internalization; Ba; Decontextualization; Taicitization; Synergism.	To examine information technology and information systems (IT/IS) technology teaching and learning (T&L) as affected by three key factors of tacit knowledge (TK). Gap: Knowledge gap on how IT teaching and learning was affected by the three factors of TK.	Study design: Qualitative study design using intensive literature review. Data Collection: From mainstream literature publications.	These factors include: the de-contextualization, the faculty and students' mental model gap and the intrinsic inability of faculty to teach what they know (i.e. the know-how-know what gap).

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Paudel, K.P., Bhattarai, P.C. & Chalise, M. (2021).	Interdependencies between knowledge management and academic performance in higher educational institutions. Keywords: Knowledge management; Knowledge protection; Higher learning institutions; Intellectual capital.	To examine the interdependent relationship between knowledge management (KM) and the academic performance of faculty members in higher educational institutions (HEIs) in Nepal. Gap: Knowledge gap on whether KM practices enhanced academic performance.	Study design: Quantitative survey design using factor analysis and canonical correlation analysis. Data Collection: Data was collected from 445-academic university staff in Nepal.	There was an interdependence between knowledge management and academic performance.
Author / Year	**Title**	**Purpose**	**Methodology**	**Findings**
Farrukh, M., Sajid, M., Zreen, A. & Khalid, R. (2020).	Knowledge sharing in higher education institutes: An empirical investigation of individual characteristics. Keywords: Personality traits; Knowledge sharing; Religiosity; Five-factor model of Personality.	To investigate the relationship between individual personal characteristics and knowledge sharing (KS) in higher education institutions (HEIs). Gap: No previous study had empirically investigated the relationship between individual personal characteristics and KS in HEIs.	Study design: Quantitative survey design. Data collection: Data was collected from 370 respondents from the academic staff of six HEIs in Pakistan.	First: Dispositional factors like extroversion, emotional intelligence and religiosity were found to significantly affect KS. Second: Neuroticism was found to be negatively associated with KS.

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Jain, N. & Gupta, V. (2019).	The impact of knowledge management system on student performance: A case study of the University of Delhi. Keywords: Knowledge management system; Rankings; Higher educational institutions; Student performance.	To empirically test the role of knowledge management systems (KMSs) on the performance of students in higher educational institutions Gap: Knowledge gap on the role of KMSs on student performance in HEIs.	Study design: Quantitative design using structural equation modelling. Data collection: Data was collected from undergraduate students in India.	Empirical evidence supported the view that KMS had a direct significant impact on student performance (SP) in HEIs.

Author / Year	Title	Purpose	Methodology	Findings
Nair, B. V. & Munusami, C. (2019).	Knowledge management practices: An exploratory study at the Malaysian higher education institutions. Keywords: Knowledge management; Knowledge sharing; Tacit knowledge management.	-To investigate knowledge management practices in higher education institutions in Malaysian higher education institutions (HEIs). -To establish whether knowledge management practices were made known to employees in the HEIs. Gap: No study had previously empirically surveyed HEI KM practices in Malaysia.	Study design: -Exploratory Quantitative survey. Data collection: From 273 employees of HEIs in Malaysia.	First: KM practices were important for innovation in HEIs. Second: A knowledge sharing culture was noted to be important in HEIs. Third: A knowledge acquisition culture from experts was noted to be important in HEIs. Fourth: Creating KM awareness among employees was important.

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Rahman, M. S., Mannan, M., Hossain, A., Zaman, M. Habib & Hassan, H. (2018).	Tacit knowledge-sharing behaviour among the academic staff: Trust, self-efficacy, motivation and Big Five personality traits embedded model. Keywords: Bangladesh; Higher learning institutions; Tacit knowledge-sharing behaviour.	To examine the critical success factors relating to tacit knowledge-sharing (TKS) behaviour among the academic staff of higher education institutions (HEIs). Gap: Knowledge gap on an empirical exploration on critical success Factors relating to TKS behaviour among academic staff of HEIs.	Study design: Exploratory quantitative survey. Data collection: -150 usable responses from academic staff of higher learning institutions in Bangladesh.	There were significant correlations between organisational commitment components and TKS.

Author / Year	Title	Purpose	Methodology	Findings
Gera, R. (**2012**).	Bridging the gap in knowledge transfer between academia and practitioners. Keywords: Knowledge organizations; Higher education institutions; Knowledge transfer barriers; Knowledge transfer cycle; Information and communication technologies; Human resource management (HRM).	-To identify gaps in the transfer of managerial knowledge from the academia to industry. -To suggest a strategic approach in form of a framework, based on the KM cycle. Gap: Knowledge gap on strategic approach (or framework) relating to knowledge transfer from academia to industry based on the knowledge transfer cycle, HRM and IT practices.	Study design: Qualitative survey design. Data collection: Literature survey relating to academicians' experiences in India. .	First: There was little transfer of research knowledge from HEIs to industry due to barriers in its creation, diffusion, adoption and utilisation by practitioners. Second: A framework was developed based on the KM cycle, IT and HRM practices to overcome those gaps.

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4.4 Search Results from Elsevier Academic Journal Databases

The generic search term "tacit knowledge" in Elsevier academic journal databases for 'scholarly journals' for the 'last ten years', 'full text' and 'peer reviewed' at the following address:

(https://www.elsevier.com/search-results?query=tacit%20knowledge&page=1), yielded 452 journals. The study browsed through the 452 journals to identify those that were thought to contain articles on 'knowledge management' based on the journal-title.

Ten (10) out of the 452 journals were selected based on the journal-title and these included the following: Knowledge Engineering Journal; Knowledge-based Systems Journal; Journal of Innovation and Knowledge; International Journal of Information Management; Data and Information Management; Library and Information Science Research; Telematics and Informatics; Information Processing and Management; International Journal of Information Management; and International Journal of Project Management.

Each one of the ten (10) journals was cross-checked to identify those that had articles relating to "knowledge management" based on the title of the article. A total of 292 articles were selected from six (6) journals and these included: - Data and Information Management; Data and Knowledge Engineering Journal; International Journal of Information Management; Journal of Innovation and Knowledge; Knowledge-based Systems Journal; Library and Information Science Research.

A search from the six (6) journals for articles that fitted the inclusion criteria was successful from four (4) journals namely: International Journal of Information Management, Journal of Innovation & Knowledge, International Journal of Information Management, and Library & Information Science Research. A summary of the articles extracted is given in Table 3.

Table 3: Summary of the reviewed articles from Elsevier academic journal databases

Author / Year	Title	Purpose	Methodology	Findings
Abbas, A., Avdic A., Xiaobao, P., Hasan, M. M. & Ming, W. (2019).	University-government collaboration for the generation and commercialization of new knowledge for use in industry. Keywords: Research collaboration; University-government; Industry; New knowledge; Generation; Creation; Commercialisation; China.	To establish how bilateral research collaboration could be a source of knowledge generation and commercialisation for use in industry. Gap: Knowledge gap on how bilateral collaboration could be a source of knowledge generation and commercialisation.	Study design: Qualitative design using SECI knowledge creation method for data analysis. Data collection: Focus group discussions with university team leaders and team members in China.	First: Government played a dominant role in the knowledge creation and commercialisation process. Second: Government played a key role in funding universities and creating a research environment that meets the policy requirements of industry today.
Al-Kurdia, O.F.,	The role of organisational	To assesses the role of organisational	Study design:	Results indicated

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El-Haddadehb, R. & Eldabib, T. (2020).	climate in managing knowledge sharing among academics in higher education. Keywords: Organisational climate; Knowledge sharing; Higher education; Theory of planned behavior.	climate, organisational leadership and trust in knowledge sharing (KS) by academics in higher education institutions (HEIs). Gap: Knowledge gap on the role organisational climate played in KS among academics in HEIs.	Quantitative design using partial least squares and variance-based structural equation modelling. Data collection: Data was collected from 257 academics in universities from countries like Saudi Arabia, UAE, Bahrain, Kuwait, Qatar, Oman, Jordan, Egypt and the UK.	organisational climate having a strong influence on academics' KS practices.
Author / Year	Title	Purpose	Methodology	Findings
Chidambaranathan, K. & Rani, S. B. S. (2015).	Knowledge management and organizational culture in higher educational libraries in Qatar: An empirical study. Keywords: Not given.	To examine the relationship between knowledge management (KM) and organizational culture (OC) in higher educational libraries. Gap: Knowledge gap on relationship between KM and OC.	Study design: Quantitative study design using the competing values framework. Data collection: From 122 library staff 16 higher education libraries in Qatar.	First: KM activities were not affected by the demographic profile of the employee. Second: Clan, adhocracy, and market culture were positively correlated to KM. Third: Hierarchy culture was negatively correlated to KM. Fourth: Clan and market culture types were conducive to the success of KM.

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Vick, T. E., Nagano, M. S. & Popadiuk, S. (2015).	Information culture and its influences in knowledge creation: Evidence from university teams engaged in collaborative innovation projects. Keywords: Information culture Innovation project Knowledge creation Teamwork	To empirically analyse the typology of information cultures. Gap: Knowledge gap on information behaviour and values that described information culture in the context of project teamwork.	Study design: Mixture of qualitative study design using categorical content analysis and quantitative descriptive analysis using a t-test and correlation analysis. Data collection: Data was collected from 12 university project teams in Brazil.	First: Two dominant culture profiles were confirmed. Second: There were relationships between the risk-taking culture and knowledge externalisation.

4.5 Search results from Pro-Quest academic journal databases

The generic search term "tacit knowledge" was filtered and sorted by 'relevance', 'full text' and 'peer reviewed'; source type: 'scholarly journal' for the last ten years; in ProQuest academic journal databases at the following address: (https://www.proquest.com/resultsol/898FE42C28A74E03PQ/2#scrollTo), yielded 33,590 articles. Following elimination by the exclusion criteria, ten (10) articles were found to fit the inclusion criteria. A summary of the results is given in Table 4.

Table 4: Summary of the reviewed articles from ProQuest academic journal databases

Author / Year	Title	Purpose	Methodology	Findings
Hidayat, D.S. & Sensuse, D. I. (2022).	Knowledge Management model for smart campus in Indonesia. Keywords: Knowledge management; Information systems; Model; Smart campus (SC); Higher education institution (HEI);	To identify the components of the KM model for smart campuses. Gap: Knowledge gap relating to the components of the KM model for smart campuses. In addition, the use of KM to support SC was less clearly discussed.	Study design: Systematic literature review (SLR) technique with PRISMA procedures. Data collection: Interviews were used for validation and model development. Interviews were collected from various HEIs in Indonesia.	First: KM, IoT, and big data; governance, people, and smart education have the highest trends. Second: IT is the highest priority component. Third: The KM model for SC has five main layers grouped in phases of the system cycle.

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	Systematic literature review (SLR); Preferred reporting items for systematic reviews and meta-analyses (PRISMA); Analytic hierarchy process (AHP).			Fourth: The knowledge cycle at HEIs focuses on education, research, and community service.
Author / Year	Title	Purpose	Methodology	Findings
Li, J. (2022).	Research on collaborative interaction model of knowledge sharing in industry-universit y cooperation. Key words: Not given	To identify key factors which companies and universities are faced with to improve knowledge sharing performance. Gap: Knowledge gap on operation and knowledge sharing and interaction model.	Study design: Qualitative and quantitative designs and analysis. Data collection: From literature search, normative analyses and academic surveys in China.	An operation and knowledge-shar ing and interaction model of compound industry-univer sity cooperation based on role play.
Mabunda, T. T., Du Plessis, T. (2022).	Knowledge management as a change enabler in academic libraries in the digital age. Keywords: Knowledge management; Academic libraries; Change enabler; Change management; Digital age	To explore the potential of KM as a change enabler in the academic libraries in the digital age. Gap: Knowledge gap on the role of KM as a change enabler in academic libraries.	Study design: Mixture of qualitative and quantitative designs. Data collection: From four campus libraries within the University of Johannesburg in South Africa.	Employees resisted change when their comfort zone was threatened; since change may not be aligned with their current knowledge and skills.

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Mazorodze, A. H., Mkhiz, P. (2022).	Factors and variables to promote a knowledge-sharing culture change in higher education institutions of developing countries. Keywords: Knowledge-sharing (KS); Higher education institution; Organisational culture; Recognition; Rewards; Promotion; Motivation.	-To examine the factors that promote knowledge-sharing culture change -To recommend strategies that encourage knowledge- sharing Gap: Knowledge gap on factors that promote KS in HEIs.	Study design: Qualitative survey design. Data collection: Data gathered from a higher education institution in Zimbabwe.	Rewards, recognition, promotion and bonuses were important factors that encouraged a knowledge-sharing culture.
Author / Year	**Title**	**Purpose**	**Methodology**	**Findings**
Pakpahan, D. H. S. R. (2022).	The impact of knowledge sharing on employee performance at Palangka Raya's health college. Keywords: Leader-member exchange, Satisfaction, Innovation, Knowledge Sharing, Performance.	To establish the impact of KS on employee performance. Gap: Knowledge gap on influence/impact of KS on employee performance.	Study design: Quantitative survey design using descriptive and inferential statistical analysis. Data collection: From 75 randomly sampled respondents in Indonesia.	KS had a positively moderating effect on employee performance.
Phaladi, M. & Ngulube, P. (2022).	Mitigating risks of tacit knowledge loss in state-owned enterprises in South Africa through knowledge management practices. Keywords:	To explore KM practices in the South African SOEs to mitigate the risks inherent in tacit knowledge loss. Gap: Knowledge gap on KM practices in South African SOEs that mitigate the risk of knowledge loss.	Study design: Mixed methods research strategy using an exploratory sequential design. Data collection: Quantitative data –Collected from 145 respondents in three SOEs.	Majority of the SOEs lacked KM practices in their structures.

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	Knowledge management (KM) practices; Knowledge loss; South Africa; State-owned enterprises (SOEs); knowledge transfer; knowledge retention.		Qualitative data: through interviews and document analysis of 2018 annual reports in 9 SOEs across five market sectors in South Africa.	
Author / Year	Title	Purpose	Methodology	Findings
Zhao, J. (2022).	Influence of knowledge sharing on students' learning ability under the background of "5G+AI". Keywords: "5G+AI"; Knowledge sharing; Student; Learning ability.	To analyse the impact of knowledge sharing on students' learning ability. Gap: Knowledge gap on role played by "5g + AI" technology in improving learning ability.	Study design: Quantitative survey design using confirmatory factor analysis. Data collection: From 153 university teachers and students in China.	First: The willingness to share knowledge had a positive role in promoting the improvement of students' learning ability. Second: "5G + AI" technology played an intermediary role in promoting knowledge sharing behaviour and improving learning ability.
Halaf, M. S. & Dawood, S. J. (2020).	Factors affecting knowledge sharing among faculty members specializing in information and libraries: An exploratory study prepare. Keywords: Knowledge sharing; Information and libraries;	To identify the factors affecting the practice of knowledge sharing (KS) among faculty members who specialize in information and libraries in Iraqi universities. Gap: Knowledge gap on factors affecting KS among staff	Study design: Quantitative design using descriptive statistics and analysis of variance. Data collection: From staff who specialised in library work and information work	First: Personal factors were found to be affecting KS among staff. Second : Organisational & administrative factors were found to be affecting KS among staff.

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	Teachers; Universities; Iraq.	specialising in library work and information work in HEIs.	in universities in Iraq.	
Author / Year	Title	Purpose	Methodology	Findings
Seeletse, S. M. & Thabane, J. L. (2016).	Foremost causes of high academic turnover rate at some South African universities. Keywords: Academic turnover; Job satisfaction; Recruitment; Retention.	To understand the experiences of resigning academics in higher education institutions (HEIs) of South Africa. Gap: Knowledge gap on experiences of resigning academics.	Study design: Qualitative survey design. Data Collection: 136 resigned respondents were interviewed directly and 56 provided copies of exit interviews from HEI employees in South Africa.	First: HEIs were negligent by failing to develop the appropriate policies for the new dispensation. Second: Bad practices of appointing line and middle managers.

4.6 Categorisation of factors affecting TKM in HEIs in developing economies

The study, therefore, identified four superordinate themes relating to factors affecting tacit knowledge management systems (TKMS) in higher education institutions (HEIs) in developing economies. The themes were grouped in four superordinate categories borrowed from Horban, Babenko, Lomachinska, Hura and Martych (2021), as follows: individual and personal factors, institutional practice factors (hereinafter also known as institutional management practice factors), institutional environment factors, and factors relating to institutional culture. A summary of these factors is provided in Table 5.

Table 5: Categorisation of factors affecting TKMSs in HEIs in developing economies

Theme	Factors
Individual and personal factors	Share/hoard dilemma, interpersonal trust and willingness of staff to communicate and share knowledge, personal commitment to the institution, fear of job loss, burnout.
Institutional management practice factors	Strategies for TKM in HEIs, initiatives in HEIs for TKM, staff remuneration, level of awareness of the need to manage TK within the institution, leadership practices.
Institutional environment factors	Institutional /organisational structure, KM formalisation, knowledge-sharing and networking among academics, working conditions, institutional/organisational policies.
Individual and personal factors	Share/hoard dilemma, interpersonal trust, and willingness of staff to communicate and share knowledge, personal commitment to the institution, fear of job loss, burnout.

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4.6.1 Individual and personal factors

Some experts may not be willing to part with their tacit knowledge for fear of job loss if they shared all their knowledge (Hislop, 2018). Some academics deliberately hide especially their tacit knowledge (Hernaus, Cerne, Connelly and Po, 2018). Interpersonal trust and willingness of staff to communicate and impart their knowledge are important factors (Chandran & Almmari, 2021). This review also notes that scholars get affected by burnout (Kabunga, 2020). Commitment to the institution/organisation is another personal factor as (Fayda-Kinik, 2022) notes.

According to Supermane (2019), a teacher's tacit knowledge was deeply rooted in the mind. Such knowledge includes ideas, emotion, cognition, teaching organization management capacity, teaching methods, and teaching skill. Teacher tacit knowledge was transformed through socialization and internalization. Socialization of knowledge achieved knowledge conversion through discussion, watching instructional videos, and listening to the lectures of outstanding teachers. Internalization of knowledge realised the knowledge conversion from explicit knowledge to tacit knowledge. This was achieved through "learning by doing", which translated into an excellent teaching experience, which teachers applied in the actual teaching.

4.6.2 Institutional environment factors (Rules, Regulations, Policies and the social environment)

Policies on succession planning do lack in a number of HEIs (Richards, 2016). One study noted that there were no formalised knowledge-sharing mechanisms (Charles and Nawe, 2018). No HEI in developing economies had formalised TKMs. No study was noted to relate to TKM formalisation in an HEI in these economies.

One study based in a developed economy noted knowledge reciprocity as positively associated with tacit knowledge sharing. In addition, relational social capital and cognitive social capital were positively associated with tacit knowledge sharing (Ganguly, Talukdar, Chatterjee 2019).

In the same vein, both tacit knowledge sharing and the quality of knowledge were positively associated with innovation capability. However, in a number of developing economies, some corporate universities were noted to be networking in knowledge management (Chen, 2022).

4.6.3 Institutional management practice factors

According to Charles and Nawe (2018), there was a low level of awareness of KM in HEIs. The need to establish knowledge management capacity in key areas within the institution was also noted by Nair and Munusami (2019). There was frustration with line managers who did not understand academic issues and challenges (Seeletse and Thabane, 2016). In addition, authentic leadership had a significant impact on employee creativity, job performance, and knowledge sharing (Alzghoul, Elrehail, Emeagwali and AlShboul, 2018).

4.6.4 Institutional culture factors

Available literature indicated a need to modify organisational culture in order to support desired knowledge behaviour. The argument was that culture had an influence on one's attitude towards knowledge behaviour (Ali and Ibrahim, 2021). The need for a culture of knowledge sharing was noted (Hislop, Bosua, and Helms, 2018). Organisational culture was also noted to stimulate scientific research (Horban, Babenko, Lomachinska, Hura and Martych, 2012).

Karnani (2013), notes that transferring tacit knowledge into explicit knowledge would basically depend on the institutional culture and the structure of the university in question. Horban, Babenko, Lomachinska, Hura and Martych (2021), point out that the culture of knowledge management is considered at three main levels namely: cognitive level, management level, and technological level.

Cognitive level: The cognitive level implies a change in the style of thinking; mobilisation of intellectual potential and creativity.

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Management level: At the management level, the use of analytics and innovative leadership is necessary. The argument here was that it was not in the culture of the HEIs to put in much effort to mobilise the harnessing of intellectual potential possessed by staff members in the HEI.

However, according to Burnette (2017), the element of trust was found to be important in knowledge-sharing behaviour. Mentoring/ mentee roles were noted to be significant drivers of tacit knowledge exchange. A better understanding of the nature of tacit knowledge by the management of the HEI was, therefore, necessary.

According to (Al-Kurdia, Haddadehb and Eldabib, 2020), organisational culture, specifically relating to leadership culture; and the culture of trust among academics were all noted to be important in promoting knowledge-sharing activities.

Technological level: At the technological level, the use of information and communication technology in the accumulation, transfer, and use of knowledge was called for. Some HEIs apparently lacked the culture of creativity in harnessing knowledge retention and management. In addition, some HEIs lacked the culture of applying information and communication technology applications in KM.

(Hidayat and Sensuse, 2022), note that HEIs that had implemented ICT used different terms, such as 'campus information systems', 'academic information systems (AIS)', 'e-learning', 'digital campuses', and even 'smart universities' or 'smart campuses'. The difference between these terms is that there is no agreed standard or indicator.

In some countries like China, 5G technology and artificial intelligence (AI) were already in use by a number of HEIs (Zhao, 2022) to manage knowledge. In some institutions, cloud-based knowledge management had been embraced (Noor, Younas, & Arshad (2019).

4.7 Extant tacit knowledge management efforts in place in HEIs of developing economies

A knowledge management system (KMS), based on mainstream literature, is generally known as any type of information technology (IT) system designed to do the following: Locate knowledge sources; Capture knowledge; Process the knowledge captured, Store knowledge; Retrieve knowledge; Mine knowledge repositories for hidden knowledge; Improve collaboration, and Utilise knowledge.

A KMS has been defined by different scholars in diverse dimensions. According to Ikenwe and Igbinovia (2017), a KMS is a tool or information and communication technologies (ICTs) that can be used to store, disseminate, collaborate and identify sources of knowledge, in order to support the generation, capture, share, retrieval and use of knowledge to enhance access to sources of information and knowledge by individuals, organizations, and nations as a whole.

According to Laudon and Laudon (2020), knowledge management systems (KMSs) are used to harness the knowledge base of staff, users, clients, or customers of an organisation. There are three types of knowledge management systems in organisations namely: enterprise-wide systems, knowledge work systems, and intelligent techniques. Basing on this review, existing knowledge management systems in HEIs of developing economies were mainly related to knowledge work systems. These systems chiefly involved getting easy access to external knowledge bases, document management, and provision of communication capabilities. In this review, systematic and deliberate tacit knowledge management systems in HEIs in developing countries were noted to be virtually absent.

None of the literature reviewed brought evidence of the application of enterprise-wide KMSs systems and intelligent techniques specifically focusing on tacit knowledge management in HEIs of developing economies. In addition, this literature review does not indicate evidence of frameworks that have been adopted to harness tacit knowledge in HEIs of developing economies. One framework - the KMPro

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framework developed by Ibrahim & Ali (2021), merely provides guidelines.

4.8 Knowledge management practices in HEIs of developing economies

There has been little empirical research we came across to examine TKM practices in HEIs. Mainstream literature notes that HEIs were aware that knowledge today is the "world's gold standard". They know that a knowledge-based economy can help a country attain sustainable rapid growth. Such an economy can help a country become globally competitive in the long run. We came across studies relating to knowledge networks of researchers who meet on various knowledge-sharing platforms to share knowledge (tacit and explicit knowledge).

Based on this review, knowledge management (KM) was not yet fully institutionalised in a number of HEIs of developing economies. There were though existing knowledge networks of researchers and academics unwittingly sharing both tacit and explicit academic knowledge, and apparently trusting each other and feeling obliged to share insights with each other. One example of such a network was the *ResearchGate* network which has a good number of researchers based in various HEIs in developing economies actively participating and sharing knowledge related to academic research.

V. ANALYSIS AND DISCUSSION

This review so far reveals that there are several factors that affect tacit knowledge management systems (TKMSs) in HEIs in developing economies. These factors vary from one country to another. The authors unanimously agreed to thematise the findings.

After a rigorous process, the authors concluded with the following superordinate themes borrowed from Horban, Babenko, Lomachinska, Hura and Martych (2021), in relation to factors identified: individual personal factors, institutional management practice factors, institutional environmental factors, factors relating to institutional culture.

VI. THE IMPLICATION OF THE STUDY

The knowledge obtained from this review is essential in informing policy relating to TKM in HEIs. The knowledge is a stepping stone in evolving future models and frameworks to support tacit knowledge management in HEIs.

VII. LIMITATIONS OF THE STUDY

This study is limited to TKM in developing economies. This study's findings and implications were based on the information obtained from the selected articles and biased to the observations made by the authors.

VIII. CONCLUSION

This study concludes with a discussion of the need to support tacit knowledge management especially its retention within higher education institutions. This is important because tacit knowledge keeps flowing out of these institutions unrestrained. Tacit knowledge in HEIs was generally under-researched in HEIs of developing economies. The study also reveals that tacit knowledge management in HEIs in developing economies is still an area that is under-researched based on the number of relevant articles that met the inclusion criteria in this study.

IX. RECOMMENDATIONS AND FUTURE RESEARCH

The study recommends more studies on tacit knowledge management in HEIs of developing economies. This review asserts that in order to improve knowledge management, higher education institutions (HEIs), should integrate their process models and data models in conjunction with the knowledge management perspective and give special treatment as well to tacit knowledge management.

This study recommends that any models and frameworks that may be developed for TKM in HEIs should take care of the four factors identified namely: personal factors, institutional environment factors, and institutional practice factors and factors relating to institutional

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culture. These factors are applicable to both explicit knowledge and tacit knowledge.

The study also recommends that there is a need to develop a unified baseline system, framework, methodology, or model that all other HEIs could use as a benchmark to support the management of institutional tacit knowledge.

Future research should, therefore, delve into mechanisms, systems frameworks, and methodologies that HEIs can adopt to improve/ support tacit knowledge management in HEIs. Future research may as well handle studies like 'influence of personality on tacit knowledge sharing' in HEIs. This is because according to Hislop, Bosua and Helms (2018), tacit knowledge sharing is known to be key in enhancing innovation in HEIs; yet issues related to 'influence of personality' though thought important to consider in relation to innovative behaviour, are under-researched.

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Authors' contributions

L.G. collected the academic research articles from publishers of academic literature, reviewed all of them, and wrote and typeset the research paper. A.H.E as the study supervisor gave direction and all the necessary support in reviewing the articles and in writing the research paper. Both writers read and approved the final draft of the document.

Competing interests

The authors declare that they had no financial or personal interests whatsoever that may have inappropriately influenced them in writing this article.

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SUMMARY

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The theory consulted allowed establishing the parameters to investigate in each document. The sample included the same number of degree projects from each of the eleven professions formed by the Faculty of Medicine of the University of El Salvador; the choice of documents was random.

Keywords: scientific rigor, faculty of medicine, university of el salvador, degree projects, thesis.

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Nivel de Rigor Científico en Tesis del 2017 en la Facultad de Medicina, Universidad de el Salvador

Edwin Mazariego Flores

SUMMARY

A sample of 55 research papers to qualify for an academic degree that were enrolled in the Library of the Faculty of Medicine in 2017 was reviewed. Realizing the scientific rigor with which the degree studies are accepted is the objective of the study.

The theory consulted allowed establishing the parameters to investigate in each document. The sample included the same number of degree projects from each of the eleven professions formed by the Faculty of Medicine of the University of El Salvador; the choice of documents was random.

There are skills to write the objectives of research with scientific rigor. Also, it was possible to demonstrate low level of scientific rigor in a good part of the documents because, mainly, of lack of organic coherence between the components evaluated in the study and also to the deficient way of expressing the conclusions

Keywords: scientific rigor, faculty of medicine, university of el salvador, degree projects, thesis.

RESÚMEN

Se revisó una muestra de 55 trabajos de investigación para optar a grado académico que fueron inscritos en la Biblioteca de la Facultad de Medicina en el año 2017. Dar cuenta del rigor científico con el que son aceptados los estudios de grado, es el objetivo del estudio.

La teoría consultada permitió establecer los parámetros a investigar en cada documento. La muestra comprendió igual número de trabajos de grado de cada una de las once profesiones que forma la Facultad de Medicina de la Universidad de El Salvador; la elección de los documentos fue al azar.

Existen habilidades para redactar con rigor científico los objetivos de las investigaciones. También, se logró evidenciar bajo nivel de rigor científico en buena parte de los documentos a causa, principalmente, de falta de coherencia orgánica entre los componentes evaluados en el estudio y también a la deficiente forma de plasmar las conclusiones

Palabras clave: rigor científico, facultad de medicina, universidad de el salvador, trabajos de grado, tesis.

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I. INTRODUCCIÓN

Este estudio busca evaluar el nivel del rigor científico con que se aceptaron los estudios científicos para optar a grado académico en la Facultad de Medicina durante el año 2017.

La situación problemática responde por una parte a inconsistencias encontradas en trabajos de graduación que incidentalmente se consultaron y, por otra parte, a la falta de sistematización del hacer investigativo estudiantil y docente en la Facultad de Medicina.

La literatura consultada proveyó los parámetros a ser evaluados. Se refieren varios estudios científicos similares que orientaron este estudio y que además constituyen las fuentes de donde fueron tomados los parámetros evaluados en el mismo.

El abordaje metodológico cuantitativo permitió diseñar una escala de rigor científico con la que fueron medidos algunos aspectos de los documentos escritos o tesis. Se procede a la exposición de los resultados del estudio para posteriormente, discutir de los mismos. Una vez analizados y disertar los resultados del estudio, se enlistan algunas conclusiones emanadas. Finalmente se exponen algunas recomendaciones y las referencias utilizadas.

II. EL PROBLEMA

La Facultad de Medicina imparte 11 carreras de grado académico y, tiene además 3 maestrías y 13 "especialidades médicas" de posgrado. El hacer investigativo es diverso en función de la variedad de disciplinas científicas de la salud; sin embargo, sin importar el abordaje metodológico utilizado, los trabajos de investigación o tesis han de ceñirse al método científico, invariablemente. Sin embargo, al revisar algún estudio de grado, con frecuencia se encuentran deficiencias de diversos tipos en los documentos.

Indagar sobre el rigor científico de los estudios de grado en la Facultad es un asunto novedoso por cuanto que no existe un mecanismo administrativo de evaluación de tesis de grado, más que los docentes del jurado que aprueban o desaprueban cada investigación. Una vez aprobado un estudio se da por sentado que goza de rigor científico. Proponer estrategias de mejora, dirigidas en congruencia de los resultados de este estudio, cualquiera que fueran los mismos, es una terea que escapa a este estudio.

2.1 Problema General

¿Con qué rigor científico fueron aceptados y promovidos los trabajos de investigación para optar a grados académicos durante el año 2017 en la Facultad de Medicina, Universidad de El Salvador?

2.2 Objetivo General

Evaluar el rigor científico de los trabajos de grado para la obtención de título académico en la Facultad de Medicina.

III. JUSTIFICACION

La Importancia de conocer acerca de la calidad de los estudios de investigación que la Facultad de Medicina admite para la promoción de grado académico, es trascendental para la institución educativa. Los centros de educación superior deben de ser la vanguardia en las investigaciones.

La factibilidad del estudio está basada en el libre acceso a las tesis de la Biblioteca de la Facultad de Medicina y al repositorio en línea de la Universidad de El Salvador, donde también se pueden consultar. Por otra parte, este hecho brinda la posibilidad de constatar los hallazgos investigativos evidenciados, es decir, son ostensibles.

Desde un contexto particular, este trabajo pretende ser un primer asomo exploratorio a la labor investigativa en la Facultad de Medicina; y, por ello, únicamente se ha tomado una muestra representativa del universo de trabajos de grado. Sin embargo, funda las primeras orientaciones para una investigación más profunda.

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IV. MARCO TEÓRICO

4.1 Antecedentes

La Facultad de Medicina como centro nacional de formación de educación superior del país, constituyó por más de un siglo el único centro de formación superior. "Entre 1841 y 1965 – es decir por 124 de vida independiente- en El Salvador solamente hubo una universidad" (Valle, 1991, pág. 258). En la actualidad existen al menos cinco universidades más que brindan formación en salud en el país.

Las instituciones de educación superior han de integrar la vanguardia en las investigaciones en las sociedades; por ello la Facultad de Medicina debe de cualificarse cada vez más en el hacer investigativo. Los planes de cualificación siempre se inician con la determinación del estado actual del aspecto a cualificar.

Con excepción de los estudiantes que al final de su formación han obtenido un coeficiente de unidades de mérito elevado o CUM honorífico, todos los alumnos formados en la Facultad de Medicina (once profesiones) tienen por requisito la realización de un estudio científico de graduación. Una vez aprobada la tesis, los graduandos deben entregar copias escritas y digitales al sistema bibliotecario de la universidad, donde el público puede acceder libremente a ellas en físico o a través del repositorio institucional.

Las carreras de grado que la Facultad de Medicina posee, se distribuyen administrativamente en dos escuelas, una de medicina, donde se atiende la carrera de grado denominada "Doctorado en Medicina" y otra, la Escuela de Tecnología Médica donde se atienden diez carreras con grado de licenciatura (anestesiología e inhaloterapia; salud materno infantil; radiología e imágenes; fisioterapia y terapia ocupacional; educación para la salud; salud ambiental; optometría; nutrición; enfermería; laboratorio clínico). Cada escuela tiene un documento que norma las investigaciones de trabajos de grado o tesis (Ramos de Linares, 2014) (Escuela de Medicina, 2018).

Durante el año 2017, la biblioteca de la Facultad de Medicina inscribió 216 tesis de grado de las 11 carreras que forma, este dato no toma en cuenta los trabajos científicos que produce la unidad de posgrado, representados por las Maestrías y las Especialidades Médicas.

Los trabajos de grado recibidos por la Biblioteca el pasado año, representan buenamente la situación investigativa estudiantil, y además, el rigor científico ejercido y exigido por los docentes asesores. Por disposición legal, son los docentes de la institución quienes han de ser los asesores de los trabajos de graduación. De tal manera que los documentos presentados como tesis son o representan un buen indicador del hacer investigativo de la Facultad de Medicina y en consecuencia, del nivel de rigor científico que ostentan.

4.2 Bases Teoricas

La teoría relacionada a la investigación científica muestra que la evaluación es fundamental en todo programa, plan o política de investigación. La literatura plantea maneras más o menos globalizadas de evaluación para determinar la calidad de los trabajos de investigación. (Granell Zafra, 2015); (Guallar, Conde, de la Cal, & Martín-Moreno, 1997); (Arada Rodríguez, Pérez Labrador, Santalla, Valverde Bravo, & Diaz Diaz, 2007).

La cienciometría como un índice de evaluación de la calidad científica de la investigación en función de las referencias utilizadas y el prestigio de las mismas. Es decir, por el valor cualitativo de los análisis de citas, la implementación de indicadores "cienciométricos" con fines evaluativos, para la evaluación de la ciencia. (Arencibia Jorge & Moya Anegón, 2008).

Otro término índice acuñado es la bibliometría: El uso de indicadores bibliométricos para estudiar la actividad investigadora, se basa en que las publicaciones científicas, volumen, evolución, visibilidad y estructura. (Camps, 2008). Sin embargo, en este mismo artículo el autor expone que estos índices dan cuenta más de la cantidad que de la calidad de las investigaciones. Una reflexión sobre los índices cienciométricos o

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bibliométricos lleva a suponer que están diseñados desde una posición que invisibiliza cualquier estudio en tanto no sea publicado por una revista "primermundista" de prestigio.

El cometido del presente estudio se ciñe a determinar el nivel de rigor científico de las tesis aceptadas en la biblioteca durante el año 2017; también por la importancia que eventualmente representa realizar esfuerzos administrativos o educativos que logren mejorar la calidad educativa en la Facultad de Medicina. La inquietud de investigación que aquí se expone no se refiere al posicionamiento de los estudios de tesis erx0x v bbbbbn revistas reputadas, sino más bien, evidenciar la situación concreta actual del rigor científico con que son aceptadas y promovidas las tesis de grado en la Facultad de Medicina.

Se plantea como rigor científico intrínseco de las investigaciones, los rasgos o características que los estudios deben tener para poder ser tomados en cuenta, como científicos; "La Guía de buena práctica clínica" constituye también una estrategia para comprobar que las investigaciones se han efectuado de acuerdo con criterios científicos estrictos y respetando los principios éticos aceptados internacionalmente . (Arias Valencia & Hernández Pinzón, 2009).

No se busca soslayar que buena parte de la responsabilidad de aceptar y promover un estudio de tesis recae en el cuerpo docente encargado, pero este estudio se limita a los documentos escritos que fueron entregados a la Biblioteca de la Facultad de Medicina durante el año 2017, sin hacer alusión a las causas que expliquen sus resultados, fueran estos satisfactorios o insatisfactorios.

Estudios revisados plantean investigar desde distintas perspectivas los documentos de tesis a evaluar; así, Chambi Mescco discurre su estudio evaluando las dimensiones de rigor científico: planteamiento del estudio, marco teórico, metodología de la investigación, trabajo de campo y proceso de contraste de hipótesis, conclusiones y aspectos complementarios. (Chambi Mescco, 2017); sin embargo, estos criterios no prelan los objetivos de la investigación como rasgo primario, sino secundariamente, son evaluados dentro de una dimensión.

Los objetivos consignados de toda investigación constituyen "un aspecto de cardinal importancia para el buen desarrollo de un estudio científico, por cuanto conforman el eje en torno del cual gira el proceso investigativo. La redacción misma de los objetivos se ha visto en muchos casos que adolece de problemas; "también el caso de objetivos, que cumplen con los requisitos formales de los objetivos pero que no cumplen con responder a la pregunta de investigación propuesta" (Sabaj, 2009)

Un grupo de cientistas en un estudio titulado: El ABC en la revisión de una tesis de grado (2013), categorizan en tres los aspectos a estudiar: Revisión general, Revisión por acápites y Valoración integral. Pormenorizan cada aspecto y exponen además, una dimensión que parece tener importancia para el caso de la Facultad de Medicina, tomando en cuenta las sucintas revisiones realizadas para la planificación de este estudio: la mencionada dimensión se refiere a la redacción científica, dicen: Tres principios básicos de la redacción científica: 1. Precisión: significa usar las palabras que comunican exactamente lo que quieres decir; 2. Claridad: significa que el texto se lee y se entiende fácilmente; 3. Brevedad: significa 2 cosas: incluir solo información pertinente al contenido del artículo y comunicarla con el menor número posible de palabras. También enlistan las fallas de redacción más comunes: Sintaxis descuidada, Concordancia, Pronombres ambiguos, Puntuación deficiente, Faltas ortográficas, Redundancia, Verbosidad y vocabulario; y Longitud de oraciones y párrafos (Orozco González, Orozco, Asorey, & Romero García, 2013)

También es menester referir en este breve aparato crítico las bibliografías o referencias de los estudios que se precien de científicos, para lo cual se hace mención a un estudio donde: Analizaron varias tesis y disertaciones, así como artículos de revistas académicas en Estados Unidos y México, consultaron a varios profesores iberoamericanos,

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y encontraron parámetros como los siguientes: en una investigación dentro de la formación de grado, para una materia o asignatura el número puede variar entre 15 y 25, en una tesina entre 20 y 30, en una tesis de licenciatura entre 25 y 35, en una tesis de maestría entre 30 y 40, en un artículo para una revista científica, entre 40 y 60. En una disertación doctoral el número se incrementa entre 60 y 120 (no son de ninguna manera estándares, pero resultan en la mayoría de los casos). (Hernández Sampieri, Fernández Collado, & Baptista Lucio, 2014, pág. 81). Estos datos proveen parámetros que, aunque relativos, han de servir para la discusión de los resultados de este estudio.

En acuerdo con un estudio que dice que: Existen elementos claves, que permiten identificar, a priori, si la investigación cumple con los requisitos básicos para ser aceptada (Orozco González, Orozco, Asorey, & Romero García, 2013) Para la elección de indicadores del nivel de rigor científico fueron ponderados aquellos aspectos de fueran significativos y de fácil constatación.

Tomando en cuenta la bibliografía consultada y las condiciones de realización del estudio, se evaluarán únicamente los siguientes aspectos: el título de la tesis, los objetivos, algunos aspectos del diseño metodológico, las conclusiones, la bibliografía y ciertos aspectos relacionados con la redacción. De cada uno de los aspectos evaluados, se buscaron solo aquellos rasgos que usualmente se consignan en el documento y, por ello, de constatación expedita.

Se han elegido los rasgos a estudiar de la siguiente manera:

- Comprobar si el título deja claro el objeto de estudio, variables, unidades de análisis, tiempo, espacio.
- Si existe correspondencia entre el título y el objetivo general
- Comprobar si existe correspondencia entre los objetivos y el diseño metodológico de la investigación (alcance del estudio, idoneidad)
- Verificar si a través del método se alcanzan los objetivos
- Verificar si las conclusiones dan salida a los objetivos y no solo constituyen repeticiones de los resultados de la investigación.
- Verificación el nivel de actualización de la bibliografía (75 % o más de los últimos 5 años) para los artículos de revistas, boletines, entre otros. Para el caso de libros, debe ser hasta 10 años.
- Respecto de los rasgos lingüísticos, se evaluaron: sintaxis, concordancia, puntuación y ortografía; plasmados en lo escrito en el título, objetivos, aspectos metodológicos, las conclusiones y bibliografía.

V. MÉTODOS Y MATERIALES

5.1 Metodos

Se realizó un análisis documental de 55 tesis que fueron seleccionadas de forma aleatoria de la biblioteca de la Facultad de Medicina, se calculó la muestra con la fórmula de ecuación estadística para proporciones poblacionales finitas, se consideró con un nivel de confianza de 90% y un margen de error de 10%. El procedimiento de muestreo se realizó, de la siguiente manera: se solicitó al bibliotecario, proporcionara una tesis de cada una de las 11 carreras, que además fueran elegidas al azar y que hubieran sido ingresadas a la biblioteca en el año 2017. Este procedimiento se realizó cinco veces, una vez analizado cada grupo de 11 tesis se solicitó el siguiente grupo hasta completar las 55 tesis. Durante el año 2017 fueron ingresadas a la biblioteca 216 tesis, que constituyen el universo muestral de este estudio.

Asimismo, es una investigación cuantitativa y exploratoria, por cuantificar los referidos rasgos de los trabajos de investigación para optar al grado académico; aun cuando algunas de las características relacionadas elegidas fueran fundamentalmente cualitativas, se cuantificó su frecuencia. Es transversal en el tiempo al referirse a los trabajos de graduación inscritos en la biblioteca de la Facultad de Medicina durante el año 2017, sin tomar en cuenta las fechas en las que fueron ejecutadas las investigaciones.

Para la recogida de datos, se diseñó un instrumento a manera de lista de cotejo, cuya validación se realizó en la biblioteca de la

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Facultad de Química y Farmacia, UES. La validación derivó en la modificación de algunos aspectos del instrumento. El instrumento tiene por objetivo indagar sobre algunos rasgos que dan cuenta del rigor científico de los trabajos de grado para la obtención del título en la Facultad de Medicina.

Para el análisis e interpretación de los resultados se le asignó valores a cada posible hallazgo, los cuales fueron ponderados de la siguiente manera:

Puntajes de la Escala de Estimación

Sí 1 No 0 Muy alto 5 Alto; 4 Medio (Bueno); 3 Bajo (Regular); 2 Nulo (Deficiente) 1 Relación de conclusiones con resultados (Preg. 4.5): Sí 3; Medianamente 2; NO 1 De tal modo que al sumar todos los resultados, la interpretación queda establecida de la siguiente manera:

- El rango de puntuación máxima 60 a 74 indica que el documento posee un alto rigor científico.
- Entre 59 a 45, el documento se establece en la categoría de rango medio de rigor científico
- Menor o igual a 44 de puntuación, el documento es deficiente o con bajo rigor científico.

5.2 Materiales

Se diseñó un instrumento de medición tipo lista de cotejo, donde fueron registrados los rasgos en estudio de cada tesis o trabajo de investigación de grado. Los datos ponderados fueron procesados en el software SPSS, para su análisis.

VI. RESULTADOS

Sobre el título del trabajo, respecto del número de palabras contenidas en los títulos de investigación se tiene como moda estadística 44 palabras, con una media aritmética de 35.8 palabras. Otro aspecto que desmejora los títulos de las investigaciones es el uso de acrónimos en un 16.5% de las tesis. Por otra parte, la correspondencia entre el título y los objetivos del estudio se pudo constatar en el 80% de los casos, aceptable rigor científico si sumamos los valores de medio, alto y muy alto; la expresión del problema estudiado en el titulo presentó un comportamiento variado como puede verse en el cuadro siguiente:

Cuadro 1: Expresión del problema estudiado en el título

Válido	Nulo	2	3,6
	Bajo	11	20,0
	Medio	18	32,7
	Alto	22	40,0
	Muy Alto	2	3,6
	Total	55	100,0

Los títulos de los trabajos de investigación de grado, expresan el problema estudiado con rigor científico solo en el 76.3% de los casos (al sumar medio, alto y muy alto); al sumar bajos y nulos representan el 23.6% .

Sobre los objetivos de investigación, la correspondencia entre objetivos generales y específicos con rigor científico (RC) muestra una situación donde el 36.3% son clasificados entre bajo y nulo; 34.5% con RC medio y solo el 29% entre alto y muy alto.

Al evaluar la correspondencia entre objetivos y título del estudio, los valores muestran mejoría por cuanto que solo el 18.2% se posicionan entre bajo y nulo, 36.4% con RC medio y 45.4% entre alto y muy alto. Cuando son evaluados individualmente, los objetivos mejoran dramáticamente, alrededor del 96% gozan de ser claros, medibles, precisos, usan verbos en

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infinitivo y, en algún aspecto, responden al problema de estudio.

Sobre el diseño metodológico planteado en los estudios de grado, se puede afirmar que la totalidad de estudios son realizados desde una perspectiva de investigación cuantitativa, así mismo, no lo consignan. La congruencia del diseño metodológico con los objetivos de estudio es alta, 80%; solo el 20% son clasificados como bajo o nulos, lo cual es elevado si se toma en cuenta que son trabajos de grado académico universitario.

En cuanto a las conclusiones, la muestra estudiada mostró ser reveladora:

- Al estimar si son generalizaciones lógicas con rigor científico (RC) el 62% se clasificaron como bajo o nulo, mientras que el 38% como medio y alto.
- En cuanto al alcance de los objetivos el 47% fueron clasificadas entre bajo y nulo y, con RC medio y alto el 53%.
- Respecto de si se respaldan en los resultados de la investigación el 88% tiene RC alto o medio, 12% de manera baja o nula.

Se evaluaron las conclusiones respecto si constituían integraciones cognoscitivas abstraídas con RC, lo encontrado se muestra en el siguiente cuadro:

Cuadro 2: Conclusiones como integraciones cognoscitivas de los resultados

Válido	Nulo	24	43,6
	Bajo	24	43,6
	Medio	6	10,9
	Alto	1	1,8
	Total	55	100,0

Como se puede apreciar, al sumar medio y alto, solo siete trabajos de tesis (12.7%), plantean integraciones cognoscitivas con rigor científico.

La revisión de las bibliografía o referencias de los documentos objeto de estudio muestran en principio no seguir de manera consistente las normas de citación convenidas por ambas Escuelas de la Facultad, las normas de Vancouver. En general, las referencias utilizadas gozan de actualidad, en aquellos estudios donde se vieron documentos con fecha de producción obsoleta, tienen además, otras referencia con actualidad. En cuanto al número de referencias los valores extremos encontrados fueron: máximo 58 y mínimo 5 citas bibliográficas; una media aritmética de =18.4. Se muestran además, las siguientes medias aritméticas de documentos citados: de libros, revistas y periódicos=10, páginas web con reputación científica 5.33 y páginas web sin reputación científica 2.91.

Respecto al componente de redacción científica, el rasgo donde los resultados mostraron mayor problema fueron en la sintaxis (67.2%); ortografía, concordancia y puntuación se mantuvieron alrededor del 50%.

Según la escala, previamente planteada en este estudio, ninguna investigación de grado alcanzó alto rigor científico, y los trabajos se repartieron entre nivel medio de rigor científico 54.5% y nivel bajo 45.5%.

VII. DISCUSIÓN DE RESULTADOS

Los títulos de las tesis durante el año 2017 son consignados con excesiva cantidad de palabras, obscurecidos además con acrónimos propios de la disciplina en muchos de los estudios revisados. La relación entre título y objetivos sucede en alrededor de cuatro quintos de los casos, pero un quinto, muestra no relacionarse coherentemente. También buena parte de los estudios no logran relacionarse orgánicamente con el título del documento.

La redacción de los objetivos, individualmente cumple con las normas científicas establecidas, pero al relacionar el objetivo general con los específicos muestran inconsistencias como

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encontrar objetivos específicos que no están comprendidos en el objetivo general. Se evaluó también la relación entre objetivos y título de la investigación, donde la mayoría de documentos muestra ser medianamente consistente, pero cerca de un quinto de los documentos estudiados no consigue establecer una relación lógica.

La muestra elegida para el estudio resultó tener totalmente un enfoque cuantitativo, como perspectiva metodológica, se midió además la relación del diseño metodológico con los objetivos del estudio, se encontró que la mayoría de los documentos establecieron coherencia, pero un quinto de los estudios es inconsistente en este aspecto.

Se pudo constatar que usualmente las conclusiones son repeticiones de los resultados, no muestran ser generalizaciones lógicas surgidas a partir de los datos. Los enunciados de las conclusiones solo medianamente dan alcance a los objetivos y en general no constituyen integraciones cognoscitivas con rigor científico.

Las referencias plasmadas en las investigaciones revisadas no se apegan consistentemente a las normas Vancouver; gozan de actualidad pero usualmente son pocas y se encuentran muchas fuentes que no tienen prestigio científico. También se pudo evidenciar como principales problemas gramaticales: oraciones contradictorias en sí mismas y ausencias de tildes.

En general el nivel del rigor científico de los estudio de investigación de grado en la Facultad de Medicina durante el año 2017 es bajo e insuficiente si se contextualiza la institución como rectora de las investigaciones científicas a nivel nacional.

VIII. CONCLUSIONES

Estas conclusiones se refieren a los estudios para optar a grado académico (once profesiones) durante el año 2017 en la Facultad de Medicina, Universidad de El Salvador.

- Existe una tendencia en los estudios científicos de la Facultad de Medicina a redactar títulos largos que muchas veces pierden la relación orgánica que deben tener con los objetivos y el problema de investigación.
- Se posee la habilidad científica en la redacción de objetivos; sin embargo, los estudios no consiguen la vertebración orgánica de los objetivos generales y específicos, y los demás componentes.
- La realización de estudios cuantitativos en medicina es lo usual; Y en consecuencia, muchos estudios muestran incoherencias entre diseño metodológico y los objetivos que fueran planteados con alcances cualitativos.
- La principal dificultad investigativa está representada en las técnicas para la realización de conclusiones. Existe una costumbre generalizada a repetir los datos del estudio pretendiendo hacer conclusiones de los hallazgos
- Las referencias utilizadas, su cualidad y cantidad evidencian el pobre aparato crítico teórico que tienen los estudios científicos realizados en la Facultad de Medicina durante el año 2017.
- Finalmente la lenidad que mostraron los docentes al aprobar los estudios durante el año 2017, plantea una inquietud cognoscitiva de estudio.
- El rigor científico de los estudios de grado que recibió la biblioteca de la Facultad de Medicina durante el año 2017, es bajo en tanto que, uno de cada dos documentos muestra problemas sustantivos de cientificidad.

RECOMENDACIONES

La creación de normas y mecanismos que garanticen la cientificidad de los trabajos para optar al grado académico.

Sistematizar la carga investigativa docente con el fin de garantizar el ejercicio investigativo en la institución educativa.

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Using Social Media for Survival: The Plight of Flood Survivors

Catalogo, Eugene Jose G., Britanico, Ryan Joshua, Rogando, Ronnie Jr. P. & Mahumas, Jessica

ABSTRACT

This study that employed the phenomenological approach was conducted to examine the lived experiences of flood survivors from Talisay City, Negros Occidental who sought disaster response through social media. Six flood survivors were chosen as the participants through purposive sampling, and the instrument used was a researcher- made interview protocol. The findings reveal the following themes: (1) different demonstrations of nervousness; (2) effective utilization of social media; (3) active use of social media as communication platform; and (4) evident flood damage.

Keywords: flood, social media, lived experience, flood survivors.

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Using Social Media for Survival: The Plight of Flood Survivors

Catalogo, Eugene Jose G.[α], Britanico, Ryan Joshua[σ], Rogando, Ronnie Jr. P.[ρ] & Mahumas, Jessica[Ѡ]

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This study that employed the phenomenological approach was conducted to examine the lived experiences of flood survivors from Talisay City, Negros Occidental who sought disaster response through social media. Six flood survivors were chosen as the participants through purposive sampling, and the instrument used was a researcher- made interview protocol. The findings reveal the following themes: (1) different demonstrations of nervousness; (2) effective utilization of social media; (3) active use of social media as communication platform; and (4) evident flood damage.

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I. INTRODUCTION

1.1 Background of the Study

In 2019, the average amount of time spent on social media was 2 hours and 22 minutes per day (Georgiev, 2022). The social media changed the way people live their life as it has made communication much easier (Moosa, 2022) such as when they are confronted with calamities such as floods. For instance, during the 2019 flood in Poland, social media was utilized by different individuals for specific purposes amid the crisis (Domalewska, 2020). On November 14, 2020, #CagayanNeedsHelp became the widely discussed topic on social media after troubled residents appealed for help in the midst of enormous flooding in the Cagayan Valley region because of Typhoon Ulysses (Hallare, 2020). Several inhabitants sent photographs to the social media showing their homes submerged in floodwaters. Likewise, on January 8, 2021, residents of the northern parts of Negros Occidental were subjected to a mass evacuation after the water level reached as high as 13 feet in the affected areas. Around midnight of January 9, the social media was inundated with calls for help as waters rose in some parts of the province, driving away residents (Espina, 2021).

The aforementioned flood incidents emphasized the importance of social media in disaster response. Flood victims who are in dire need of rescue resort to social media to seek help through posts about their locations and current situations with hopes that they could be afforded assistance by local government units.

A number of studies on the importance of social media during a flood have been conducted. However, there is a dearth of both national and local phenomenological studies that tackled the experiences of flood survivors who sought disaster response through social media. In the light of this premise, this study was carried out to discover how the use of social media facilitated disaster response for the flood survivors. Specifically, this study aimed to fill in the research gap and to examine the lived experiences of flood survivors from Talisay City, Negros Occidental who sought disaster response through the use of social media, to take advantage of modern communication innovations, to help beneficiaries such as flood victims, to assist the National Disaster Risk Reduction and Management Council (NDRRMC) and local

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government units in mobilizing rescue efforts, and to guarantee greater efficiency in flood response in the future.

1.2 Statement of the Problem

This study aimed to examine the lived experiences of flood survivors from Talisay City, Negros Occidental who sought disaster response through the use of social media.

1.3 Theoretical Framework

This study was anchored on the Social Cognitive Theory of Albert Bandura (1989), which explains human achievements and well-being in terms of the interaction between people's characteristics and behavior, and of the factors at play in their environment. Moreover, the people themselves are contributors to their living conditions and are characterized by a set of fundamental capabilities.

Bandura developed agentic perspectives of social cognitive theory, and one of these is the forethought capability of people. Beyond forward-directed planning, it is the temporal extension of the agency. People develop objectives for themselves, forecast the probable outcomes of potential events, and choose and create courses of action that will yield desirable outcomes while avoiding negative ones (Bandura, 1991). People drive themselves and control their actions in anticipation of future events by exercising forethought. A forethoughtful perspective provides direction, coherence, and meaning to one's life when projected over a considerable period on matters of value. People continue to plan, reorder their priorities, and structure their lives as they advance through their lives. Future events, of course, cannot be the source of current motivation and action because they do not exist. However, predicted future events are transformed into current motivators and regulators of behavior by being represented cognitively in the present (Bandura, 2001). Since the social cognitive theory is concerned with individual personality characteristics, behavioral factors, and environment, it was deemed appropriate for this study that delved into how people dealt with the flood that brought about distress.

1.4 Scope and Limitations

The main focus of this research was to examine the lived experiences of Talisay City, Negros Occidental flood survivors. The participants in the study were six (6) residents who sought disaster response through the social media.

The researchers conducted a pre-survey in the Local Government Unit of Talisay City, Negros Occidental to gather data about flood survivors who sought disaster response through the social media. However, the data was not readily available, so the researchers utilized purposive sampling. The participants' social media accounts were checked to confirm that they sought help through the social media.

Furthermore, this study was limited to the experiences of the flood survivors - why they sought disaster response through the social media, how the social media facilitated disaster response for them, and the challenges they encountered before and after the flood incidence. The experiences of flood survivors who did not utilize social media platforms in seeking disaster response and those who were 18 years old and below were not included in this study.

1.5 Significance of the study

This study aimed to discover the lived experiences of flood survivors who sought disaster response through the social media. Thus, the result of the study may bring usefulness to the following:

Flood victims. This study may enlighten flood victims situated in flood-prone areas about the important measures to be remembered and considered during flood disasters. The results of this study may also encourage them to engage in facilitating disaster response through the social media by sharing posts that contain relevant information necessary to address the immediate need for the rescue of flood victims.

National Disaster Risk Reduction and Management Council (NDRRMC). Through the results of this study, the NDRRMC may integrate strategies in flood rescue operations that would consider the utilization of social media in tracing

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flood survivors and in providing immediate disaster response.

Local Government Units (LGUs). This study may help LGUs in realizing intervention programs in the activation of a more efficient flood rescue operation that integrates the utilization of social media in keeping track of flood victims that are in dire need of rescue and substantial assistance.

Disaster Mental Health Workers. This study may help disaster mental health workers to formulate interventions in dealing with problematic flood survivors who have emotional struggles and troubles with coping after a flood occurrence.

School Administrators. This study may help them acknowledge the need for information drive with regard to flood precautionary measures as well as coping strategies in the occurrence of floods.

Future Researchers. This study may serve as a baseline, which is open for further studies. The data from this study could also be used for research references.

1.4 Definition of Terms

The following terms were defined both conceptually and operationally to provide a better understanding of the concepts that are central to this study.

Social media. This term refers to web-based communication devices that empower individuals to interact with each other by sharing and expanding information (Nations, 2021).

In this study, the term pertains to the internet platforms utilized by the flood survivors in seeking disaster response.

Survival. This term is defined as a challenge to maintain biological equilibrium, or more simply, to stay alive, including climate, ambient temperature, high altitude, and immediate access to nature-given resources like food, water, and shelter (Tveita, 2022).

In this study, the term refers to the flood survivor's state of continuing to live or exist despite the difficult circumstances.

Plight. The plight is defined as a condition or situation of difficulty or adversity (Grosfeld, 2007)

In this study, the term refers to difficult or unfortunate situations experienced by the flood survivors.

Disaster Response. This term refers to the provision of emergency services and public help amid or promptly after a calamity to spare lives, diminish health impacts, guarantee public security and meet the public subsistence requirements of the individuals affected (Department of the Interior and Local Government, 2011).

In this study, the term refers to the rescue or response provided to the flood survivors who sought help on social media.

Lived Experiences. According to Manen (2016), a lived experience is not confronted as something perceived or represented; it is not granted, but because people have a reflexive knowledge of it and they have it instantly as belonging to them in some way, the truth of the lived experience is therefor-them.

In this study, the term refers to the personal experiences of the flood survivors who sought disaster response through social media.

Flood Survivors. This term refers to the persons or people who have been adversely impacted by natural or human-induced dangers and have been forced to leave their habitual residences due to impending threats, damaged shelter, with causality among immediate relatives, or those who stayed in their habitual places of origin when still feasible but whose main source of revenue or livelihood had been compromised, and are experiencing hopelessness and difficulty coping or responding to the deluge of harmful events (National Disaster Coordinating Council, 2010).

In this study, the term refers to the participants who were19 years old and above and who were residents of Talisay City, Negros Occidental that sought disaster response on social media during the flood incidence

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II. REVIEW OF RELATED LITERATURE

This chapter presents literature and studies that are solely about flood incidence, flood survivors, and the utilization of social media for seeking disaster response. Such literature and studies were taken from online scholarly works.

2.1 Conceptual Literature

2.1.1 Social Media

Society is greatly influenced by social media. Social media refers to web-based communication devices that empower individuals to interact with each other by sharing and expanding information (Nations, 2021). The social media has become essential to how billions of people obtain knowledge about the world and engage with one another, expanding the scope dramatically. It has both bad and beneficial impacts on how people interact with one another. One negative drawback includes a substantial impact on the privacy of people. When personal information is disclosed, it makes a person vulnerable to identity theft or stalking. Social media, on the contrary, has a good impact on people's lives. It allows an individual to meet new people, learn about new materials, and stay up to date with the latest news at the touch of a button (Werbach, 2019).

In just over a decade, the social media has evolved from a fun sidekick to a completely integrated element of practically every facet of many people's everyday lives (Jagadeesh, 2019). In 2019, the average amount of time spent on social media was 2 hours and 22 minutes per day (Georgiev, 2022). Indeed, the social media has changed the way people live their life as it made communication much easier (Moosa, 2022).

2.1.2 Disaster Response

Disaster response refers to the provision of emergency services and public help amid or promptly after a calamity to spare lives, diminish health impacts, guarantee public security and meet the public subsistence requirements of the individuals affected (Department of the Interior and Local Government, 2011). The National Disaster Risk Reduction and Management Council (NDRRMC) is the government institution in charge of preparing for and responding to natural disasters in the Philippines. It also employs techniques to lessen the impact of catastrophes and strengthen the resiliency of both the national government and local governments (LGUs) in the face of disasters (National Disaster Coordinating Council, 2010).

In terms of disaster risk, the Philippines is positioned third among all of the nations with the highest disaster risks globally according to the World Risk Report 2018 (World Economic Forum, 2018) as cited in Disaster Risk Reduction in the Philippines, Status Report (2019). Hydro-meteorological events, such as storms and floods, accounting for more than 80% of natural catastrophes in the country over the last half-century (Jha, 2018) as cited in (Disaster Risk Reduction in the Philippines, Status Report, 2019).

During these trying times, flood victims in respective communities often rely on the local government units to mount disaster response and relief operations. With the sense of immediacy of the local government units, their role in disaster response in saving lives and in guaranteeing that the needs of their residents will be quickly addressed (Department of Social and Welfare Development, 2016).

However, the coordination of assets during natural disasters is characterized by a tall of data instability due to the chaotic situation, serious resource deficiencies, and a high call for timely information in the incidence of the disruption of infrastructure sustenance (Chen et al., 2014). Emergency numbers are also constrained as they cannot cater to the entire need of the affected population all at once (Whittaker et al., 2015). This poses a major challenge for both the flood responders and the affected flood victims to effectively coordinate with one another on the onset of flood calamities.

When a natural disaster strikes the Philippines, the NDRRMC activates the government's National Disaster Response Plan. This plan is divided into three stages (Tomacruz, 2018), each of which is led by NDRRMC staff and may overlap at times.

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The pre-disaster risk assessment action, plants, and protocol, or, to put it another way, emergency response preparedness, is the initial stage. This should ideally occur before the hazard or disaster and should involve risk assessments. This initial step alone involves officials from numerous government departments and agencies, including civil defense, social welfare, and the Department of the Interior and Local Government.

Response Clusters and Incident Management Teams (IMT) are involved in the second stage. This can happen before, during, or after a calamity. This happens when the relief and response efforts come together. This stage, once again, involves several government agencies and departments.

The incident management teams are in charge of resources and personnel, while the response clusters are in charge of mandate and technical knowledge, suggesting that each team involved in the relief and response operation has a distinct job.

The Armed Forces of the Philippines, for example, are involved in the response clusters, as are the Health Department, the Department of Social Welfare and Development, the Philippine National Police, and the Department of Foreign Affairs in case foreign aid is required.

The Response cluster, as well as IMT demobilization and deactivation, is the third and final stage. This is where the transition to recovery and rehabilitation begins, and response clusters begin to disperse. At this step, response clusters examine and document their operations, lessons learned, and best practices to enhance policies.

2.2 The Roles of Social Media in Disaster Response

The whole community can be impacted by disasters. According to the International Federation of Red Cross and Red Crescent Societies (2021), the impacts incorporate death toll and harm to property and infrastructure, with some survivors who may have been harmed in the disaster and traumatized by the experience, and who are uncertain of things to come and less ready to accommodate their welfare. The flood victims may experience an "affective response" to the disaster, which is defined as an individual's whole psychological state, which includes but is not limited to emotions and mood (Haile et al., 2015). And more likely, some of them are left without shelter, food, water, and different necessities to support life. Therefore, immediate actions are needed to forestall further loss of life.

One of the significant issues in disaster relief and rescue is the inability to know where the help is required, particularly in locations where maps have not been made or maps are not updated (Nelson et al., 2016). The emergency responders cannot cater to the entire need of the affected population all at once (Whittaker et al., 2015). When the power supply is cut, Wi-Fi routers could stop working normally, and this results in internet connection failure after the sudden power outage (Cyber Life, 2020). In connection, social media are web-based communication tools that allow people to communicate with each other through sharing and consuming information (Nations, 2021). Social media makes civic engagement easier (Tran, 2020). It can serve as a successful course of communication for governments to reach people and communities, as well as alarm responders to where and what sort of help is required (Huang et al., 2017).

There are several basic tasks that governments can accomplish through social media which incorporate planning citizens in zones likely to be influenced by a disaster; broadcasting real-time data both for affected areas and interested individuals; getting real- time information from affected areas; mobilizing and planning quick relief endeavors; optimizing recuperation exercises (Yehuda, 2017). Disaster responders can also make use of social media during a disaster to attract volunteers, help reconnect families, and to disseminate critical information. It also delivers valuable information to those in a disaster area pre and post-disaster, initiates awareness to those outside the affected areas, stimulates volunteers and/or donors, ties displaced family and friends,

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affords information about unclaimed property, and bids information about aid, centers, and other resources accessible to the affected individuals (Armour, 2010).

Wendling et al. (2013) expounded that beyond refining preparedness and raising public alertness about risk and crises, social media in disaster risk management can be used in further ways such as surveillance, monitoring, situation responsiveness, early warning system; crowdsourcing, and data mining; disseminating real-time alerts and warnings; identifying survivors; countering erroneous press coverage to stabilize reputational effects; facilitate the collection funding and support; bridge the lessons learned and useful materials for risk and crisis researchers; boost recovery management; communicate recovery of infrastructure and detect areas that are in dire need of assistance.

Contrarily, Merchant et al. (2017) emphasized that there remain many obstacles between current practice and optimal exploitation of social media. It is imperative to recognize and discover the technology's limitations in reaching at-risk, vulnerable populations. It is not always conceivable to know whether social media users are who they claim to be or whether the data they share is truthful. Although incorrect messages that are broadcast extensively are often quickly corrected by other users, it is frequently difficult to isolate real signals of a health crisis or a material essential for background noise and devious scams. Cautious consideration must also be assumed to issues of privacy and the inquiry of who should monitor data from social media.

2.3 Challenges of Flood Survivors

According to the World Health Organization (2021), floods are the most continuous kind of natural disaster and happen when an overflow of water submerges in a typically dry land. A flood is regularly brought about by substantial rainfall, rapid snowmelt, or a storm surge from a typhoon or tsunami in coastal regions.

Widespread destruction can be caused by floods, bringing about a death toll and damaged personal properties. Drowning, injuries, hypothermia, and animal bites are the immediate health effects of floods. In the short-term, infected wounds, complications of injury, poisoning, communicable diseases, and starvation are indirect effects of flooding. However, chronic disease, disability, poor mental health, and poverty-related diseases including malnutrition are the potential legacy in the long term (Du et al., 2010).

Regardless of what causes a flood, it can have devastating effects on the community. There are numerous hazardous flooding effects such as physical and psychological danger, economic impact, and social problems. A flood could kill people through drowning or carrying them away in fast-moving water and also through destroying infrastructures and creating unsafe environments, which could create lasting trauma among victims (Earth Networks, 2022). From the expansion to reestablishing buildings and supplanting material belonging, victims may have to be commit time to restoring their emotional equilibrium during the recovery period (North Dakota State University, 2022).

Disasters help the mind focus and demand urgent action (Addiss, 2019). According to the New Zealand Ministry of Health (2016), the majority of people who are involved in a traumatic event experience some kind of affective response. Although each person's experience is unique, several common responses are experienced by the majority of those who are involved. Also, according to Addiss (2019), disasters elicit a strong sense of vulnerability, and compassion is more than a desire to help.

Furthermore, damage from a flood is one of the challenges flood survivors face. It is determined by a variety of factors, including how long the water sits in the ground before receding and how swiftly it moves. Floods can harm the structure of a building by causing cracks in the roof or foundation, as well as loose or buckling floors. Flood water can damage home appliances, such as the heating, ventilation, and air conditioning system, as well as the water heaters and refrigerators (Redd, 2017).

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There are different ways to cope with floods such as following a normal routine as much as possible, eating healthy meals, exercising and staying active; seeking help from family, friends, and coworkers; limiting sights and sounds of the flood incidence; and stopping dwelling with news reports about the crisis (National Flood Forum, 2020).

In addition, it is also recommended that it is beneficial for flood victims to do things that make them feel physically and emotionally safe such as discovering ways to associate with others, engaging in exercises that promote peace of mind, exploring ways to get involved with recuperation in the community, and taking breaks from the 24-hour news cycle (Reach Out Australia, 2022).

2.4 Research Literature

2.4.1 The Roles of Social Media in Disaster Response

Social media plays a crucial part in facilitating disaster response for the affected individuals. For instance, a study by Jayasekara (2019) revealed that the foremost prominent use of Facebook for disaster communication can be observed in, during, and post-disaster stages. During the disaster stage, individuals utilized Facebook to share posts related to calamity warnings, data around rescue missions, and contact numbers of rescue groups, to ask for help or protection and for donations of items, to coordinate aid dissemination, to inquire for volunteer work, and to supply input around the continuous subsidizing programs. Within the post-disaster stage, individuals utilize Facebook to ask for volunteer help for cleaning, to supply feedback about the progress, and to inquire about donating cleaning items. The findings of this study can be utilized by the government or authorized agencies to create official social media channels, which could fulfill data necessities amid calamity circumstances.

Furthermore, social media also has a variety of roles in the onset of crises and emergencies. A study by Domalewska (2019) found out that social media is utilized amid crises by different actors for distinctive purposes: crisis services utilize it to broadcast weather cautions and situational overhauls; specialists communicate climate alerts and offer help; mass media outlets share up-to-date data; clients communicate and share their encounters of the disaster as well as express political views; and organizations spread general comments, situational overhauls, and political comments.

Similarly, amid the time of natural disasters like floods, seismic tremors, or tornados, when all the other modes of communications are found incapable, social media platforms such as Facebook, Twitter, Instagram, YouTube, etc. are found to be the foremost effective and advantageous. This is an interesting discovery found by a study by Varghese and Ta (2018). Results appear that amid the flood; Whatsapp, Facebook, and Instagram are found to be utilized by a larger part of the respondents. Most of the respondents spent more than three hours on Whatsapp, followed by Instagram and Facebook during the flood. For the data concerning the area status of friends and family, the majority of respondents utilized Facebook, followed by Whatsapp and Instagram.

Moreover, the need for a built-up proactive social media presence among organizations with flood-linked work, as well as community discussions to classify public data needs, is a policy implication. This is a takeaway from a study by Stephenson et al. (2018) which looks at how organizations in Northern Ireland use Facebook and Twitter in accordance to flooding. The findings determined that flood-related data is mainly disseminated amid the flood response stage, illustrating organizations' existing receptive social media presence. Twitter was more plausible to broadcast data, while Facebook was imminent to encourage particular behavior. The public favored data given by crisis information transmitted during the response stage.

Correspondingly, the social media can also facilitate disaster preparation and resiliency. A study by Allaire (2016) illustrated the potential of social media for compelling flood preparation. It concluded that disaster readiness requires exact, convenient, and promptly available data to direct

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family decisions. In developing urban areas with quickly growing web client bases, extending the reach and usefulness of social media applications offers promising opportunities to spare lives and diminish the impacts of future calamities.

In addition, social media could also hasten the delivery of information during flood occasions. This is supported by a study by Hussin et al. (2016) which concluded that online social media increments information sharing particularly amid flooding calamities. The employments of online social media incorporate its capacity to spread cautions and warning messages, supply data to victims and non-victims, facilitate charity and volunteers, and inquire for do nations and related data. Its points of interest include cutting costs, decreased time, and disposal of dependence on a middle man.

Another study by Aisha et al. (2015) illustrated that social media and portable innovations especially may be a preferred instrument of communication amid disaster periods, and may hence possibly be utilized to encourage calamity efforts and share overhauled, basic, and precise data about the flood with other surge casualties, such as neighbors or family members. Social media and other modern communication tools are possibly respected as a point of reference in times of emergency, especially among more youthful adults, the Malaysian government, and other nongovernmental offices taking an interest in flood alleviation endeavors ought to take advantage of the accessibility of these modern communication innovations to help flood casualties, to mobilize rescue efforts, and to guarantee greater efficiency and adequacy of flood administration in the future.

A related study by Hashim et al. (2015) demonstrated that the community has utilized social media for data sharing amid the disaster. The community utilized Facebook to get and share data concerning floods. Hence, the fitness of social media in data sharing ought to be given towards the assignment and technology characteristics.

Jointly, a study by Takahashi and Tandoc (2014) examined the patterns of social media utilized by different groups—government authorities, writers, and citizens— affected during the disaster. Through interviews with 18 respondents, the study found that in terms of social media, Facebook got to be valuable over the three groups which utilized the social media location in a variety of ways—for dispersing, educating, mobilizing, and even adapting. The analysis moreover found that individual and structural level components shaped the ways with which diverse individuals utilized social media amid the catastrophe.

Comparatively, a study by Congjuico (2019) concluded that social media, Facebook specifically, bear clients a tall degree of social presence, making them the finest instrument for making and supporting little online communities overseen by LGUs. They give solid support for social interaction, social integration, and the reinforcement of the Bayanihan (heroism) spirit.

Social media, on the contrary, has its disadvantages. A study by Du et al. (2017) found out that stronger social media can make evacuation processes more delicate to the change of worldwide broadcast and neighbor observations, and hence, force bigger uncertainty on evacuation rates. The study moreover highlighted the role of social media in flood departure processes and the need to screen social media so that misinformation can be rectified conveniently.

Lastly, social media cannot, and ostensibly ought to not, supplant or supersede conventional approaches to crisis administration communications, but in case leveraged deliberately, it can be viable implies of reinforcing and expanding current frameworks. This was claimed by a study by Charlwood (n. d.) which concluded that social media is just one channel that ought to be utilized as a portion of an overall communications stage enveloping different instruments. By beginning to integrate social media into conventional crisis administration structures and techniques, and through the advancement of compelling measurements to screen social media

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commentary, crisis organizations have the potential to altogether increment their capacity to oversee crises over the run of arrangement, arranging, reaction, and recovery exercises. One of the key social media behaviors evidenced through this study is that there is a strong willingness within the social media community to help both official crisis administration organizations and the more extensive community. This eagerness was proven in two behaviors – message spreading and situational mindfulness. Social media users were dynamic in spreading official messages to further disseminate notices and data. This readiness to spread official messages through individual personal systems has the potential to lead to a considerable increment within the reach of official communications. The second behavior evidenced was the readiness of social media clients to bolster important situational data back to emergency administration agencies.

2.4.2 Psychological Response of Flood Survivors

Knowing and recognizing the emotional and psychological response of flood survivors is essential to facilitate intervention for faster recovery on their part. The study of Krishna et al. (2018) shows that during the floods, participants reported feeling helpless and expressed fear for their own and their children's safety, particularly since the floods were not something they had anticipated.

A related study according to the analysis study of Karmegam and Mappillairaju (2020) shows that negative emotions were prevalent in tweets during the disaster compared to the pre-and post-disaster periods. It was clear that negative emotions like fear, sadness, and disgust remained nearly constant between the pre-and post-disaster periods, peaking only during the disaster. The rate of tweets expressing anger varied significantly between the pre-and post-disaster periods, with the rate dropping dramatically after the disaster. If the high rate of negative emotions persisted even after the disaster, then people in the affected areas required psychological assistance.

The psychological effects are further elaborated in the study conducted by Makwana (2019), which shows that emotional instability, stress reactions, anxiety, trauma, and other psychological symptoms are observed commonly after the disaster and other traumatic experiences. These psychological effects have a massive impact, not only on the concerned individual but also on large communities. Most affected individuals recover with time, with the help of effective post-intervention techniques and their strengths. However, in some cases, recovery is incomplete, which can lead to several persistent psychotic symptoms which are often severe in nature. PTSD is the most common complication, coupled with anxiety, despair, and other behavioral and psychological abnormalities, such as excessive dread, hopelessness, worthlessness, and helplessness, as well as other physical symptoms that contribute to their mental health worsening.

With that, coping strategies utilized by flood victims are essential for facilitating faster recovery on their part. A recent study by Yusuf et al. (2021), revealed that structural and non-structural measures are fundamental for flood mitigation and coping respectively, access to bank credits, aid from the government, and admittance to early warning information are vital coping strategies in the Jigawa State, and financial and social variables determine coping with floods.

Another study by Mensah and Ahadzie (2020) showed the three coping strategies utilized by inhabitants, specifically reactive, preventive, and recovery. Nine investigations showed that flood casualties moved to a protected place and secured their resources and collectibles. With respect to preventive measures, a larger part of the investigations (8) referenced that individuals developed a drainage to make a simple progression of stock water, and six averred that individuals fixed, revamped their home, and shielded from additional harm. At long last, three investigations asseverated that flood casualties looked for support from the government and loved ones for things and money while five examinations announced local area clean up like removal of squanders and clearing of gutters.

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A related study by Onu and Onu (2020) identified two kinds of flood coping strategy, and these are non-structural and indigenous which are profoundly impacted by the socioeconomic attributes of the respondents. The study presumed that the vulnerabilities of networks in Ebonyi State to flood can only be resolved through the use of both indigenous and governmental methodologies in a socially viable and sustainable manner.

2.4.3 Damages of the Flood

There are challenges that the flood survivors encountered during and after the flood incident. The study of Bandiola (2021) mentioned that flood disaster poses a serious threat to people, livelihood, and property. It is related to the study of Yazid et al. (2017) which revealed that there were eight pressing issues and four challenges of natural disaster. Flood preparations, a shortage of rescuers, a lack of awareness, communication difficulties, a lack of assets for rescue, transportation concerns, a lack of food supply, and other limits were among the eight pressing issues. Lack of provisions, redevelopment, the social and economic condition, and trauma were challenges.

In relation, the study of Daud et al. (2019) revealed three factors that made the humanitarian logistics relief mission during flood inefficiency, to wit, lack of emergency response transport and equipment, the vulnerability of road network, and attitude of flood victims. According to a study conducted by Nayan (2017), floods are natural disasters that can cause problems and adverse effects on the population, which can also lead to destruction on a large scale. Traders in Kuala Krai town, particularly those in the sale items business, were reported to have experienced significant damage and losses as a result of the flooding disaster in 2014. This was due to a high amount of destruction on their sale items and premises, stall or kiosk. This in turn can lead to threatening flood disasters, due to the lack of supplies directly caused by the flood. In regard to this, integrated flood management plays an important role in reducing the impact on people and damage to property. With the improvements in terms of early preparation for the flood among traders, it will be able to reduce the loss suffered by traders, especially in areas that are submerged. Indirectly, this technique is able to create a sustainable society that can withstand a flood. Other than that, an answered interview by a 67-year-old resident of Dhaka, Bangladesh who experienced a massive flood in the study about physical vulnerability and local responses to flood damage in Peri-urban areas, stated that those houses made of mud and bamboo were easily damaged or washed away. Most of the houses' construction materials were also not flood- resistant. As a result, prolonged flood events did irreparable damage to them. The houses along the river were in worse condition. When the river suddenly rose during the night, living in those houses was dangerous. Their lives were also complicated by river erosion during the monsoon season. Many people lost a portion of their land as a result of erosion (Fatemi, et al., 2020). It showed that flood victims were vulnerable to the challenges during and after the calamity or a massive flood.

2.4.4 Synthesis

The literature presented delineated the positive and negative impacts of social media, the challenges encountered in disaster response, and the people that were supposed to take charge during disasters. It also highlighted the roles played by social media in disaster response and various challenges experienced by the flood survivors during and after a flood incident.

The literature reviewed revealed that the social media has greatly influenced society. It has become essential to how billions of people obtain knowledge about the world and engage with one another. It had a negative and positive impact on how people interacted with one another. One negative drawback on people's lives includes a substantial impact on their privacy. When personal information is disclosed, it makes a person vulnerable to identity theft or stalking. Social media, however, has had a positive impact on people's lives. It allows an individual to meet new people, learn about new materials, and stay up to date with the latest news at the touch of a

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button. Additionally, social media is indeed beneficial, especially in facilitating disaster response for flood victims because evidence shows that the major challenge for both the flood responders and the affected flood victims was to effectively coordinate with one another on the onset of flood occasions. Emergency numbers are constrained as they cannot cater to the entire need of the affected population all at once because of a tall of data instability and of the chaotic situation during the flood. With that being said, social media can serve as a successful course of communication for governments to reach people and communities as it shows that flood victims in respective communities often rely on the local government units to mount disaster response and relief operations.

Along with it, studies also supported that flood victims may have experienced emotional or psychological impacts caused by a flood such as feeling helpless, stress reactions, sadness, disgust, anger, expressing fear and in the worst scenario may lead to emotional instability, anxiety, trauma, and other psychological symptoms. Also tackled were the different challenges encountered during and after the flood, namely, destruction of livelihood and property, lack of rescuers, lack of awareness, communication difficulty, lack of assets for rescue, and transportation issues. These challenges are evident from the reviewed literature in this study.

In conclusion, recognizing the advantages of social media, even the disadvantages, and the challenges experienced by flood survivors could be beneficial in facilitating faster disaster response in the future. Hence, this study has been created to hopefully present a unique concept to the existing body of literature on the plight of flood survivors and the importance of social media during calamities, specifically during flood incidents, through the experiences shared by the affected flood victims.

III. METHODOLOGY

This chapter presents the discussion of the research design employed, participants of the study, research instruments, data gathering procedure, data analysis procedure, and rigors of the study. The most appropriate method used to enable the researchers to come up with the accurate and needed information.

3.1 Research Design

This was a qualitative phenomenological study. A phenomenological approach was utilized in which the researcher focuses on investigating the phenomena that have been experienced by an individual. According to Nelson (2011), the phenomenological approach is a type of qualitative inquiry that focuses on the experiential, lived aspects of a phenomenon - that is, how the phenomenon is experienced at the moment it occurs.

The researchers used a phenomenological approach as the research design to ensure that sufficient information could arrive from the lived experiences of the participants as it is also a useful tool in discovering the importance of those experiences. In other words, it was used to focus on describing a phenomenon that all the participants experienced, such as using social media in seeking disaster response to obtain the research aim.

3.2 Participants of the Study

The participants of the study were the flood survivors from Talisay City, Negros Occidental who sought help through the social media. Six flood survivors were chosen as the participants of the study. Ellis (2016, as cited in Wounds, 2016) suggested that in qualitative research, a sample size of six participants is sufficient to extract the essence of their lived experiences.

The researchers conducted a pre-survey in the Local Government Unit of Talisay City, Negros Occidental with regard to the data of flood survivors who sought disaster response through the social media. However, the data were not readily available, so the researchers utilized purposive sampling. The researchers conducted a social media tracing to search for Talisay City, Negros Occidental residents that sought disaster response in social media.

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The inclusion criteria for the participants include the following:

- The participant should at least be 19 years old.
- The participant should be a legal resident of Talisay City, Negros Occidental.
- The participant should have utilized social media in seeking disaster response during the January 2021 flood incident.
- The participant should be willing to provide consent to participate in the study.

There were six flood survivors from Talisay City, Negros Occidental who sought help through the social media that were chosen as the participants of the study. The participants were asked to share their experiences that can provide enough information to allow an interpretation of the situation.

To protect identities and maintain confidentiality, the researchers used pseudonyms.

Table 1 shows the demographic profile of the participants.

Table 1: Demographic Profile of Participants

Socio-demographic Profile	Sample Size (n)	Percentage (%)
Sex		
	Female	5	83.333
	Male	1	16.666
Age		
	19	2	33.333
	21	1	16.666
	32	1	16.666
	33	1	16.666
	46	1	16.666
Civil Status		
	Single	4	66.666
	Married	2	33.333
Income Cluster		
	Poor (less than PHP 10,481) monthly income	5	83.333
	Low-income class but not poor (between PHP 10,481-20,962) monthly income.	1	16.666
Educational Attainment		
	High School	1	16.666
	Senior High School	2	33.333
	Vocational Education	1	16.666
	College Graduate	2	33.333

Case Vignettes Jay

Jay was a 32-year-old single woman, a resident of Zone 11, Talisay City, Negros Occidental, who lived near the river. She was the breadwinner of the family and she considered herself a “normal” woman with a responsibility. She studied a vocational course in Technical Education and Skills Development Authority or TESDA and was awarded a National Certificate Level II (NC II) holder. Nonetheless, she considered herself poor

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with less than 10,481 pesos monthly income, and this economic standing was averred by the Philippine Institute for Development Studies as cited by Zoleta (2022). To her, floods and typhoons are just usual phenomena. She was not bothered by it as it was an expected calamity every year. However, her experience on January 08, 2021 caught her awareness of the possibilities brought by an unexpected massive flood.

Jolly

Jolly was a 46-year-old woman living with her parents and some of her siblings. She wa s residing in Zone 12, Talisay City, Negros Occidental. She was a college graduate and was working as a call center agent at Teletech, Bacolod. She considered her family belonged to the category of low-income class but not poor with a monthly income between 10,481 to 20,962 pesos, and this economic standing was held by the Philippine Institute for Development Studies as cited by Zoleta (2022). She described herself as a compassionate and responsible person. Therefore, during the interview, she was expressive with her disappointment with the barangay officials as she also wanted to feel the concern and compassion of the elected officials to its constituents to show that they were responsible for the position they had.

Sockey

Sockey was a 33-year-old married woman, and a resident of Zone 2, Talisay City, Negros Occidental. She was a loving wife, a responsible daughter, and a sister of seven. She was a graduate of college and currently self-employed, doing her own online business at home. She considered herself poor according to the Philippine Institute for Development Studies. During the flood, she estimated the floodwater was at her neck level. Fortunately, flood responders were so alert after they were notified through the social media and their radio frequency despite busy dispatch all over Talisay City. When asked what her lessons or takeaways were from their experience, she concluded that learning from past disasters, better awareness, and planning were needed to decrease the adverse impact of a catastrophic event.

Kurt

Kurt was a 21-year-old single man who described himself as loyal, kind, and a multi-tasker. He lived in Zone 11, Talisay City Negros Occidental. He finished his senior high school with the course Information Communication Technology (ICT) and was studying in college. His life was simple. He considered his family poor with less than 10, 481 pesos monthly income, an economic status according to the Philippine Institute for Development Studies as cited by Zoleta (2022). To help financially, he drove a pedicab or bike cab in the afternoon after his online classes. He lived with his parents, older brother, and two younger siblings. During the flood, his father and older brother were out for work. Therefore, Kurt had the responsibility to take care of their things so those would not to be reached by the flood.

Haley

Haley was a 19-year-old housewife, a mother of one. Although she had her own family, she still lived with her parents as they cared for the safety and well-being of their daughter and grandchild. She lived close to the river at Zone 11, Talisay City, Negros Occidental. She did not further her studies and only finished high school since she got pregnant but was willing to back to school if given a chance. During the flood, she was with her parents, younger sibling, and her newborn baby. She did not expect the sudden rise of the flood and just hoped that it would never happen again. She considered it as the worst flood she had experienced ever. She had some advice for the people who resided in flood-prone to areas, and she said that if there was a flood already, people should prepare and go to evacuation sites so that they will all be safe.

Melony

Melony was a 19-year-old girl college student who described herself as a friendly, trustworthy, and independent individual. She was the youngest in the family. She lived with her parents and siblings, consisting of one brother and one sister. During the flood incident, she resided with her aunt, uncle, and nephews in Zone 8, Talisay City, Negros Occidental. In her case, she considered herself poor according to the data of the

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Philippine Institute for Development Studies as cited by Zoleta (2022). It was the first time for her to experience a massive flood that had almost reached their second floor. They were left stranded and had nowhere to go. Therefore, she tried posting on social media as her way to find help and survive. She did not fear failure, but rather feared not trying, which was reflected in her action during the flood.

3.3 Research Instrument

The researchers conducted an in-depth interview using the researcher-made interview protocol that was subjected to content validity. Creswell (2012, as cited by Quad, 2016) expressed that interviews are primarily done in qualitative research and by researchers asking participants open-ended questions and recording their answers. The interview in this study was done online through video calls via Google Meet since face-to- face interactions were restricted due to the Coronavirus disease (COVID-19). Quad (2016) stated that interviews are particularly beneficial for learning the backstory of a participant's experiences and gathering in-depth information about the topic.

3.4 Data Gathering Procedure

A letter explaining the study was sent via FB messenger to the participants of the study with follow-up messages to encourage timely responses. Each participant was given a consent form, which provided information for a video-recorded interview. The participants were given codes to ensure anonymity and to protect right to privacy. A video recorder application was used to record the interviews that lasted for approximately 40 minutes to one hour.

The time of the interviews was arranged, depending on the availability of the participants. An interview guide was used to assure that important information was covered. The purpose of the interview questions was to draw a comprehensive description of their lived experiences as they underwent disaster response through social media during the flood incidence. The interview guide questions were used as a way to allow the participants to respond to the questions that were pertinent to this qualitative research.

The researchers conducted two separate interviews for each participant to ensure data saturation. All interviews were recorded as allowed by the participants to ensure the accuracy of manuscripts used for analysis. After the interviews reached saturation of emerging themes, the interview data were transcribed. A copy was given to the participants to check for accuracy and validation. This member checking or participant validation allows the participants to review the transcripts and clarify or reword any statements that were misinterpreted or misunderstood in the interview process.

3.5 Data Analysis Procedure

Creswell (2007, as cited by Garner, 2016) stated that the data analysis stage is a systematic search for meaning. Hatch (2002, as cited by Moore & Dooly, 2017) stated in a qualitative study, data analysis means organizing and interrogating data in ways that allow researchers to see patterns, identify themes, discover relationships, develop explanations, generate theories, and make interpretations.

Interviews were transcribed verbatim. Creswell (2003, as cited by Garner, 2016) suggested that meanings are formulated from the statements of the participants. The formulated meanings included categorized themes common to all of the participants.

To identify these themes, the researchers read the transcripts of the interviews multiple times and reflected on the statements made and how they related to each other. This may help provide an understanding of the lived experiences of flood survivors from Talisay City, Negros Occidental who sought disaster response through social media.

The researchers utilized the Lichtman (2013) 3 C's of data analysis: Coding, Categorizing, and Concepts. This was the point where the researchers can see how to move from raw data to meaningful concepts or themes.

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This process followed a six-step procedure, namely, initial coding, revisiting initial coding, an initial listing of categories, modifying the initial list, revisiting categories, and moving from categories to concepts.

3.6 Ethical Considerations

Written and verbal assurances of confidentiality and participant rights, such as the freedom to stop participation at any time and voluntary participation were explained to each individual before written consent was obtained for participation. The researchers told the participants that if they had any worries or questions throughout the interview, the interviewer would be there and ready to answer them. The interview would be terminated if participants became uncomfortable during the interview period. To maintain anonymity, each participant was given an identifying code and was interviewed individually via Google Meet, ensuring that they were comfortable with the interview procedure and that their privacy was protected. During the data gathering phases of the investigation, all requirements were met. All data sets were analyzed and reported as group data. Lastly, the participants can be assured that all the interview transcripts and records of observation data were stored properly in a secure folder in google drives with access only available to the researchers, and with the duration of 6 months after the printing of the final manuscript.

3.7 Rigors of Research

3.7.1 Transferability

Transferability refers to the generalizability of inquiry. In a qualitative study, this concerns only case-to-case transfer (Tobin & Begley, 2004).
To address transferability, the researchers described in detail the research context and the assumptions that were central to this study and showed all data as transparent as possible. The researchers assured that the data were rich with descriptions so that the person who wished to "transfer" the results to a different context was then responsible for determining whether or not the transfer was reasonable.

3.7.2 Credibility

Credibility addresses the issue of 'fit' between respondents' views and the participant's representation of them (Tobin & Begley, 2004).

To establish the credibility of this study, the researchers ensured that rigors were properly observed during the data collection, especially during the interviews, wherein the researchers avoided concluding the interviews but based everything on factual data directly from the participants.

3.7.3 Dependability

Dependability is achieved by ensuring that the process of research is logical, traceable, and clearly documented (Tobin & Begley, 2004).

To establish the dependability of this study, the researchers ensured consistency during the data collection and analysis by doing the code-recode system during data reduction and applied the researcher's examination and investigator's triangulation of the data collected and analyzed.

3.7.4 Confirmability

Confirmability is concerned with demonstrating that the data and interpretations of the findings are clearly drawn from the data and are not the result of the researcher's imagination (Tobin & Begley, 2004).

To address the confirmability of this study, the researchers set aside their personal opinions, assumptions, and judgments to guard against the distortion of data. Free-flow video call interviews, note-taking, and voice recording were conducted throughout this study as ways of ensuring confirmability.

IV. RESULTS AND DISCUSSION

Presented in this chapter are the results obtained from the analysis of online interviews conducted. It also includes the lived experiences of each of the participants and a thorough discussion of the data gathered from their interactions throughout data gathering.

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In data analysis, researchers utilized the method of Lichtman (2013), the 3 Cs of data analysis, namely: Coding, Categorizing, and Concepts. This process followed a six- step procedure, namely, initial coding, revisiting initial coding, the initial listing of categories, modifying the initial list, revisiting categories, and moving from categories to concepts.

Moreover, in this chapter, the specific objectives such as identifying the distinct experiences of the flood survivors, their reasons for seeking disaster response through social media, how the social media helped them, and the challenges faced by the flood survivors were answered based on the themes identified from the data analysis.

4.1 Emerging Themes

Review and analysis of all data resulted in several themes that resounded throughout the participant responses. These themes were: effective utilization of social media, effective utilization of social media, active use of social media as communication platform, and evident flood damage.

A detailed explanation of each, along with participants' thoughts and words, is included in this section.

4.2 Different demonstrations of nervousness

This theme resounded throughout the data review. Six participants from Talisay City, Negros Occidental found the flood incident as nerve-racking, depressing, and fearsome which cause them stress, pain, and panic about the situation. Jay said

> "Nagulpihan kami tanan, panic lang gid eh kay may mga magulang pa 'ko nga waay kagwa, mga tiya, mga hinablos. Ang isa ko ka hinablos gasinggit, 'Ta, buligi nyo kami di' bi, lab-ot na amon babaw." (*We were all taken aback. We really panicked because I had older siblings, aunts, and [nephews and nieces] who were not able to get out yet. One of my [nephews and nieces] shouted "Tita, help us here! The water has reached our second floor!*)

Right away it was clear that Jay experienced shock and panic. In her view, the flash flood was unexpected and sudden as her older siblings, aunts, and nephews were left stranded and caught off guard. Sockey also felt negative about the flood when she shared

> "Kulbaan gid kami 'to that time, first time gid 'to namon na experience nga nag amo 'to nga baha for a very long time nga didto kami ga-istar. First time nga amo 'to ang grabe ka baha. Before, kung maglapaw ang suba, waay gid nagalab- ot da sa amon." (*We were really nervous during that time. It was our first time to experience that kind of flood since we have lived in that place for a long time. It was the first time that the flood was so serious. Before, when the river rose, the water could not reach our place.)*

In her experience, Sockey felt nervous as it was their first time to experience a massive flood after a very long time that they are residing in the location. She added that usually, the flood did not reach their area if the river overflowed. Haley also experienced nervousness. She said

> "Pag baha di' na kulbaan kami, kag depressed nga nakulbaan gid kay nga-a ma-amo gid 'to ang baha. Nakulbaan na kami. Gahibi na si mama. Hambal ni mama ma gwa kami, galing may baby kami, amu na indi kami kapanaog kay tungod ka dako gid sa baha di'." (*When it flooded here, we were really nervous and got depressed. My mother was already crying. She said that we would go out, but we {could not because] had a baby. We could not go down since the flood was so big*.)

She described her situation during the flood incident as a depressing and nerve- racking experience. Her family was trapped because of the sudden rise of floodwater and she could not risk the life of her newborn baby. This is related to the study of Krishna et al. (2018) which revealed that during the floods, participants reported feeling helpless and expressed fear for their own and their children's safety, particularly since the floods were not something they had anticipated.

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Similarly, Kurt expressed what he felt during the flood. He said

> "Didto na ko naka batyag kulba sang lapit nalang sa dughan ko ang tubig. Naga kapa-kapa nalang ko to nga sige pangimos. Didto na ko kabatyag kulba." (*I felt nervous when the water was about to be up to my chest. During that time, I was just groping and fixing things. It was during that time that I felt nervous.)*

Kurt, as the only man in the house when the flood happened, had all the responsibility to take care of their things so they would not be reached by the flood. However, when the floodwater reached his chest, he also felt the nervousness.

Meanwhile, at first, Melony did not feel the same panic, stress, and nervousness as the other participants experienced because she expected that the water level would just go down eventually. However, when the situation came that they were left stranded, she had nothing in his mind but to visualize that maybe that was the end of their life. She said

> "Siguro una wala pa ko nakulbaan kay ga expect ko nga manubo man dyapon ang tubig. Daw routine lang namon nga maninlo lang dyapon liwat. Pero sang like, ara nagid kami sa situation nga na stranded na gid kami, siguro damo na ko na overthink bala nga daw nagaka vision ko ang magatabo. Nga amo ni, basi diri nalang ko guro asta." (*At first, maybe I was not nervous because I expected that the water would go down. It was routinary for us to clean after the flood. But, when we were in the situation where we were already stranded, I was maybe overthinking and envisioning what would happen – that it would be like my life would end here.*)

Conversely, although she took the situation with calmness and composure, Jolly still expressed that she felt nervous. She said

> "Dapat kalma lang pero syempre ginakulbaan gid kay basi magsaka pagid ang tubig." (*I should be calm, but, of course, I was nervous because the water might still rise.*)

During the online interview, it revealed that it was a horrific night for them as most of the participants and their respective families were stranded in their houses. The majority panicked and were nervous because that was their first time to encounter a massive flood in their particular location. Some of them chose to stay in their houses without expecting the rapid rise of water.

According to the New Zealand Ministry of Health (2016), the majority of people who are involved in a traumatic event experience some kind of affective response. Although each person's experience is unique, several common responses are experienced by the majority of those involved. Even though nervousness, fear, shock, anger, sadness, and shame are all unpleasant affective responses, they are normal reactions in a normal person to an abnormal event such as a flood.

In conclusion, it can be reflected from the statements of the flood survivors that the flood incident engendered nervousness, panic, and distress but such are considered normal responses to the flood.

4.3 Effective Utilization of Social Media

It was January 08, 2021 when residents of the northern parts of Negros Occidental, including Talisay City Negros, were subjected to a mass evacuation after the water level reached as high as 13 feet in the affected areas. According to Addiss (2019), disasters help minds focus sand demand urgent action. Therefore, the participants took an action and perceived that social media was able to help them reach the flood responders and receive disaster response. Accordingly, they posted on social media, asking for help for themselves, for their family members, and for their neighbors to ensure their safety. During the interview, Jay shared

> "Pagbaha gid to nagpost ko para mangayo bulig, duwa kami sa manghod ko man, sang January 8. Sang pagpost ko, may mga nag private message sa akon, hambal, 'hulat-hulat nalang kay pakadto naman ang rescuer'." (*When it flooded, I and my younger sibling right away posted [online] to ask for help. When I posted [online], somebody sent me a private message and told me to wait because a rescuer was coming.*)

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After she posted, people who saw her posts eventually sent messages that rescuers would come. She was then assured and hoped that they would be rescued from the flood.

Similarly, Melony shared that she also posted on social media to ask for help. She said

> "Wala na kuryente that time. So, data lang gid to gamit ko. 10 PM siguro ako nag post kay amo to nga time taas na, asta na sa hawak ang tubig. So, hindi na kami ka pa gwa. So, I decided nga mag post na para mangayo bulig." (*There was no more electricity during that time, so I just used data. I posted [online} maybe around 10 PM since it was during that time that the water [level] was already high – up to my waist. Therefore, we could not anymore go out. I decided to post [online] so we could ask for help.*)

It was a dark and rainy night because of a complete power outage. Wi-Fi was not accessible. When the power supply was cut, Wi-Fi routers could stop working normally, and this resulted in internet connection failure after the sudden power outage (Cyber Life, 2020). They only used the data on their cellular phone. Unfortunately, they were stranded in their houses. Therefore, she decided to post on social media to seek help.

In different circumstances, Sockey and Kurt shared the same reason why they sought help from the social media. It was because they were more concerned about the safety of their neighbors although they were also affected by a flood. Sockey said

> "Ang amon gid nga main concern are sila [neigbors]. Amo na nagpost ko sa social media... Gin videohan ko nga amo na 'to kadalom ang amon area kag mabuligan na tani kay nakulbaan na ko sa iban." (*Our main concern was our neighbors. That was why I posted on social media. I took a video of how much our area was flooded and hoped that we would be given help because I was already nervous for others.*)

Kurt said

> "Ang gina paminsar ko 'to that time, pa'no be kung magsaka pa gid ang tubig, maano ang mga bata diri sa amon." *(What I was thinking during that time was what would happen if the water would rise and what would happen to our kids.)*

It was evident from the statements of Sockey and Kurt that compassion for others was never more vital or more difficult than in disaster situations. According to Addiss (2019), disasters elicit a strong sense of vulnerability and compassion is more than a desire to help.

Kurt added

> "... nag post ko to sa Facebook... Didto ko nag post kay wala kami diri kuryente, wala ko load, wala pa ko kabalo kung diin ko mangayo bulig." (*I posted on Facebook. It was there I posted since we did not have electricity, I did not have [cellphone] load, and I did not know where to ask for help.*)

As regards why the flood survivors sought disaster response through social media, it was found out that they believed that social media was a useful tool for seeking response during the flood. Social media are web-based communication tools that allow people to communicate with each other through sharing and consuming information (Nations, 2021). The majority of the participants posted, specifically on Facebook, to ask for help. Others posted for their concern and some posted for their neighbor's sake. This is in line with the interesting discovery found by a study titled "Roles of Social Media during Kerala Floods 2018" by Varghese and Ta (2018). Results divulged that amid the flood when all the other modes of communications are found incapable, these social media platforms, such as Facebook, are found to be the foremost effective and advantageous.

In connection, affected people are more likely to check in with family and friends, seek help from others such as strangers, acquire information about the scope of the disaster, and provide ground-zero first-hand experiences during a natural disaster (Saleem, 2020).

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In conclusion, with regard to the responses of the participants, the study revealed that they believed that social media was an effective tool to utilize during flood disasters and were able to help them reach the flood responders and receive disaster response.

4.4 Active use of social media as communication platform

The social media has become an integral part of an individual's life. Likewise, during the flood incident, it became a platform of communication. It was used as a tool to inform or share the event, coordinate with flood responders and officials, and communicate with other people. Comparably, Melony expressed her thought on the importance of social media as a communication platform in times of calamity like a flood. She said

> "Kabalo man ta nga ang internet or ang social media is may ara pros and con man diba? Pero sa amo to nga time, siguro mahambal ko nga importante gid ya ang social media. Kay without social media, wala kami naka reach sa mga mabulig. Kung nag call or nag text lang ko, budlay pa kay basi wala pa to ya nabasahan. So, kung social media masiling mo nga... Once mag post ka nga naka public, damo makakita. Importante gid s'ya kay hindi lang isa or pila ka taho ang maka reach out sa imo. Sa use sang social media naka-communicate ang mga 'di ko kakilala sa akon nga willing mag help to secure kung ano na 'to ang amon nga situation." (*We know that the internet or the social media have pros and cons, don't we? However, during that time maybe I would say that the social media was important since without it, we would not be able to reach the people who could help us. If I called or text, it would be hard since it could not be read. Therefore, a public post could be seen by many. It is important since many can reach out to you. The social media enabled those whom I did not know to communicate with me and to help me.*)

Sockey seconded

> "Butang ta bi kung mag tawag sa phone number ka rescuer, busy man kay damo man iban gatawag, pero mag post ka social media... mas dasig." (*A rescuer's phone might be busy since there are others calling. Posting on social media is faster.*)

In the statement of Melony, she claimed that without social media, she may not be able to reach people who are willing to help. Through the social media, not only one person reaches the post but also the whole public. Social media makes civic engagement easier (Tran, 2020). If Melony and Sockey only relied on calls or texts, there was a possibility that those would not be read or entertained because the emergency numbers were also constrained. The emergency responders cannot accommodate the entire need of the affected population all at once (Whittaker et al., 2015). This poses a major challenge for both the flood responders and the affected flood victims to effectively coordinate with one another on the onset of flood calamities. Similarly, Jay expressed the same perception. Social media is a way of communication to coordinate with other people that could initiate help for them. She said

> "Sa tion sg kalamidad, importante ang s ocial media, para bala may ara man iban. Kung indi bala kabulig ang lapit 'di samon kay tungod nga nabahaan man sila, may ara man bala tani nga sa iban nga lugar, pareho na sa iban bala nga Sona nga mag-initiates, 'pwede n'yo to sila makadtuan, para makabulig kamo to sila o ano'." (*In times of calamity, the social media is important. If those who are near us cannot help since [their place] is also flooded, it is hoped that those who live in other zones will initiate help. You can go to the [flood victims] and help them.*)

The initiative will display a Bayanihan (heroism) spirit during a flood (Congjuico, 2019). On the contrary, Sockey believed that when she used social media as a medium for communication, it would be easier and fast to spread the news and real-time information about the events during the flood.

"Dako ang bulig sang social media, pwede ka bala ka spread sang news kag ... makabulig man sa life

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kag mapabalo kung ano gakalatabo. Makabulig man sila tawag sa mga rescuers." (*The social media is a big help. You can spread news, help, and inform [people] about what is happening. Those people can call rescuers.*)

Kurt disclosed

> "Dako-dako gid ang bulig sang social media e. Ang iban wala man na sila kabalo nga gabaha di' sa'mon mong, wala sila kabalo kung ano na sitwasyon namon. So, sang pagpost ko to, damo na dayun kabalo e nga naga baha di' sa amon, nga taas na ang baha, nga naga pangayo kami rescue. Didto naga ginuha ang ila mga concerns sa amon." (*The social media is a big help. The others did not know that it was flooding in our place and what our situation was. Therefore, when I posted [online], many were informed that it was flooding in our place, that the water was high, and that we were asking to be rescued. It was there [social media] that their concern for us was revealed.)*

The experiences of the participants using social media as a platform of communication to connect and coordinate with flood responders and other people were related to a study by Hashim et al. (2015) titled "A Study on Social Media Application as A Tool to Share Information during Flood Disaster." It stated that the community utilized the social media for data sharing amid the disaster. Individuals used the social media to get and share data concerning the flood.

The study titled "Social Media for Risk Management and Emergency Response for Philippine Local Government Units" by Congjuico (2019) showed that social media, specifically Facebook, bear users a tall degree of social presence, making them the finest instrument for making and supporting little online communities overseen by LGUs. Moreover, tt gives solid support for social interaction, social integration, and the reinforcement of the Bayanihan (heroism) spirit.

In conclusion, it can be reflected from the statements of flood survivors that social media is an important platform in times of calamity. They perceived that social media is a convenient platform of communication to reach flood responders and to engage with numerous people online, taking chances that they would be helped during the flood incident. The majority of the participants utilized social media because of the capacity of this platform to bolster data sharing in the event of a flood.

4.4 Evident Flood Damage

Extreme flood incidents can cause tremendous damage to impacted communities and can have devastating consequences for most vulnerable residents. Even the flood survivors residing in Talisay City, Negros Occidental could not avoid the damages caused by the floods. The participants held that the flood somehow damaged their homes, appliances, and livelihood. Sockey shared

> "Mga gamit sa dalum, kaluluoy gid kay na damage gid. Damage sa gamit, sa mga furniture, kag iban nga importante. Damo man nga valuable items nga nadala sa baha. Kadamo 'di ko na ma isip." *([I] felt disappointed over the [fact] that the things downstairs were damaged. Also, there were many valuable things that were swept away by the flood. There were many I could not anymore count.*)

Sockey felt sorry for their belongings such as damaged furniture and some important things caused by the flood. A lot of the things that she considered valuable were swept away by the flood. Melony expressed an identical sentiment. She said

> Madamo kami nga mga gamit or appliances nga nagkala anod gid. Labi na ang mga "relief", kay si tita, naga baligya sang relief bala nga mga bayo. So, naapektohan gid 'to ang iya [business]. Syempre dako man 'to capital niya, daw kanugon lang. *(We had many things or appliances that were really swept away, especially the 'relief' [secondhand goods] since my tita was selling clothes. So, her business was really affected.*

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Of course, her capital was big, [so] it seemed to be just a waste.

Melony felt remorse for the appliances and livelihood that had been carried away by the flood. According to the study of Bandiola (2021) titled "Flood Risk Assessment: Level of Property Damage and Casualty in Northeastern Mindanao Philippines" mentioned the flood disaster poses a serious threat to people, livelihood, and property.

Likewise, Haley shared the challenges they encountered after the flood incident.

She revealed

> Halos mga bayo namon di, mga ref basa, TV namon basa. Halos tanan gamit namon basa. Ang iban ginpasaka namon, abi namon bala indi mag dako ang baha galing malab-ot sa bubong namon, te basa. (*Almost all our clothes, our ref, and tv were wet. Almost all our things were wet. Some [of our things] were moved upstairs. We thought that the flood would not become huge, but it reached our roofs. Hence, [our things] got wet.*)

Jay seconded the statements of Haley, with acceptance in her tone during her virtual interview. She said

> Asta mga bayo namon wala gid bilin Hahaha. Wala man sa naanod kundi nagkala basa sa sulod sang mga cabinet bala. Ang ref 'di sang magulang ko nagkalatumba. Mga lamisa nagkala-utod. Tanan. Mga TV namon, electric fan, ubos. (*Nothing was left of our clothes. They were not swept away; instead, [those things] in the cabinet got wet. My older sibling's ref fell. The tables got broken. All. Our tv [sets and] fan [were all damaged].)*

Jolly, although disappointed that her floor was damaged, optimistically accepted that some of her things soaked in the flood. She shared

> Ang mga salog lang gid. Amo lang na siya ang na damaged. Pero ang mga gamit nga nabasa pwede man lang na siya labhan. *(Only the floors [were damaged]. Only [those things] were damaged. But, the things that got wet could still be washed.)*

Damage from a flood is determined by a variety of factors, including how long the water sits in the ground before receding and how swiftly it moves. According to Redd (2017), floods can harm the structure of a building by causing cracks in the roof or foundation, as well as loose or buckling floors. Flood water can damage home appliances, such as the heating, ventilation, and air conditioning system, as well as the water heaters and refrigerators.

In conclusion, from the stories of the flood survivors, it can be deduced that the flood brought about destruction and loss of property. The majority of participants mentioned that their clothes were wet, furniture and appliances were destroyed and some drifted, and their livelihoods were affected. It was a challenging experience because not every one of them had the ability to buy new things and appliances.

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4.6 Summary of Themes

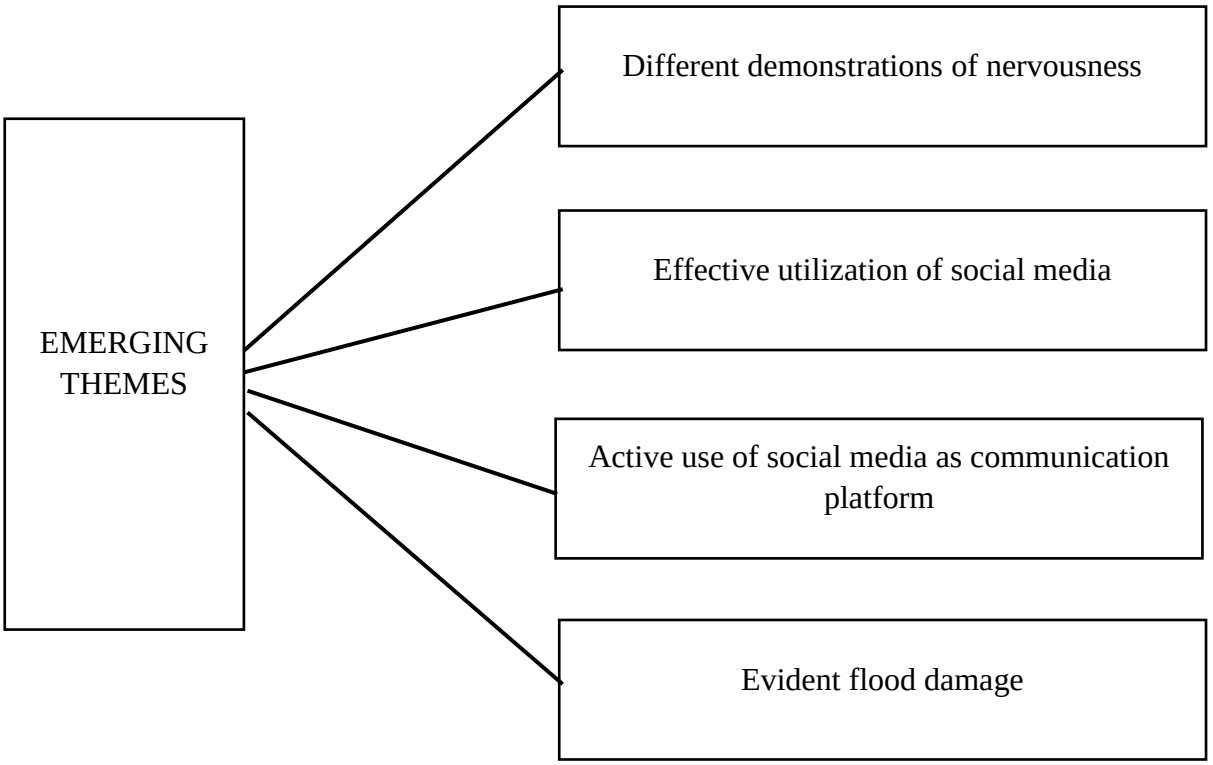

Figure 1: Thematic Insights of using Social Media for Survival: The Plight of Flood Survivor

V. CONCLUSIONS

This study aimed to examine the lived experiences of flood survivors from Talisay City, Negros Occidental who sought disaster response through the use of social media.

The results of this study present a unique concept to the existing body of literature on the plight of flood survivors and the importance of social media during calamities, specifically during flood incidents through the experiences shared by the affected flood victims. One of the struggles for both the flood responders and the affected flood victims was to effectively coordinate with one another on the onset of flood calamities. Utilizing emergency numbers alone could not cater to the entire need of the affected population all at once. This was where the importance of social media played its role.

The researchers found out that the utilization of social media by flood survivors was vital in times of flood incidents. The flood victims relied on social media to look for flood responders as they perceived social media as a convenient platform of communication to reach flood responders and to engage with various people online, taking chances that they would be helped during the flood incident.

Furthermore, nervousness, panic, and distress were evident from the stories of the flood survivors during the flood incident, which were considered normal reactions to a disaster. Meanwhile, after the flood, the challenges of the flood survivors were the damages in parts of the house, appliances, and livelihood.

With the preceding results, the researchers concluded that even though each flood survivor's experience was distinct from the other, there were still several common stories and challenges that were experienced by the majority of those involved.

Based on the foregoing results and conclusions, the researchers recommended that this study be used by the local government units or authorized bodies in the government such as the National Disaster Risk Reduction and Management Council (NDRRMC), Department of Social

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Welfare and Development (DSWD) and non-government organizations to should create official social media accounts or pages, which would provide data necessities amid calamity circumstances. For disaster mental health workers, they should formulate interventions in dealing with problematic flood survivors who have emotional struggles and troubles with coping after the flood incidence. For school administrators, they should implement programs to educate students about calamity preparedness to assist them in making safe choices, in identifying risky situations, and in developing strategies to prepare them for challenging situations. For future researchers, they can conduct in-depth studies of similar nature but on a wider scope and must involve variables not covered in this study to provide a broader perspective and understanding of the lived experiences of flood survivors.

VI. COMMUNITY ACTION PLAN

This chapter presents the Community Action Plan proposed to the Talisay City, Negros Occidental - Local Government Unit (LGU). This undertaking was conceptualized by the researchers to integrate strategies in enhancing flood rescue operations, to consider the utilization of social media in tracing affected individuals and to provide immediate disaster response in coordination with the City Disaster Risk Reduction and Management Council (CDRRMC), and this is an output of the study. The target clientele of this proposed community action plan is not limited to the flood survivors but to all the constituents of Talisay City, Negros Occidental and may also be applicable to residents in different locations especially in flood prone areas. The program will be beneficial to all people regardless of age, gender, or standard of living.

6.1 Rationale

In line with the study which focuses on people's safety during a flood and social media as a platform of communication and tool for an immediate response, the researchers proposed a Community Action Plan to Talisay City Local Government Unit (LGU), particularly the City and Barangay Officials and City Disaster Risk Reduction and Management Council (CDRRMC) of Talisay City, Negros Occidental.

The proposed project generally aims to develop best practices that will advance combined knowledge about the realities and potential of social media during and after a disaster, moving together toward envisioning how social media may be utilized as a resource in emergency management.

6.2 Description

The tile of the Community Action Plan is Social Media Para sa Paghahanda sa Baha at iba pang Sakuna with the theme "Social Media ay Gamitin at Pag-aralan, Sa Gitna Ng Sakuna Ay Maaasahan," which is an educational and social media campaign program. This will be held in the barangay via Facebook live in cooperation with the City, Barangay Officials, LGU, and the residents of Talisay City, ideally perceived by the researchers with the following aims:

- To raise awareness of the danger and impacts brought by the flood to the community.
- To extend the knowledge of the residents in using social media as a tool of communication to seek response in times of flood and any disaster.
- To help LGU and other rescue teams to immediately respond to the residents who seek help on social media during a disaster.
- To educate and prepare the residents before, during, and after a flood or any disaster through the utilization of social media.

6.2.1 Programs for LGU

LGU has an enormous significance in providing help and rescue to the affected survivors of floods and other disasters. According to Department of Social Welfare and Development (DSWD) Secretary Judy Taguiwalo, as stipulated in RA10121, RA 7160, or the Local Government Code of 1991, LGUs are responsible for conducting rescue operations, for providing immediate relief assistance, and for establishing and managing evacuation centers in the event of a disaster (Department of Social Welfare and Development, 2016).

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a. *#OneHashtagForHelp*

It is a campaign on social media to be utilized by the netizens or internet users of Talisay City. Aside from hotline numbers, the LGU can create their hashtag for those people who seek rescue by social media. Such hotline numbers are directed to the LGU rescue teams such as CDRRMC, CSWD, PNP, etc. This move aims to make the LGU and responders aware that there are people seeking help on social media like Facebook, Twitter, and Instagram, and to cater and help netizens who post with the agreed hashtag.

b. *Facebook Page for Flood/Disaster Safety Awareness*

The LGU could create a single page on Facebook if they do not yet have one since it was the most used application by the participants. The content of the page will be flood safety awareness by posting infographics and posters on the page. This would include the possible risks and damage of flood to the houses and community, preparations for possible upcoming floods or other disasters, coping strategies, and so on. This aims to provide knowledge and preparation in an unexpected coming of flood or any disaster.

c. *Online Symposium: Flood Safety Awareness and Strategie*

Aside from posting infographics about floods and other disasters, the LGU, especially CDRRMC, could hold a symposium via Facebook live on their own Facebook page created for netizens who use social media. This symposium will tackle the topics about flood prevention, flood risks and management, flood safety and preparation of the community before the flood, and strategies during the flood. This program aims to give knowledge, reiterate the concept and ideas about flood safety awareness, and adapt basic strategies as a community when floods and other disasters occur through an online symposium.

6.2.2 Barangay-based Program

The barangay has a huge role in the implementation of projects or programs next to the city. For fast dissemination of information, the Barangay Council can make this possible.

d. *Family Safety Campaign*

Most of the time, people are with their family when the flood comes. Thus, it is ideal that the Barangay Council conduct a seminar intended for families to be informed about the plan and preparation, strategies, and actions they could execute when there is a flood. Also, in this campaign, the barangay official will provide facts and details regarding the use of social media in times of flood and any disaster. The barangay will generate brochures about flood safety, instructions they could follow, and contacts the families could reach when disaster comes.

6.3 Budget

Local Budget Circular No. 142 includes the guidelines for the release and utilization of the Local Government Support Fund-Financial Assistance to Local Government Units and Support for Capital Outlays and Social Programs under the Republic Act No. 11639, Fiscal Year 2022 General Appropriations Act (Department of Budget and Management, 2022).

In connection, Section 21 of RA No. 10121, known as the Philippine Disaster Risk Reduction and Management Act of 2010, states that not less than five percent (5%) of the estimated revenue from regular sources shall be set aside as the Local Disaster Risk Reduction and Management Fund (LDRRMF) to support disaster risk management activities such as, but not limited to, pre-disaster preparedness programs, post-disaster activities, and payment of premiums on calamity insurance (Republic Act No. 10121, 2010).

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Programs and Activities	Objectives	Target Group	Time Frame	People in Charge/ Implementing unit/ Team	Budget	Source Indicators
#OneHashtag F orHelp	To make the CDRRMO and related agencies aware that there are people seeking help on social media like Facebook, Twitter, and Instagram To help netizens who post with the agreed hashtag	All Constituents	March - April	Talisay City LGU, CDRRMO, DSWD	PHP 10,000.00	Established and enhanced help services of LGU and rescuers in social media
Facebook Page for Flood Disaster Safety Awareness Program	To provide knowledge and preparation in an unexpected coming of a flood or any disaster	All Constituents	April-May	Talisay City LGU	PHP 10,000.00	Improved services of LGU and informed community about flood awareness in social media
Online Symposium: Flood Safety Awareness and Strategies	To give knowledge, to reiterate the concept and ideas about flood safety awareness, and to adapt basic strategies as a community when flood and other disasters occur through an online symposium	All Constituents	May-June	Talisay City LGU	PHP 10,000.00	Increased awareness to social media users about floods and strategies to imply
Family Safety Campaign	To inform the families in the barangay about the plan and preparation, strategies, and action they could execute when there is a flood	Families in every Barangay	June-July	Talisay City LGU, Barangay Council, Barangay Officials	PHP 20,000.00	A ready and responsible member of a family in times of floods

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